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Peace and Plenty

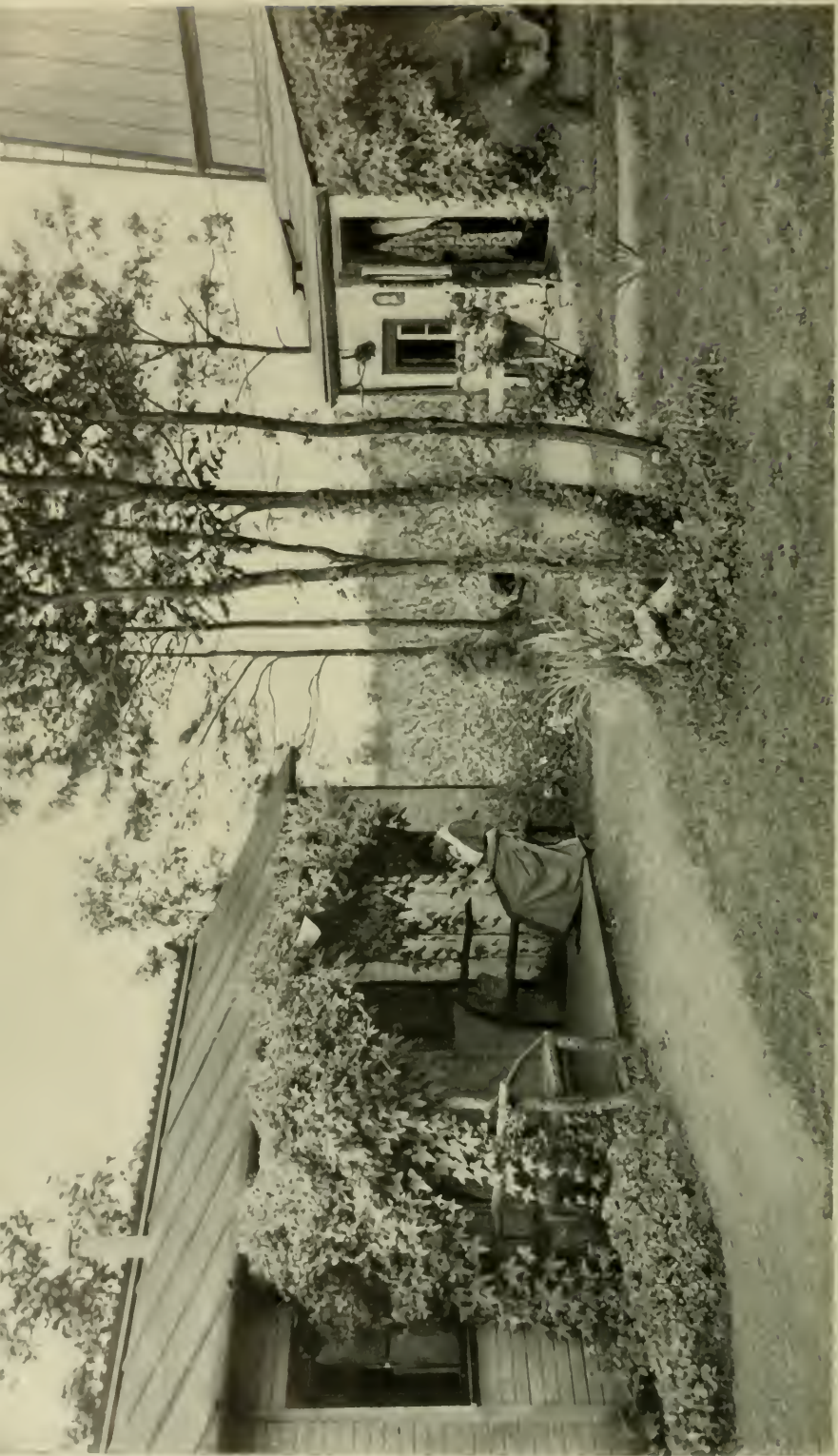
The Lure of the Land

A call to Long Island



THE STORY of the LONG ISLAND RAILROAD COMPANY'S
EXPERIMENTAL STATIONS NUMBERS ONE AND TWO





"Peace and Plenty" Cottage. The Homestead at No. 1 in the Summer of 1906

“Peace and Plenty”


The Lure of the Land

(THIRD EDITION)

The History of a Market-Garden and
Dairy Plot developed within eight months upon Long Island's
Idle Territory, long designated as “Scrub Oak
Waste,” and “Pine Barrens”

Being a true story of the work carried on by the Long Island
Railroad Co. at Experimental Stations Numbers One
and Two, to which in the Second Edition was
added the Aftermath, bringing the story
from September, Nineteen Five, to
September, Nineteen Nine


By EDITH LORING FULLERTON
Author of “How to Make a Vegetable Garden”
Editor of “The Long Island Agronomist”


Published by
Long Island Railroad Company
Long Island, New York
1911

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Preface to Second Edition

THE large first edition of the "Lure of the Land" has been exhausted for some time. As requests for the book come with nearly every mail, the management of the railroad has decided to issue another edition.

There have been no changes in the book beyond the correction of typographical errors, obscure points made more definite, and the addition of one chapter entitled "Aftermath," which tells of the further success of the Long Island Railroad Company's Experimental Station No. 1, and a brief outline of the development and equally great success of its Experimental Station No. 2.

I wish here to thank the many people from many climes who have written me such delightful letters of appreciation, and to those whom the "Lure of the Land" really lured to Long Island, I wish God Speed.

Edith Loring Fullerton.

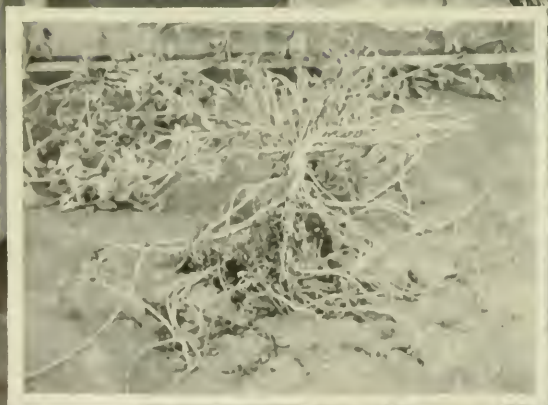
October 24th, 1909.

"Prosperity Farm"
Long Island Railroad Company's
Experimental Station, No. 2
Medford, Long Island

P. S. (A Woman's Acknowledged Privilege). I cannot resist adding a word regarding this reprint of the second edition which has been made necessary by continued requests. The buildings referred to in the final pages are now completed and the plans have become a reality. A hearty welcome awaits all who care to come and see us.

Summer, Nineteen Eleven.

E. L. F.



Alfalfa, its nitrogen nodule roots and bagging soil to furnish our neighbors bacterial inoculation



"Scrub Oak Waste," the raw material, 1905

Foreword



WHEN Mr. Ralph Peters became President of the Long Island Railroad, his inspection tours of the Island showed him much to be done, and most forcibly was brought before him the fact that the vast acreage of idle land, especially in Suffolk County (the easterly half of the Island) must be developed for its own sake and for that of its railroad.

Many thrifty produce farms, dotted here and there in the midst of this wilderness, together with the vast quantity and high quality of vegetables and fruit grown in the section, showed plainly that the land now lying idle, much of it untaxed because it had been burned over so often, could be developed into market gardens, fruit orchards, vineyards and dairies.

As "the proof of the pudding is in the eating," and as practical demonstration is vastly superior to written statements, the President determined to establish Experimental Stations at various points on the Island and give to the public the results of the work; the object being to prove that the undeveloped territory of Long Island, for years designated as "Scrub Oak Waste" or "Pine Barrens" was maligned, and would, when given the opportunity, produce good crops of high quality.

The work of this development was given into Mr. Fullerton's hands, and I, being favored beyond most women, have been his "full partner" in the intensely interesting and valuable work.

It has included the daily records of not only ordinary farm operations, but details of victory or defeat in the fight with injurious insects and diseases, the quantity of crops gathered, their packing and shipping; the growing of all valuable vegetables native to the temperate zone, as well as many from China, Japan and the Southern States, never before grown in this latitude; the receiving and entertaining of many distinguished "Foreign" guests as well as the Island neighbors and workers, investigators and experts in the tilling of the soil.

It includes a daily weather report, made with tested Government thermometers and rain gauge, and conducted under Government regulations; together with the photographic record of every step of the work.

These records have at all times been open to the public and have been inspected by eminent agriculturists in both National and State employ, editors of many agricultural periodicals, besides laymen in various callings.

The frequent criticism of the Farm has been that a man of small means could not go and do likewise. That is an unfair and unjust criticism. We have accomplished in one year what a man may take several in doing; there is nothing from the simple five-roomed portable house to the 5,000 gallon tank that a man in moderate circumstances cannot have, and if his means warrant he may have much more than the Experimental Station possesses.

In proving that this land could raise 380 varieties of plant growth, the income from crops was materially cut down because this meant small plots of a variety. It has paid Long Island in giving it an agricultural impetus already beneficial. It will show a man who is launching in this new business just how much produce of each certain type was raised on a given space; it has paved the way for him, made some of his mistakes for him against which he will guard, and given him the encouragement the beginner sorely needs. Giving to the public these proofs of the land's fertility in two County Fairs has materially reduced the Farm's income, for the greater part of the force was for three weeks taken from regular operations that the showing might be as complete and attractive as possible.

It has been said, "Oh, of course the Railroad hauls everything free of charge for its own Farm. How can you tell what it would cost an outsider?" The Farm has paid freight and express on all its products, both to and from the Farm and knows just what it would cost another man to do the same thing. It has lived the "simple life" as far as was possible with the educational work it was created to accomplish. All supplies were as cheap as true economy would permit, for nothing is cheap that does not wear well.

In brief, the Farm stands to-day on its first birthday where many men would place it in ten years or even a lifetime. That others may do likewise, or even exceed the results in the same brief space of time, goes without saying; that is simply a matter of personal equation.

EDITH LORING FULLERTON

September 7th, 1906

"Peace and Plenty"

Long Island Railroad Co.'s
Experimental Station No. 1
Wading River, Long Island



The "Junior Partner" blowing stumps by battery

Selection and Clearing

EARLY in August, 1905, the following message came from Mr. Peters: "Find the worst 10 acres on the North Shore upon which to establish Experimental Station No. 1." "Why does he want the worst piece?" I at once asked.

"Because he don't want everyone to say, 'O, well, you have known the Island for years and of course you could pick up the very best piece there was anywhere.'"

"I see—and how are you going to prove to the dear public that it was the worst piece after we get through with it?"

"O, I have a little scheme up my sleeve," replied the Senior Partner, and I was fully satisfied, for little schemes up his sleeve always grow larger as they come down and positively burst as they drop out.

We traveled the "Mountain Division," as the North Shore branch is lovingly termed, for many days. Our project seemed doomed, for no one would sell a paltry ten acres; talk about hundreds or thousands or whole farms and they might listen (but now that is all changed). Finally two plots were located, one at Rocky Point of the desired area, and one at Wading River of 18 acres. Rocky Point had some very fine standing trees, while the Wading River plot was a slice out of the most desolate burned over "waste" mind can picture. Scarcely a live standing tree except along the northern boundary and the northeast corner, and these were scarred and charred second and third growth oak and chestnut.

Photographs were taken of both plots and submitted to the President. We told him that the native Long Islanders assured us that the Wading River plot was the "no goodest" piece of land to be found.

"How much soil will we find?" we had queried, and they replied:

"Well, if you find six inches you'll be doing well. Besides that it's cold and it's sour."

On August 19 word came that the Wading River plot had been purchased, and on the 23rd the preliminaries had been settled and we could start work at once.

O, days of our Forefathers! Start work in the wilderness a mile and a half from a drink of water and as good as a thousand miles from anything else. But there is no greater joy on earth than making something out of nothing and no keener joy to the masculine partner than to be allowed the privilege of demonstrating that the so-called "waste lands" of the Island he so dearly loves are productive.

Next came conferences in regard to clearing. One thing was certain, the money expended was as far as possible to be placed in the hands of Long Islanders. Second, the method of clearing must be the most rapid possible, for Fall was coming fast and crops must be produced the following Summer.

It was not our purpose to cut off the trees and brush and allow the stumps to remain six years to rot; nor was it our purpose to attempt to raise partial crops in the stump land, tearing the life and heart out of man, beast and harness, and profiting but little.

Thirdly, as the scheme of "ten acres is enough" for a market garden, what should be done with the remaining eight? "Make it into an experimental dairy and prove that this land is capable of producing forage just as well to-day as it did a hundred years ago."

By this time August had passed, and we were still vainly seeking help. Finally on September 1 we started out from our home town, Huntington, with the efficient aid of one colored coachman, who decided that it would be fun to go with us and sent word to his employer that he would not be home that day. (This we learned later, for we would not intentionally have robbed our neighbors). We were armed with an ax, bush scythe, whetstone, snathe and, last but not least, the hunch basket. We arrived at the scene of desolation about mid-morning. Frank was started to work in the northwest corner, while we went about among the good trees, tying white rags on the ones to be spared the woodman's ax.

It was evident the house plot must be at the northeast corner, for we hold firmly to the belief that in clearing land some trees should be left standing for shade about the home and that a person building a house in the broiling, baking sun and then planting young trees around it is short-sighted indeed and loses the best part of a lifetime waiting for them to grow. As a rule the farmer's wife and the house take the dregs of the thought and planning expended, and we made up our minds that the feminine portion of this farmer's household should have some shade and beauty from the earliest days of settlement.

By careful choosing and much planning, a grove of unutilized or only slightly burned trees was left in front of the house site, a few trees indicated the road, and a smaller grove to the south of the house site gave slight protection (or should I say future promise of protection) from the hot Summer sun; it also furnished an excellent place for locating the chicken house and yard.

The next day we succeeded in getting four men, two colored and two white: Frank and his friend Steve, while the others came from Huntington and Wading River, respectively. It was an interesting day, while two hunch baskets replaced the one of the day previous. Was this pioneering?

"Frank, get in here with that bush scythe and trim out this plot where the house is to go," said the Senior Partner.

"Yas, sir," said Frank, whose smile I am sure will never come off as long as his facial elasticity remains.

A few strokes and the exclamation, "Golly, dis year sweet fern and huckleberry am hard cuttin'."

"Well, suppose you sharpen the scythe up and see how she goes."

"All right, Boss, speek dat mought be a good idea."

"Say, there, George, what are you doing cutting down trees like that; didn't I tell you not to touch anything until I gave the word, that tree was part of the drive and the only chestnut I had; all right"—as a dubious expression came over his face—"you get to work trimming up these felled trees and cutting what is good into cord wood."

And then we sat down together and wept over our lost chestnut.

"Never mind, you know a cherry tree would be much better than a chestnut," I said.

"Well, maybe it would, but I wanted that chestnut."

"Look at Steve, does he think this is Broadway, he's wearing gloves and, my gracious, patent leathers also! Great woodmen these. No wonder Westerners call it the effete East."

"Yes, but look at the Captain, he can everlastingly cord wood, and no lost motion."

The next day there was added to our "gang" "Bijah" and "Tootsie" and "Rayme," who was familiarly known as the "Palson," while a few more individuals of colorless character but strong on complexion completed the "gang."

Their dinner was a sumptuous meal: coffee, boiled in true woodman fashion, sandwiches galore, bananas and cake.

They decided staying right there and clearing up the whole ten acres was just what they were looking for; that coincided with our desires, so they remained.

We found that as evening approached the "call of the curbstone" and street lamp was upon them, so they decided to walk to the "Port," as Port Jefferson is fondly termed. This they did, covering the twelve miles on the railroad tracks in due and ancient form, and the return twelve miles were negotiated by dawn. Next day work was not so brisk, but it was some time before we discovered the reason.

But there was "a grouch on" and complaints started.

"Mis'r Fullerton, we all ain't gittin' nough to eat. Dis year san'wich diet ain't no food fo' a working man."

"Well, boys, why don't you appoint a cook and caterer, surely one of you can get up a meal. You have talked enough about being good axmen, you ought to know how to live out of doors."

So the "Palson" was made chef. Next day a sumptuous meal was in readiness at noon, in fact a trifle before, soup, meat-stew, succotash, pie and cake. The usual result of a hearty midday meal was soon visible, each man wanted to lie down and go to sleep.

Then and there we held a conference. The Islanders must be replaced by the manual mainstay of civilization; the sons of Sunmy Italy must be secured. In the meantime it was decided to remove the stumps by dynamite, as trying to yank them out by pullers or by mattock and plow was both slow and brutal, as for the ordinary custom of allowing nature to work six years at the stumps and gradually eliminate them in part by decay was not worthy of consideration.

Dynamiter Kissam of Huntington was engaged to do the blowing. He is a man of calm and serene temperament, steady and careful at work, and to be fully trusted. With the approach of his coming, the "up sleeve" scheme appeared. The editors of all the big New York and Brooklyn daily papers and many editors of the prominent magazines were to be invited to the spot to see the first stump blown out.

A good dozen of them made the trip on September 6 and Dynamiter Kissam greeted them with a salute. The first stump was blown, shattered to bits and the ground pulverized, leaving a hole thirty inches deep and, marvelous to relate, every bit of it beautiful rich brown soil with no sign of sand or gravel. The six-inch theory went up with the stump.

It was an interested and interesting party of men. Some of them decided to travel as far north-



The start: assorted native help



Manual mainstay of to-day—the Italian, finished the work



Dynamiters and well-drillers at lunch

ward as they could go, others retreated in utter confusion, while some remained the safe 200 feet from the explosion.

The universal verdict, however, was that they "would not undertake the task of making that wilderness into a market garden for any money," and "we certainly had picked out the worst piece of land ever." They wished us joy of the experiment.

By this time the "gang" of woodmen had increased to eight, and some of their experiences were very funny.

When the charges had been placed and the usual warning signal, "fire!" given, both negroes and white men would fall over themselves to get out of the county; which was decidedly unnecessary, for the explosions were always kept well away from the workmen.

Shortly after the arrival of the dynamiter came Lorenzo Balzarano, a "Corporale" or Italian boss, to look over the work to be done and receive instructions, that he might pick men best suited to the work in hand. He was a big fellow with a good face and a "job lot" of English in his possession. He remained over night, when the following interesting incident happened. It came to us from the Dynamiter. One of the colored men being much infatuated with the cornet, and in fact, a village virtuoso, had taken his instrument into the wilds and made night hideous with his attempts at imitations of Levy.

Lorenzo, whose name is shortened and Americanized to "Larry," asked if he might try the bugle. This portended huge fun for the superior American, so the instrument was gleefully handed over to the man they called the "dago." Larry made some noises even more startling than Steve's, and amid much laughter they endeavored to teach him the approved method of blowing. Larry made strenuous efforts and finally, rising to his full height and throwing out his chest, filled the air with the most beautiful musical calls, running from the thrilling call for a cavalry charge, through all the war horseman's life, to the last honors given a fallen hero. Never had they heard a professional cornetist strike every note more clearly or with the fervor that only the Latin blood possesses. All the American and many foreign army calls were rendered before the men realized that the joke was on them.

"Where did you learn them, Larry?" the Dynamiter inquired.

"Me in Emperor's bodyguard. Me boss bugler," he calmly responded.

The next day Larry, his brother, Antonio Monteforte (a half-brother, evidently), who came in the capacity of timekeeper, and 18 other Sunny Sons arrived, when the natives were very glad to depart to places of beds and indoor meals, sidewalks and continuous half-holidays.

The question of housing the men while at work was a matter that early came up for consideration. A shanty is the usual solution, while tents might be adopted, or the unsanitary "dug out" mar the landscape. The former was entirely too ugly to suit our tastes; it also was expensive and useless when the men were through with it. Tents were rather too airy, as we knew the work would continue until freezing weather and perhaps well into the winter. We "passed" on the "dug out." The ideal as well as the practical was something that would be of use after the work of clearing was completed, and for that purpose we decided upon "condemned" freight cars. They cost but \$10, the railroad being glad to get rid of them (a later sale by a big trunk line placed the market price at \$1.00 each), while the hauling and placing cost about \$15. For \$25 we had a well-built, permanent, and the warmest and coolest (because lined with air space) chicken house one could possibly secure. A second car (for two were found necessary when the Italians arrived), which we planned ultimately to make into a hay-loft or feed-bin, was placed to the north of the location selected for the barn; so that by building a small barn directly against the car, the warmest possible place for animals would be secured.

These cars were purchased and placed as soon as a clearing could be made for them, and the Italians were as happy as kings in a palace.

One day a long, lanky, seedy individual arrived and asked for work; cockney English was rampant within him and he proved to be an English "Navy" just come over to join his wife, who had been here some time; he was cheerfully given work, but we looked for but little from him. He proved earnest and eager to learn, therefore of much promise. He started a farmer's boy and had run the gamut of "clerk," hostler and soldier, finishing as longshoreman.

With the advent of Larry and his swarthy followers work began in earnest, for the native helpers had merely succeeded in clearing the house plot of trees and taking out dead and crowding underbrush in the windbreak which bounded the north and had escaped total extinction by fire.

Beginning at the east line and working westward the Italians cleared out every useless tree, cutting cord-wood where any could be obtained, and burning the branches and charred trees as they went; they also cleared out all underbrush, and burnt the ground over thoroughly.

The Dynamiter with his helper followed them up. This is by far the most exciting and interesting part of clearing land by modern methods. The Dynamiter prepared his charges in two ways, one for fuse ignition, the other for electric spark.

The dynamite is put up in half-pound sticks, they are a little larger than an ordinary candle and are wrapped in heavy yellow paraffined paper. One folded end of this paper is opened up and a hole made by a wooden skewer in the dynamite stick, which is plastic and resembles graham bread in color and consistency.

For magnetic battery work a copper cap containing a minute quantity of fulminate of mercury, and which requires a spark to explode it, is attached to fine electric wires and sealed by sulphur; this cap is placed in the hole in the stick of dynamite and then securely tied by drawing string tightly around the paper, which was raised to admit the cap.

In preparing a charge for fuse ignition, the cap is crimped on to the end of a piece of mining fuse and this is inserted in the dynamite stick and securely fastened as previously described.

These prepared charges are placed in a basket and carried very tenderly to the stumps which have been prepared by the dynamiter's assistant. All the work is handled very tenderly and carefully, for while there is no danger of an accident unless fire is placed near the explosive, extreme caution is used at all times. To handle explosives one requires a nature serene, calm and deliberate, which Mr.



Placing one-half a pound of dynamite



Once a big stump; now kindling wood



A little fellow "blown clean"

Kissam possesses to a marked degree, and never in all the years he has used the dynamite has he become the least bit careless, or ceased to regard it with respect.

The helper has made deep oblique holes under the stump singled out for execution with a round crowbar or chisel-ended piece of pipe. This is one of the most important parts of the work. The holes should be as nearly horizontal as possible and directly under the stump, that all the explosive force may be expended on the wood and not on the earth between the dynamite and the stump, for earth acts as a cushion and the natural tendency of dynamite to exert force downward is accentuated.

Small stumps up to four feet require about $\frac{1}{2}$ lb., while large ones, say six to eight feet in diameter, require 3 lbs. of the explosive, which is placed in several separate holes surrounding the stump. When a stump requires separate charges, in order to secure united effort the electric spark is used, the wires attached to the sticks of dynamite are connected, and this circle of wire attached to battery wire about 200 feet long. This main wire is stretched to its limit and attached to the magnetó battery. At the word "fire," the plunger of the battery is sent home to the base, closing the circuit and sending the spark generated to the caps, thus the several sticks of dynamite are simultaneously exploded. It is a grand and wonderful sight, and I doubt if many women have had the pleasure and privilege of sending the spark to a stump of live chestnut which measured $7\frac{1}{2}$ feet in diameter and in an instant making of a waste place a bit of ground capable of taking its place in the world's work and ready to grow many blades of grass where none had grown before.

Fourteen fuse charges are placed under as many stumps; the method of placing, by the way, is to lower the charge into the oblique hole, press it steadily and firmly with a blunt ended stick until expanded to the full size of the crowbar hole, then fill up the hole with earth and tramp it firmly, that no explosive gases may find a loophole of escape. Each loaded stump is then marked by a stick or branch.

Two men light these fuses, which are cut a thirty-second length (about a foot and a half of fuse burns this time). A match is touched to each fuse, which has been slightly opened at the end that the powder may be exposed and catch fire quickly. When the fourteen fuses are all lighted the men take to their heels and flee for their lives.

They always reach a distance of 100 feet and often more, for it is the longest thirty seconds one can conceive. At the first uplifting noise and shock they glance backward, ready to dodge any kindling wood coming their way. When they have run a safe distance they turn and face the stumps, counting carefully each explosion and watching the flying pieces, that they may not be hit. Dynamiter Kissam has never had an accident, and I trust he never will.

Then follows a most delightful Fourth of July firecracker exhibition on a large scale. Roots are thrown up out of sight and return to earth a hundred or more feet from the place in which they grew, while the air is filled with minute fragments of wood and powdered earth. The record for stump blowing is 130 in one day, when 84 lbs. dynamite was used. Three men can remove thoroughly one to three stumps in one day by the use of the mattock, ax and shovel.

But to return to the Farm. Work pushed steadily on and as soon as a small strip was blown, the Italians came in gathering up all the stumps, roots and fragments, removing any pieces that might be loosened but not completely torn out and piling them at intervals and immediately burning them. This is a process that cannot take place when stumps are removed by any other method, for by the digging process the earth must be picked and scraped from them and ultimately the stumps chopped or split in pieces before they will burn.

By the method pursued the stump is burned and the ashes spread upon the ground in a few hours after they are blown out. By this process is obtained the finest kind of unleached wood ashes, nature's best fertilizer, containing vegetable lime to "sweeten" and potash and phosphoric acid to furnish plant food.

The two condemned freight cars had been placed in position and the Italians made themselves thoroughly at home. In fact, they seemed supremely happy there. Larry and Tony had partitioned off a portion of their car for a bedroom, while a "hot stove" was placed in the remaining portion, which served as kitchen and dining-room.

The rest of the men made bunks along the walls and an "eat stove" filled their cup of happiness to overflowing. We made it a custom to say good morning and good night to every man and to learn the name of each one; they soon became bright faced, polite, eager to please and extremely faithful. In fact, each one came to us asking to go out to work there again in the Spring. As the days grew shorter they asked to be allowed to make a full day and get full pay. We were only too glad to have them do so, but didn't see exactly how they could manage it. They were up with the first streaks of dawn and cut the dinner time down more and more, working on until it became dark.

Their meals are curious and interesting: a dish of red peppers and a half a loaf of rye bread for breakfast, half a loaf of dry bread for dinner, and for supper a good pan full of macaroni and beans and tomatoes. During all the time they were there they ate no meat and were well and happy without it. Tony cut his foot badly with the ax once, but kept at work just the same.

While the work was progressing, much thought had been expended upon the soil and its needs. There was no top soil or humus; forest fires had robbed the plot completely of this valuable element. 'Tis worse than a pity, 'tis unpardonable negligence on the part of landholders to neglect their fire lines. In the olden days ditches were dug around all boundaries and were kept free from dead leaves and dry matter which would carry fire. Now no one thinks either of ditching or keeping the old ditches clean, so that fires starting from a carelessly thrown match and various other causes, sweep from the Sound to the Ocean many times utterly destroying small farms and threatening villages in their path.

We were thoroughly convinced that the soil contained all the elements of plant food and that it was of extremely good quality. Oaks and chestnuts will not grow seven feet in diameter unless this be true; also it requires good soil to produce a forest with from 300 to 700 trees per acre, none under 18 inches in diameter. We also knew that forest land is always sour. That is, it has been shaded so much, the sweetening powers of sun and air have been denied it. The fact that this piece had been

burned over aided a trifle, as the sun could reach the soil somewhat; further, the ashes produced from the burned stumps would help. Long Island wood ashes contain, however, but about 5% lime (the Island having no limestone upon it). Therefore, with these facts before us, it was determined to spread half a car load (or 10 tons) of old strawy manure to the acre and procure some Canada wood ashes, which contain 40% vegetable lime, for use where the soil proved too acid. The manure was ordered, five car loads, and delivered on October 3. The Italians proved their interest in the work, and their willingness and eagerness to help was never better shown than when 18 of them unloaded and cleaned two cars (nearly 60 tons) in 59 minutes. The three remaining cars were unloaded by 14 men in 2½ hours. It was accomplished this way:

"Larry," said the Senior Partner, "tell the men to unload as quickly as they can and I will give them an American smoke. The railroad men say it will take three hours and I do not wish to delay the train crew so long."

"All right, Boss, we see." The word was passed around with the above result.

The box of cigars was delivered; then came the mow.

"Good morning, Larry, did the boys like the cigars?"

"Yes, sir, we keep 'em, feast day."

"But, Larry, were they really good?"

"Yes, sir, not so good like Italian cigar, Italian cigar stronger."

"What do you pay for yours?"

"I buy fifty cigar, thirty-five cent, him very good."

"Are they American?"

"No, Boss, him come from Italy."

A team of horses with wagon, plow and driver was hired from the neighboring village of Rocky Point. First was hauled to the northern boundary all cord-wood the Italians had been able to secure when clearing the land of standing timber and underbrush preparatory to dynamiting. When this was accomplished we possessed 18 cords of rather small wood; not much for ten acres surely.

October 4, Mike Cooper (American for Miguel Coperillo) began spreading manure on acre 1 and immediately plowing it in. It was our intention to sow Winter rye on as much of the land as could be prepared before cold weather prevented further work, in the hopes of having a few inches of green humus to plow under in the Spring.

By this time such a hue and cry went up about the expense of using dynamite for clearing land that we had Larry pick his three best men to take stumps out by hand. We chose average stumps for them, and the best they could do was one stump each in from 2½ to 3¼ hours and requiring the united efforts of all three to roll the root out after it was loosened. They succeeded in getting out only the bare stump, leaving all roots, large and small, to check the plow and prevent or seriously hinder cultivation.

Dynamiter Kissam, with "Dell" Hawkins' assistance, blew regularly from 75 to 110 stumps a day. The dynamite splits them so completely that they can be burned at once, and in fact one of the unwritten laws was that all stumps blown each day should be burned and the ashes spread before work stopped. The stumps taken out by hand required cleaning, splitting and drying before they could be burned; an added expense. Thus the comparison figures on 100 stumps:

DYNAMITE

Average 60 lbs. Dynamite at 15c. per lb.	\$9.00
Labor of Expert and Helper.	5.50
100 fuses at 45c. per 100 feet.75
100 caps at 75c. per 100.75

HAND LABOR

100 average stumps requires 3 men 33 days at \$1.33 per day.	\$131.67
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Stump pullers were out of the question, there was no standing timber for the block and fall to be fastened to, the time necessary to hitch to stumps buried just under the surface, frequently with rotted heart, together with the cost of the puller, hire of horses and men, made it way beyond the power of competing with dynamite.

The daily bombardments seemed to interest people in the surrounding country very much. When questioned as to what was being done at the Experimental Station they would reply:

"Aw they're plantin' dynamite and raisin' hell, and that's all they ever will raise." Now that the Farm has raised other than that warm locality they say it is "Fullerton luck," but we know better.

By the 10th of October all the 10 acres had been cleared of underbrush and dynamite work was progressing well. Fuses gave out, causing some delay, as manufacturers are not overly prompt in deliveries. Two teams were working upon the cleared section, one plowing, one disc harrowing. Following this process came spring tooth harrowing, which gathered up the finer roots of sweet fern and huckleberry so that they could be piled and burned.

All this time water had to be carried from the depot, a mile and a half away. Two small Italian boys were kept busy all day traveling back and forth. Water must be had for the Farm, and it was our desire to experiment in a small way with irrigation. There comes a time every season when the Eastern States have a drought of greater or less duration. A market-gardener should not be at the mercy of the elements. There is too much at stake. Then, too, all extra choice products should be carefully washed before they are packed. As for the actual quantity of water required by plants for their growth, the following instances are very convincing:

To produce one ton of dry oats requires 520 tons of water; one ton corn, 310 tons water; one ton red clover, 453 tons water. In other words growing plants require 300 to 500 times their dry weight. It certainly seems as though water were more necessary than fertilizer or anything else but sun and air.

In the middle of October the well was started; it was located on the house plot northwest of the

housewife. The trees left vacant a circle which was an admirable setting for the tank tower and a protection both Winter and Summer. Much thought and investigation were expended upon the water supply. The well, of course, was a necessity, but there was much to be considered in regard to the method of pumping. Under ordinary circumstances a windmill would do, but a farm should not be allowed to prove a failure for lack of water in a droughty season. During the past Summer, that of 1905, a drought struck the entire Eastern section of the United States, when vegetation was making a strong early growth; as a consequence many plants remained practically dormant. In case of drought (and almost every Spring or Summer brings one of greater or less duration) water must be on hand, and as a drought is usually accompanied by windless weather a windmill could not be depended upon. An engine was obviously necessary, both gasoline and kerosene engines were closely investigated with the result that a "Secor" kerosene oil engine was decided upon. This engine starts immediately by lighting a very small quantity of gasoline by electric spark, which generates sufficient heat to vaporize the kerosene when the engine is shifted to the latter fuel. Some kerosene engines must be started by heating an iron ball red-hot by means of a gasoline torch, before the kerosene is vaporized; this requires oftentimes 20 minutes and more. Gasoline engines are more expensive in operation and more dangerous to run; while the kerosene engine's first cost is greater it is much cheaper to operate. Another advantage of the engine over windmill is that it will furnish power for cutting wood or grinding grain, shredding fodder, filling silos, or lighting the buildings, a $2\frac{1}{2}$ horsepower engine running 25 16-C.P. lights easily.

The well-driller was accompanied by a huge colored man whom the Senior Partner immediately dubbed "Big Mice." Alas, he could not remain, for there was not a house in the neighborhood where one with African blood in his veins could get a bed to sleep in. He returned home, leaving George, a young Westerner, to do the drilling, with our longshoreman as a helper. It was an exciting time when the well was started. It would mean so much to have all the water needed and not have to carry it the long distance in small quantities at high cost.

Then, of course, it permitted of a little sport, and many bets were made as to the depth we should strike water. The site was about 100 feet above the Sound and we deemed that about the depth we should have to go. The Senior Partner bet the driller we would strike water nearer 90 than 100 feet; the bet was for a hat against a pair of gloves, and he was so sure of winning he told me in confidence he had decided upon a white "stove pipe" with a deep well band.

Ah, the tantalizing delays about that well, first the driller ran out of pipe, when more came it was the wrong size, an interminable delay, and the next lot was cracked.

Water was finally reached at 102 feet (the hat remained a dream). A little more drilling to bed the well points and strainer revealed the fact that we had struck an infold or overlap of a terminal moraine, for the sand instead of being sea-wash running into gravel was as fine as emery. It would never do to stop there, for the flow would be slow and the sharp stuff would wear the leather cups and brass valves out in less than no time. Drilling continued through shallow layers; always water in plenty but geological conditions poor. At 149 feet a beautiful flow was struck with ideal gravel bottom; we had reached that huge subterranean river which lies under Long Island and is a never failing source of crystalline water, free from surface drainage, pure and sweet for whomsoever cares to tap it. It rose to within 40 feet of the surface and was still rising when the pumps were put on and we had the first sip—sweet, sparkling, cold (49° F.)—the best drink in the world. Then, to test the supply, an eighteen-inch stroke was pulled and she never "kicked." Now the first turn of the pump throws water into the tank, showing that the water stands close to the top of the pipe.

But to return to the land, Nature smiled her sweetest upon us up to October 20, when there was a 24-hour downpour.

"Now we're up against it, we won't get the rye drilled in for a week or more and that will be too late to get a good start this year," said the Senior Partner.

"Well, if that Farm is anything like our garden you can drill in rye to-morrow," I said.

Hand in hand we traveled forth the next day and there were the harrows going merrily over the ground, and though the soil was moist it did not cake up a bit. Rye was sown in the afternoon, thus completing three out of the ten acres.

The comparison of plowing this land with land cleared in the usual way is interesting. To begin with, the team and driver cost \$4.00 per day, while they always charge \$5.00 per day for the land when stumps are left in. This land plowed at the rate of $1\frac{1}{2}$ acres a day while $\frac{3}{4}$ of an acre is the best they can do in stump land.

On October 28 I had the pleasure of blowing out our "king" stump, a chestnut $7\frac{1}{2}$ feet in diameter.

Our neighbors and friends were kind and encouraging, many of them came long distances to remonstrate after this fashion:

"Say, old man (that's not I), we're awful fond of you and you have done a lot for the Island. We'd hate to see you ruin yourself. For goodness sake give this thing up before it is too late. You know nothing will grow here under three to six years. Honest, old man, we mean it."

Then the Senior Partner would walk around with them a bit and they would say, "What's that green over there?"

"Rye."

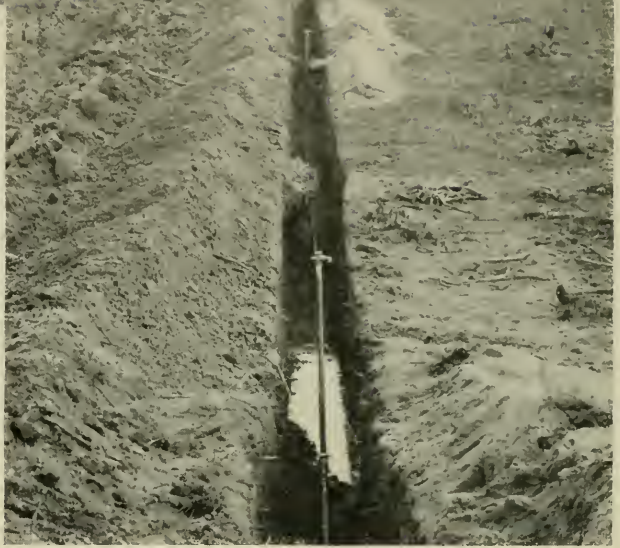
"No, go-wan, it can't be!"

"Go and look for yourself then," he would answer. They went away nobler and better men.

Others would gather in the village stores and decide that we had "pizened" the soil with gases from the dynamite, but as the rye grew stronger and greener they said, "Well, anyway, it wouldn't live the winter through."

As the weather grew colder the problem of handling the dynamite became a perplexing one. It freezes at 4° and we were absolutely determined to get at least 10 acres cleared before snow flew.

A magazine was made of a large dry goods case and placed in the middle of a pile of manure, the opening facing south. The dynamite was stored in this, only as much as was needed for immediate work being removed at a time.



Water-carriers—ancient and modern



5000 gallons of pure water always on tap

"Dynamite camp" was first located in the huse plot, but as the work moved westward, camp also had to move. Finally we located in the windbreak, placing cords of wood to the west, north and east, leaving the south open. An old sail cloth was thrown over the wood-pile in the daytime, keeping out the winds and making a warm sunny sheltered spot. Here the dynamiters prepared their charges, placing them when ready in a small box, in the bottom of which was some hot manure, a cloth was thrown over the top and the lid closed down. Thus they were transported safely to the stumps already prepared for charging.

The acres were cleared up quickly and cleanly, the stumpage running from 270 up to 337 on the eighth acre, the ninth numbered 334, and when they started blowing the tenth we felt our goal was nearly reached.

Dynamiter Kissam and the "Captain," or "Cap," as Dell was more often called, worked harder than ever. They started the acre November 2 and blew 110 stumps that day, the next 97, next 20, next 60, next 99, but apparently they made no impression upon it. We became impatient, the Fall was slipping by and that last acre hung fire.

"Charlie, can't you get someone else to help you, we must get this acre and as much of the dairy as possible done this Fall."

"Why, yes, I guess Ed. Underhill of Syosset will help me."

"Telegraph him, then, and see if he will come out to-night," said the Senior Partner.

The "water boy" carried the message to the depot and "Ed" appeared on the evening train. My! how these three boys worked the next three days, until on the 16th they made a record blow of 160 stumps, bringing this acre up to 797 stumps over average size. I blew by electric spark the last one, and this 10 acres, up to this time a drag upon the community, took its place in the rank of the world's producers.

Three cheers arose from us all, even the Italians throwing their hats in the air, and giving vent to their feelings.

By this time the plow and harrow were well up to the dynamiter, so that the next day saw the 10 acres seeded down to rye and the telegram that went to the President read like this:

"Number One's ten acres cleared, plowed, disc harrowed, cross harrowed with a spring tooth harrow and drilled with rye in 64 $\frac{1}{2}$ working days from the start of clearing."

And the answer came:

"Congratulations."



No. 1's first Alfalfa harvest



Night work—burning the fine roots

Winter Work



DYNAMITING continued in the dairy section up to the end of November. Three acres were completed, but the weather became so cold it was very difficult to go further. Two acres plowed, but no more work could be accomplished here.

The question of suitable shelter for us and for a man on the place came early into consideration. We heard of a five-room portable that had been used two Summers on the South Shore Beach, which was for sale. It was in good condition, and authorization was given for its purchase.

Immediately we made measurements for a cellar under it, for there was urgent need of store room for coal in Winter and provisions in Summer. Larry put three men in there, and they seemed to vie with each other in quick work; to us the absorbing part was the soil conditions. Of course all the soil was carefully placed and saved for future use; it ran just three feet deep when sea-wash sand and gravel in brown and white strata appeared. This was also kept separate for mason work, foundations for roads, and paths.

In a day the cellar was dug, ready for the erection of the house. It came like a pack of cards, was erected in two days by a carpenter and his helper, and looked most ridiculous with the windows curtained before the roof went on. This is the way it was arranged, leaving out a partition at the western end and making four rooms instead of five. It was heated by a very small 6-hole "eat stove" No. 7 Paragon, and a No. 10 Redeloud "hot stove" in the office. Into this house we put the English longshoreman, his wife and little girl; they remained all winter, finding the house more comfortable than the average modern frame house.

Early in the life history of the Farm, we roughly sketched the plan of campaign; chicken house barn, house, and well were plotted. Next came the orchard, which was to cover an acre of ground. No farm or country place, no matter how small, is complete without some fruit; it is a permanent improvement, to draw more and more interest as time goes by.

It was our plan to experiment with fruit in this way. Firstly, put in many named varieties of many kinds of fruit and find what was best adapted to the locality; secondly, to procure the stock from widely differing sections both north and south of us, to see which change of latitude would show the greater advantage.

Many nights were spent poring over catalogues, and at last the orders were given, each a duplicate of the other and an accompanying letter stating the nature of the experiment, that the stock would be planted at the same time side by side. One order went to northern New York State, one to southern Pennsylvania.

Pennsylvania's came first in "coffins," the most ghastly looking packages, arriving the day before election day. As Italians would rather make a day's pay than vote, and further had not registered, we started planting on November 7. A privet hedge running along the drive road on the barn side was first planted. It was to be allowed to grow tall and obscure the barn buildings from the house. A trench was dug, some old well-rotted manure (of which a car load was purchased as a mulch for the trees and fruit), and wood ashes thoroughly mixed in the bottom, and the bushes firmly set, a foot apart.

Previous to the arrival of the nursery stock, holes had been dug to receive the trees. Acre 4 was selected for the orchard; it was the middle acre from north to south, on the eastern boundary and not far from the house and on a slight slope. Apples occupied the first row, set 25 feet apart, with a peach between each. Peaches last but 12 years, and will be out before the apples need the room. Next came pears, then cherries, with one nectarine and one apricot for trial, next quinces, then a quantity of Japanese plums, a few German prunes, and greengages.

The varieties were as follows:

<i>Apples.</i>	<i>Cherries.</i>	<i>Quinces.</i>
Red Astrachan,	May Duke,	Champion,
Red Bietigheimer,	Montmorency,	Bourgeat,
Esopus Spitzenburg,	Ordinaire,	Orange.
Northern Spy.	<i>Japanese Plums.</i>	<i>Pears.</i>
<i>Raspberries.</i>	Abundance,	Bartlett,
Golden Queen,	Burbank,	Worden Seckle,
Champlain.	Satsima,	Anjou,
	Wickson.	B. S. Fox.
<i>Gooseberries.</i>	<i>European Plums.</i>	<i>Currants.</i>
Downing,	Grand Duke,	Fays Prolific,
Industry.	Bavays Greengage,	White Currant.
	Monarch.	
Moorepark Apricot,		Nectarine.

Red, white and blue grapes, Catawba, Niagara, and Concord, Rathburn blackberries, Palmetto asparagus, Myatts Lincaus rhubarb and Sharpless strawberries from the home garden.

The holes were prepared with wood ashes thoroughly mixed at the bottom, the roots carefully pruned, then set in the hole with plenty of room to spread out, and arranged as nearly as possible as they were in their original home. Dirt was shoveled in carefully and slowly, while one man tamped gently with a blunt stick in order that the roots might be thoroughly embedded and no air spaces left about them.

When the hole was filled, two short stakes were driven beside the tree, one to the east, one to the west, a piece of old garden hose about four inches long was split and encircled about the tree trunk. A soft stout twine tied around the piece of hose and extending to each brace and back again, held the tree firm so that no amount of wind could loosen the roots. We had the feeling that this work was too important to trust to others, but soon found that Larry, Tony and Dominique were doing as well as we could; in fact, many of these men showed real talent for gardening. Tying was work that woman's hands could do, so that was my portion.

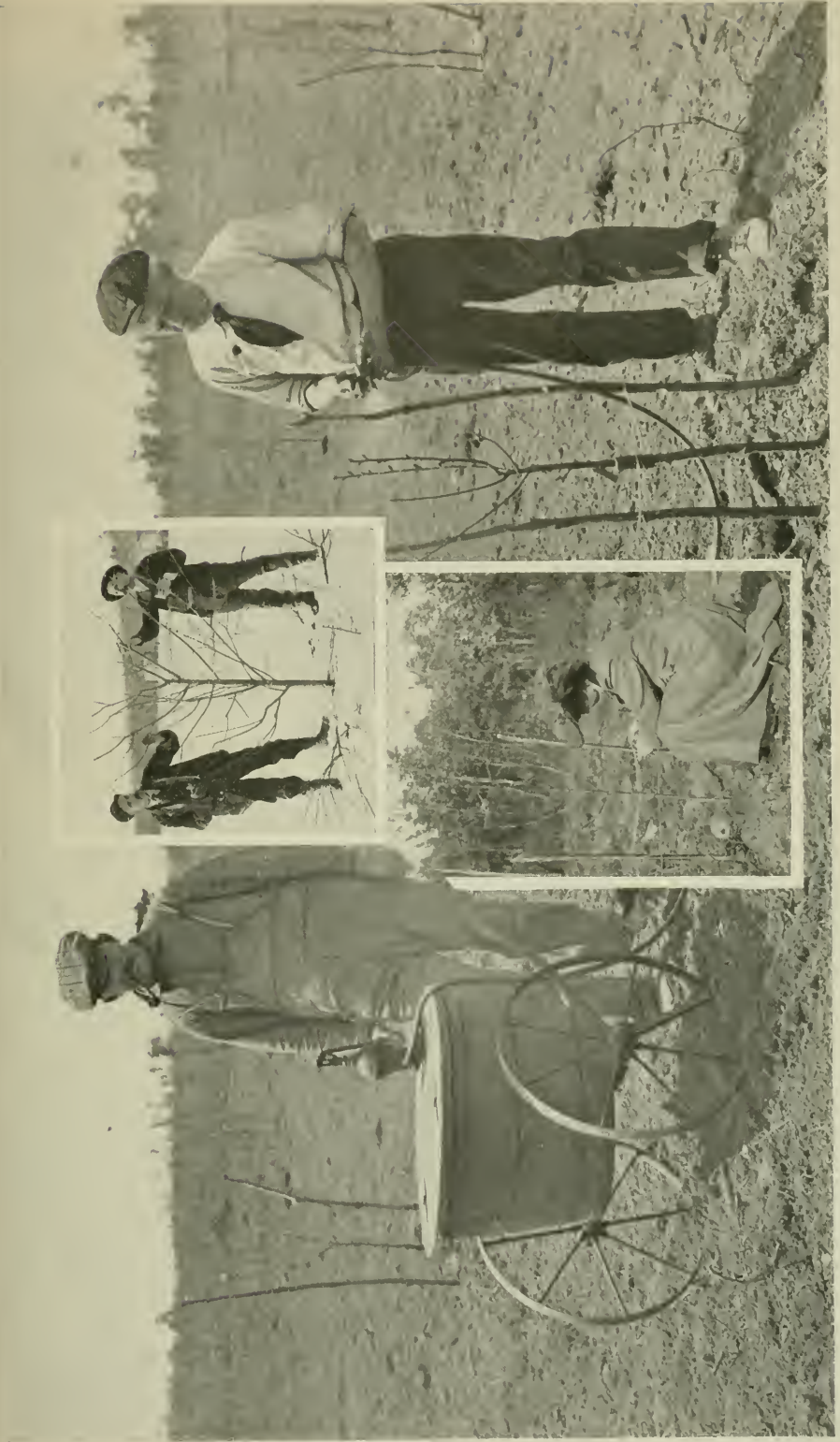
Grapes went in around the chicken yard, currants, gooseberries and blackberries, rhubarb and asparagus near them. There are but enough of these plants to supply a family's wants. To the north of the Orchard and along the eastern boundary, raspberries were placed, strawberries next them, leaving a strip in a swale between them and the asparagus for the raising of late seedlings.

By the time these were all in it was well into November, plowing continued in the pasture and the Italians mounded earth about each orchard tree, making a rain shed and preventing sinking about the tree trunk where ice and snow could settle, next they piled a manure mulch on this mound, leaving an open circle about each trunk that mice and moles might not be harbored and eat the bark. Well we knew it was late for setting out trees and bushes, but also we knew that the nurserymen take their stock from the fields, and "heel" them in where they can get at them in the early Spring for shipment. To our minds, a tree well planted and carefully protected, mainly against heaving by freeze and thaw, stood as good a chance or better than one "heeled in." Added to that, when planted the roots had a chance to get settled and gain a foothold, so that when growing season started (below ground long before above ground) their work went on, gaining just a year in their growth. All the rest of the stock was mulched, while strawberries were covered with strawy compost after a fair freeze.

The drive and paths were made according to our sketch of the early season. First gravel and sand from the cellar was spread and rolled with a kerosene barrel filled with stone, next a dressing of loam and finally cinders were laid; for this rolling, the well-driver's drop weight was borrowed. The road proved permanent, useful and slightly, weathering both Winter and Summer well.

The well being finished the erection of the tank tower and the placing of engine and pump claimed attention. Stone for the concrete corner foundations of the tower had to be brought from the beach, the entire farm having disclosed four stones, the largest four inches in diameter. A large hole was dug, filled with boulders and cement, a square casing set above and the concrete poured in. The engine base was made the same way and with even more scrupulous care, for we were particularly anxious the engine should have a firm foundation. All this work was done by the well-driver and John, no experts or high-priced men were on the work. The tower went up and waited weeks while "tracers" followed the tank from Michigan here. If any manufacturer could delay the work we seemed destined to win the delay. Dame Nature was always with us, helping in every conceivable way, but man—well, man is dead slow and "bites off [in these strenuous days] more than he can chew," and often prefers not to keep his word, while his contract is seldom lived up to. A carpenter and his boy next held sway, enclosing the tower, and building a lean-to for the pump head. An engine does its best work when some distance from the pump; well rods need raising for new cups and valves once in a while, therefore the pump was given a lean-to with trap door in the roof for raising the rods. In the upper part of the main tower an office was made by laying a floor and erecting the most amazing flight of stairs imaginable. The engine was set, the pump head was placed and the carpenter and I "lined" the pulleys. "Pennsylvania millions" has been the cry. I am sure none of them ever found their way to Experimental Station No. 1; even if they had, there are many things millions cannot accomplish.

At last the tank arrived and was erected; then another delay while "tracers" again hunted pump



Staying, spraying and pruning in No. 1's orchard



Disking with "cut-a-way" harrow



No. 1's first season's plowing

pulleys that had never left the factory. It has become a mercantile custom to saddle delay on transportation companies.

One never-to-be-forgotten day the engine started and pumped the 5,000 gallon tank full in six hours. Hurrah, no more carting of water, no need of thinking twice before taking a drink or washing hands for fear the supply would give out!

The irrigation system had been decided upon. Simple in the extreme, it consisted of a pipe running from the tower directly south through the chicken yard to the seed bed. By the chicken house it took a right angle, running west the length of the 18 acres, again north to the northwestern corner, where the dairyman's cottage would ultimately be. A second pipe was run across the front lawn to the barn. All these pipes were laid three feet deep, the work being done by the Senior Partner and the Italians, with occasional help from the well-driller. About every 100 feet of this pipe length, a standard was inserted with a stop-cock at the top; these were for attaching hose, for the system called only for a length of hose with lawn sprinkler attached. Our idea, proven to our own satisfaction in our own garden work, is that plants want their water in nature's way, from above and that it can be applied when the sun is shining just as well as not, *provided you give them enough*, don't just wet the leaves and moisten the ground, soak them, it is the sunshower of summertime.

Well into the Winter work continued, the Italians (now cut down to a much smaller force, of course), set fence posts about the entire 18 acres, and a division fence line between the market-garden and the dairy. This was slow and tedious work, for the ground was pretty well frozen, yet we knew that when Spring opened there would be more than all hands could attend to without thinking of fences.

Nature favored us with an exceptionally open Winter, so that much more was accomplished than was expected. Yet what remained to be done seemed stupendous and we awaited the opening of Spring with bated breath.

Winter nights found us poring over catalogues of seeds and implements, traveling to factories to see these implements made and learning their various features, drawing plans for a simple barn that would blend into the freight car without looking freaky, plotting the ten or rather thirteen cleared acres, that there might be no hitch either in ordering seed or planting the same.

About the middle of January, Teddy, a young Englishman of about 20, appeared, asking for work. He was an artisan's son and had been working on Long Island for a year or more; we engaged him gladly for the Spring. He found work in the village during the Winter and we were ready for his help March 1.

We had also engaged a Huntington boy who had worked for us in our garden, where many strange vegetables have found a home, to go with his wife to the Farm when Spring opened; Mike Cooper, who broke up the soil, following the dynamiters closely, begged to become one of our force, and as he is a good plowman, farmer, willing and quick, we also engaged him for the Spring.

In January a trench four inches deep had been dug along the front fence on the house plot; here we sowed sweet peas, giving them a little old manure and plenty of wood ashes. They were covered to within an inch of the surface, and instructions given to Mack to fill it in before a heavy snow-storm. Alas for the sweet peas he filled the trench with true English thoroughness and but few of them ever came through. I think now I prefer Spring planting. Who said, "Sour Grapes."

A pile of "blown" stumps with their long slender roots was piled by the drive gate, to serve in the future as a nasturtium trellis. Several stumps were placed about the trees to serve as seats and flower-stands, and as reminders of the past.

One of the most important portions of Winter work is the making of hot-beds for raising seedlings. The barn was not erected at the Farm, and no spot was quite sheltered enough for beds; besides a longshoreman-sailor-soldier Englishman cannot tend hotbeds successfully.

"What shall we do?" said the Senior Partner. "We must have tomatoes, early cabbage and cauliflower plants. We will have to grow them here under our personal supervision and there is only one place to put them that is ideal."

"I know," I replied, "where I raise my early chicks, the warmest spot in our home acre. All right, go ahead, we'll sacrifice even chickens to the success of Number One."

So John Coddington was at once installed maker and tender of hotbeds for Experimental Station No. 1 at Huntington in our own home chicken yard. The space admitted of seven sash; a three-foot hole was dug, the frame set according to regulations and hot manure placed in the bottom. Fine sifted loam was placed over this and when the bed had reached the proper temperature radishes were sown, for we intended getting one crop of these before tomatoes, cabbage and cauliflower took all the room. There were many bunches pulled in March when radishes were bringing 25c. a bunch.

Tomato seed was sown in February in seven varieties: early, medium and late; pink, red and yellow. In the little conservatory, our Winter's delight and recreation, my seed boxes were brought forth and planted with asters, pansies, coleus, peppers and cardoon, all destined to beautify the house plot about the little homestead in the Wilderness. When seeds are sown, Spring begins.

Spring, the Strenuous Season



SPRING began with us when the ground, even though still hard, could be turned over. "Mack," so dubbed to prevent confusion with John Coddington, forked the lawn plots about the house—the plow had not done any work here, for the trees interfered. It was hard work and slow, but brawny muscle and encouragement prevailed. A dressing of well-rotted manure and a sowing of ashes had been spread for turning under, for we wished to lay special stress upon the grass plot. Too many new homes never have one, more's the pity. Of course it needed raking after being turned over, and as no rakes seemed to grow in scrub oak, the Englishman turned Yankee and invented one. He took a board, drove nails through it, fastened it to a stick and proceeded to rake; Teddy, for a drag and leveler, tied a couple of cedars to a board, which answered the purpose admirably.

Edward Tuddenham, or Ted, started work March 1, giving us two men. Much work on buildings was yet to be done, while two more portables of 3 and 5 rooms each were ordered; one was for the helpers, the other for our own use. This necessitated moving the seaside cottage already erected on the house plot farther west—an added expense, but one that under the circumstances was unavoidable.

The tower was still incomplete and the barn unerected.

March 19 brought with it a corps of four carpenters. I quote from the Senior Partner's diary to show that things did not go merrily all the time:

"The four carpenters arrived with little to eat, nothing to cook with and nowhere to sleep. I took out of the chicken-house-car materials stored there waiting the arrival of the portable houses, set two men to work erecting bunks and tables, while the third returned to the city for food supplies."

It was necessary to keep the workmen there, for distances were so great the best portion of a day was used in traveling back and forth.

Our next few days were spent in getting out orders for vegetable plants (knowing full well we could not raise all we should need), and various other "knitting work." Receiving word that the carpenter who erected the first portable would be there to erect the others (which, by the way, had arrived), we returned to the Farm. The first thing that greeted us was the barn frame, standing about four feet above the car top and big enough for an apartment house.

"For heaven's sake," exclaimed the Master Mind, "do you think we are going to keep giraffes? That thing is big enough for giants. Where's the plan? We drew it and sent it in with this roof slanting south from the car roof!"

The drawing was produced, a beautiful blue and white thing by expert draftsmen, but the specifications attached did not "gibe."

To say we "threw fits" draws it mildly. Three men had worked three days with second hand extra heavy timber (this is where the Penny was saving a few millions) and this awful nightmare stared us in the face.

"It hoodoos the whole place," I exclaimed. "We might just as well not have worked so hard. Telephone (oh, yes, we had a telephone, every farmer should, especially if he is far from civilization and the base of supplies) to the Engineer's Department and ask them if it can't be altered."

A heart to heart talk with the foreman revealed the fact that his instructions were to "Do whatever Mr. Fullerton wants. If he says to put the roof on the ground and the floor on top, you do it."

That was sufficient for us, the roof came down in the world and later took its proper place.

But March was slipping away and there were no horses, and plowing must start soon! Would that barn *ever* be built?

The Thanksgiving cottage must be moved; for so the first one erected was named, from the fact that we took the two children and dinner under our arms and spent the day at the Farm. Dinner consisted of cold broiled chicken—the real kind that you raise yourself, not the dormant kind of city life—fried sweet potatoes, which I warmed in the little oven (this was before Mack's family had moved in) and pumpkin pie. To quote again from the diary:

"The entire Fullerton family having decided that the small village plot was not sufficient in extent to allow their true Thanksgiving proper expansion, arranged to take their dinner in a basket and eat what was the first Thanksgiving dinner ever eaten, by a white man at least on Peace and Plenty Farm (this is our own pet name for the place). The little portable was warm and the drawing table supplemented by an extremely low rocker, one extremely high rush-bottomed chair, several dynamite boxes and the mattress of a cot bed, made this dinner unique in a great diversity of respects.

"As an appetizer, the orchard and growing rye were found remarkable, and the old car which had once served as a refrigerator car on the once-famous Long Island-Boston milk train, now almost forgotten, gave the children an opportunity which they have longed for, of being 'real railroad men,' utilizing the low platform with its brake as a locomotive of express speed.

"By means of an object lesson, consisting of peanut brittle, figs, velvet molasses and a very careful and lengthy explanation, the Italian gang were made at last to understand what the American Thanksgiving was about, and finally by combining Spanish with English, reward was secured and some feast day called 'Succore' held in Italy was discovered, this evidently being a day of similar meaning to the Italian race."

And I might add that every man jack of them later passed the door, raised his hat and said, "Thank you, boss." Boss to them is feminine as well as masculine.

But to return to the march of events. Thanksgiving cottage was moved, a new one erected over the cellar, and the three-room farther west in the wind-break. We selected as much tree shelter as we could for each cottage, knowing the shade would be welcome during the heat of Summer.

Shelves were put in for clothes, books, etc., while kitchen cupboards, diminutive pantries and table shelves made the kitchen arrangements of two cottages complete. We were to eat in the office end of Thanksgiving cottage, for six of us were to sleep in the four-room "Homestead."

Pruning time was here, so we sallied forth to see how our orchard fared. With fear and trembling we went over it; returned rejoicing in the fact that not a tree was dead and even this early (March 22) they showed signs of awakening.

Rain, sleet and snow now prevented outdoor work; there was plenty inside, however, and the carpenter's hammer still rang. The last day of March being clear, we set out some dormant plants about the house plot; roses, ornamental grasses, iris and such things.

At home the tomatoes had grown strong and sturdy; we were giving them all the air possible to keep them stocky, and now they needed transplanting. Potted plants fruit much earlier than unpotted ones; early fruit brings the highest price; ergo, ours should be potted. John and I set to work, making the chickens' scratching house our workshop. A case of paper pots was to our hand; some earth from the hotbed and the seedlings completed the outfit. John filled the pots, I set the plants, a whole day and they were not done yet; another half day and we had the bed's capacity filled, 1,300 pots returned to the frame to await warmer weather for transporting. We were rather proud of that bunch. For several days they were kept well watered, shaded and cool, until the fine roots should have gained a new foothold. Cabbage and cauliflower were thriving, though not to our liking, tomatoes need heat, the others cold, so the latter were being somewhat coddled.

April first and the barn not yet complete. There was only one thing to do, coax Neighbor Robinson to rent us his team again until we could get our horses. On the 2nd plowing started on acres 1 and 2. The rye was 15 inches high—alas for the prophets—and was being turned under to do untold good. Fine roots of huckleberry and sweet fern still kept coming up and we knew the fight with them was destined to be a long and hard one. The harrow gathered them up somewhat, but still they were obstructionists.

The annual forest fires started to the west of us; strenuous effort on the part of all the force of workmen saved that section of the Island from again burning over; a second fire a few days later with a westerly wind met its own defeat against the fence of the cleared land of the Experimental Station.

By the end of the first week in April work was swinging at a rapid pace, land was being plowed as fast as possible, the stable nearly complete, so that on the 7th the two "condemned" express horses (condemned because their feet were worn out by city pavements and for no other reason) arrived. Great big beautiful fellows, one a gray with a little Percheron in him immediately named "Buckeye," while the other, a Roman-nosed buckskin, received the name "Texas," in recognition of his ancestry.

Horse and hand implements were being assembled, these consisted of Planet Jr. one horse cultivator, horse leveler, hand drills, hand cultivators, a roller and a plow.

Three plum trees were heeled in the Fall and saved for Spring planting, for comparison with the Fall planted stock; these were now set out, two in the chicken yard, one near the little cottage.

On the 11th grass seed was sown about the house plot, a mixture of Burpee's "Fordhook Famous" and his "Shady Nook." It was brushed in with the cedar trees. To the southwest of the house a small plot was sown with U. S. Government grass seed; a row of Haricot Beans, also from the Government, bordered it, so it became known as "Government plot." Some plants with lovely copper tags bearing enormous numbers were also planted here; they thrive well, but things without a name are never as sweet to me as ones with names, even though long Latin ones.

As the land was finally prepared for seeding, it was done in this manner. Rye turned under with the plow, followed by disc harrow, followed by spring tooth harrow, followed by leveler, which, by the way, is one of the best and least appreciated or used of farm implements. It levels uneven spots, breaks clods and pulverizes the soil.

The "gude mon" came home and said, "Those cussed wiry huckleberry roots are still so thick. I don't see how the hand drills will ever work among them. We simply can't spare time to rake them out by hand."

"Why don't you borrow a regular horse hay rake, I should think that would clear them up a bit."

"Level head," he exclaimed. We borrowed a rake and it worked like a charm, two carloads to the acre of those "cussed roots" came out and were promptly burned.

April 14 was ushered in with a light white frost, but hand drills started early and by night four varieties of radishes, covering half an acre, and three varieties of peas had been planted, also Sakurajima—a Japanese radish. The drills worked hard and unevenly, going into the soil deep, then checking against roots. A two-man method was invented, one pulling with a halter, the other pushing. But the men, John and Ted, soon found they could work them alone.

In going over the diary for April, one's head fairly spins with the work accomplished. Plants were removed from Huntington to the Farm, tomatoes were placed in the implement shed until a cold frame



Arrival at No. 1 of horses "Buckeye" and "Texas"



The well-drillers' drop-weight served as a road roller

could be built to receive them. Cabbage and cauliflower were set at once in the field, being covered with paper pots for a few days to prevent wilting, and sometimes at night to guard against cold.

Lettuce, beets, onions, spinach, parsnips, endive, scorzoneria, celery (in the seed-bed) and corn were drilled in by the little Planet Jr. hand drills, those exquisite little time-savers.

As an illustration of the work they will do in this new ground it required 25 minutes to plant 8 rows of parsnips, each row 100 feet long.

To plant three rows each of four different varieties of lettuce consumed 45 minutes and this of course meant empty and fill the drill for each new variety.

Lettuce plants and cabbage plants from a Huntington grower were set out (we wished to test transplanted lettuce with that grown in drills and only thinned). Chives, shallots, Pe-tsai, carrots and radishes from North China were all sowed. Udo, the Japanese celery, was planted to the east of the raspberries.

On the 21st all trees and shrubs were sprayed with "Scalecide," as a preventive against the San Jose scale. To do the orchard and berries required 1 hour and 15 minutes and 8 gallons of the mixture (1-3 gal. scalecide at 60c. per gallon); not a very costly ounce of prevention.

A portion of the lawn was sprinkled as a first test of irrigation. On the 26th of April the grass seed had germinated on this portion only.

Potatoes were planted this month—nine varieties as a test of their earliness, productiveness and qualities.

On the night of the 22nd the "Hustler" came home and exclaimed: "A plum is in bloom."

"Where? In our garden?"

"Our garden nothing, No. 1 of course."

"Why it can't be," I exclaimed, "you know they really ought not to be alive and they can't bloom the first year."

"I don't care, it's in bloom and a lot of the others show fruit buds."

"Whose trees? New York or Pennsy?"

"Pennsy, all their trees are way ahead, they're alive to the tips and some of them are in leaf, while New York's are only in bud with no fruit buds, and many of the branches have died back three or four inches," he replied.

"Score 1 for No. 1," I said. Everyone said you should move stock south to have it produce earlier, but we knew that Pennsy's stock stood the better chance, for they showed more careful packing and the trees looked sturdier and had great numbers of fibrous roots. Anyhow, no one can say they did not have a fair show, for they were warned of the contest and came prepared to meet victory, defeat or a tie.

Chill drizzly weather now prevented further planting afield. A cold frame was erected in the lee of the barn and tomato plants transferred there. They were showing the need of overhead light, although still stocky and strong. Rain, however, rushed vegetation along and rhubarb and Udo jumped out of the ground like a "Jack in the Box."

The painters were busy on all buildings, while the homestead was being completed and furnished for our occupancy, for the farm needed us every hour, day and night, this its first tender year. The call of its tender youth was strong upon me, for I adore babies of every description, but the dear old home must first be placed in good keeping before I could fly.

The office completed and desk in place, the stenographer took up her abode at the Farm with our English family, helping until I came, with the daily records of the multitude of things accomplished each day.

To quote from the diary, April 30:

"More lettuce, spinach and salsify up and apparently glad it came. Brought further live stock to the Farm in the shape of two setting hens. (This was my scheme, I wanted young chicks, could not set the hens at home and being afraid the trip would 'break them up,' I put each hen in a box with hay and three china eggs under her. They traveled the 33 miles setting all the way. I doubt if anything could have disturbed them with the eggs under their breasts. Wonderful nature of motherhood!)

"Set out 880 cauliflower from the hotbed.

"Being unable to secure plumbing experts, made a practical demonstration that an English soldier and an American cowboy could cut pipe and affix fittings without stupendous difficulty, and further make absolutely tight joints."

"This same 'skilled labor' (non-union men, however) made for us the "dandiest" little bathroom ever a farm beheld. Beside the pump head in the lean-to was a space about six feet long and three feet wide. This was boarded in, a cement floor laid slanting to one corner; pipe run through and tap attached. A tiny bathtub was placed across the end of the room, a two-hole oil stove back of it and raised on boxes to the level of the tub. A wash boiler with brass spigot in its side near the bottom crowned the stove and here was the hot water supply. No one could ask for a better bath, and the cowboy-soldier combination made it all after the strenuous outdoor day work was done.

Lima beans were planted on the last day of April, although I believe the proper old-fashioned time is the afternoon of the 29th of May, or some such jargon.

We were also utterly disrespectful of the light and dark of the moon. All root crops being in our forefathers' day planted in the "dark" and all upper crops in the "light." To us, nature's signs are the best, when the maple is in bud, in leaf and in bloom are sure signs, for she never makes a mistake. Her chats with "Old Prob." are in a better and surer language than ours.

April 30th with its sweet odors nowhere so sweet as on new land surrounded by woods, rapid growth, continuous surprises. The month of tears and sunshine—and strenuous work.

May day started with the planting of corn and beans, finishing the last cleared acre of the dairy and reweaving celery in the seed-bed. This seed-bed was one of the Farm's semi-failures; we selected a plot to the south and east of the chicken yard, warm and protected. It was forked over with a goodly quantity of manure and raked as fine as possible. Somehow it baked and celery being so slow to germ-

inate (three weeks), the surface could not be broken. It needed old light, friable black soil, such as we should have had if forest fires had not robbed us. Too much care could not be expended on a seed-bed, and a seed-bed is one of a farm's most valuable adjuncts.

Cultivation started on the 4th of May; peas and radishes being far enough advanced to have the Planet Jr. hand cultivators run through them. The rows were rough, crooked and irregular, showing plainly where the drill, running into a bunch of roots, had choked, and, being released farther on, dropped the accumulated seed. Peas did not show this irregularity as much as radishes, but we were content when we saw the seed coming along in the bare spaces a little later, for we felt we would have a succession just as good as a second planting. Our surmise proved true, for radishes continued maturing for one month.

The 5th was lost in a big sea fog, that great factor in Long Island's agricultural success. They steal in during the night at frequent intervals, covering leaves and soil with a soft film of moisture, giving a crispness and freshness to foliage which inland plants are denied. It is no wonder cauliflower is so happy on the Island.

On the acres not needed for early planting the rye was allowed to grow as long as possible. It ran up to 34 and 39 inches on some acres, with signs of early and full heading, which proved to our entire satisfaction that a rye crop on newly developed land would be a paying one.

On the 7th the diary says: "Set out 100 Long Island Beauty Cauliflower between the rows of Extra Early Peas. Asparagus up, potatoes up, red and orange carrots from North China up, artichoke and kohlrabi and nectarine in bloom."

John was working on the Farm by this time, although his wife and family (consisting of one cat and a few pet house plants) had not yet arrived. This made three men on the 13 acres, not quite as much help as one would expect "Pennsy" millions to employ.

Canada wood ashes with its 40% vegetable lime had arrived and we sowed them where we felt they were most needed; about the house plot principally, for this section had received next to none of the native ashes. Acre No. 3 in the dairy also received 200 lbs., for it was newly plowed in the Spring and had received no manure whatever. We knew the ashes could not make up for the manure humus, but we wished to do the best we could for the poor thing.

"I'm awfully sorry about that acre," the Senior Partner said.

"But just think what a beautiful test of the soil's capabilities," I replied. "We'll see what she'll do unaided and alone."

About this time Mr. Peters made the Farm a visit. One of his first exclamations was:

"O, Mr. Fullerton, where are the nasturtiums for these roots? You're late, ours at home have broken ground."

He was led to the cold-frame where mine in pots were making trellises of the tomato plants.

"All right," he said. "You'll win."

That night we moved out. The children, the cat, the faithful nurse and I. Our baggage was in boxes made to roll under the beds, for the economy of space was to be a large feature. Put four people to sleep in a room 12 x 12, two of them active, healthy children, and every inch of room must be utilized to the best advantage. These boxes were on ball-bearing casters and had a good handle on the front of each, they rolled out easily and held our simple country wardrobes to perfection.

The next day being balmy, my first task was to set some pet plants of forget-me-nots from the home acre in a bed to the east of the house; asters, pansies, coboeas and the nasturtiums were also planted, giving us the nucleus of a flower garden.

Black beetle had attacked the tomatoes in full force; where these and all the rest of the pests known to creation came from is a mystery. Everyone said we would at least be free from them, but we were forearmed and had a quantity of "killers" on hand.

A heavy sifting of fine coal ashes saved the tomatoes, but they simply ate every eggplant during the night. They are about the meanest, peskiest little creatures alive.

There was thunder on April 18th, and we decided it was about time for tomatoes to go afield, they had long outgrown the cold-frame and the "Earliest Pinks" were in bud.

Some lettuce, Brussels sprouts and flowering plants came from a big commercial grower in Maryland; they arrived in such bad condition that the sprouts were absolutely worthless, a few lettuce were planted on "a chance," but soon gave up the ghost. The flower plants, a few geraniums, hollyhocks, perennial phlox and chrysanthemums were packed better and did well during the Summer.

We were hearing tales of woe from our neighbors about the frost on the 11th.

"Well, I suppose you lost everything the other night, Neighbor Fullerton?" they would say.

"Why, no, I can't see that anything is harmed except the tips of the leaves of the corn and the Moyashe Udo."

"Corn! You ain't got corn planted yet, have y'u, why we're just aplowin'?"

"Yes, I went up on the tank tower yesterday and I see we're just about two weeks ahead of you," he said.

"But didn't you lose your beans?" the neighbors queried.

"Beans, bless your hearts, no, my beans ain't up yet. What are you planting beans for in April? Why don't you plant radishes and peas and cabbage and cauliflower and such things, that don't mind frost?"

"Well, we thought we'd beat you tarnal book farmers and have our beans up ahead of your'n, but I guess you've got the best of it." And they disappeared utterly disgusted with our "book famin'."

"The trees are in leaf, it's time to plant squash and pumpkin and cucumbers," said I.

So in they went, while caladium, gladiolus and oxalis were added to the house plot. Wild cucumbers, that rapid climber with its pretty feathery white blossom and queer prickly seed pod, were planted wherever we could find a place for them to climb.

Then the crows began to talk and we heard them deciding that we were now a portion of civiliza-

tion, while the cabbage and cauliflower butterflies were so delighted to find a new farm, they decided not to fly farther.

The fields were rough, and it was next to impossible to plant in straight rows, in some cases we were forced to make a drill by hand and plant by hand, at other times a furrow was opened by hoe and the seed drill run upon it. In other places the horses plowed a furrow, hand planting following. Certain it is whatever method was pursued the soil responded and the plants were just as happy crooked as straight.

On May 16th we shipped the first product of the farm—a bunch of radishes to Mr. Peters. He is the Fairy Godfather and always receives the first or the biggest, as the children say. They were as anxious for him to have it as we were, and the first of everything from their own wee gardens was religiously sent to him.

On the 21st the Suffolk County Press Association held their annual meeting at No. 1. They dined out of doors "al fresco," eating of the crops growing not a dozen paces away. To them the Farm was a revelation, for all of them were familiar with the vast tracts of unused lands and to them it meant a new era for the Island they are all working for so earnestly.

To quote from one of the number:

Wonderful Long Island Soil

H. B. Fullerton Shows Newspaper Men Marvellous Results from Scientific Use.

Long Island soil is adapted to the growing of all kinds of fruit and vegetables in a degree that is only just beginning to be realized. It has long been a popular superstition that the island was a barren sand waste, which could grow only marsh grass, and that none too profusely. There are still a very few people outside of the island who believe it can grow more than pound for pound of vegetables to bone fertilizer. It is safe to say that there is not a baker's dozen of people in all of New York City who know the unlimited possibilities of the Long Island soil.

A day of awakening is near at hand, however. A man keenly alive to the real agricultural situation on the island, his name is H. B. Fullerton has come into contact with a man keenly alive to the promising future of all of suburban New York; and the result is that the island will be developed with intelligence and patience along the very lines which Nature designed for it.

Ralph Peters is the president of the Long Island Railroad and the man who is alive to the promising future of the suburbs of New York. When Mr. Fullerton, who can give the author of the "Simple Life" cards and spades in "getting back to nature," showed Mr. Peters what he had done in a small way with Long Island soil on his own place at Huntington, Mr. Peters said, "Fullerton, you can doubt theories; but these are facts," or words to that effect; and became so possessed of an enthusiasm for Long Island soil that he was not satisfied until the railroad itself had taken hold of the task of demonstrating the soil's productivity.

Well, the railroad has the task well under way; and you wouldn't believe, unless you had seen, what has been accomplished since last fall.

Ten acres of what were then virgin, tangled, oak land, a little at the west of the Wading River station, the last station on the Port Jefferson branch of the road, are now under cultivation and growing almost every conceivable kind of fruit, vegetables and flowers. Think of it! It was the despised "Long Island scrub oak land" last fall! And now it is under cultivation and bearing the tenderest of garden truck.

"Why, certainly," many a scoffer has been heard to say about it, "the experimental farm had the dollars of the railroad back of it to buy fertilizer with. Of course you can make thirty cents grow if you plant a double eagle." But the joke is on the scoffer; for this rich little farm, which has been growing only reeds, moss, huckleberry vines and rattlesnakes since Columbus came over on the Hamburg-American or whatever line of steamers it was and nominated himself for discoverer of America, this little farm has not used an ounce of that supposed cherished necessity of Long Island farming—bone fertilizer. Mr. Fullerton knew that the use of it would sound the death knell to his enterprise.

The land was freed from stumps and the stumps were burned on the place. On one acre there were over seven hundred of them. The wood ashes were left on the ground and the ten acres which were cleared were sowed with rye, which in the spring was plowed under. Then, in planting the peas, radishes and what not, very poor horse manure was used. So much for fertilizer, fish, bone and every other kind—except water!

And there is the secret. There's water enough on Pease and Plenty farm. There's a little kerosene engine which pumps it up from the earth and fills a tank. Cheap iron pipes carry it to the farm; and there isn't a piece of the land that cannot be reached by it. Old Sol can bend down as he will, and Jupiter Pluvius go on as prolonged a spree as he will, and neglect his business; the crops will grow because they have the water. It is cheap irrigation, too. Here, again, the "money bugs" of the railroad have not been foolishly opened. The method of keeping the crops wet is such as any bright young man might go into as an investment on his farm.

Everything on the farm is practical; and every effort has been made to make the place a working model which a business man could copy. The aim has been to make it an economical market-garden, growing the finest produce on "Long Island's barren sand wastes," to put on the breakfast and dinner tables of that great mart of all marts for fresh vegetables and fruit—New York City.

The Long Island Railroad invited the members of the Suffolk County Press Association to inspect the farm on Monday and placed a private train of two cars at their disposal. Mr. Fullerton was the host in charge, on the train and on the farm, assisted at the latter place by Mrs. Fullerton, who is, herself, an authority on horticulture.

A dinner was served under the trees on the farm on the arrival of the train about noon. About twelve of the Island scribbles spent one of the most enjoyable days of their lives on this occasion; but, more important, were impressed as never before with the possibilities of Long Island soil.

—Amityville Record, May 25, 1906

A drought was starting, warm high winds were blowing steadily day and night, a more trying condition could not be found. The irrigation sprayers were started in the peas, radishes and lettuce, still they did not respond as we wanted them to.

"Try some nitrate of soda and see if that will give them a boost," I said.

"I hate to do it," the Senior Partner replied, "for I know as well as anyone they need cultivation they have not received."

"Would you mind telling me where anyone has had time to cultivate anything? Take three men on 43 acres of new land and plant everything ever heard of and some that never were and there is no time left for cultivation," I exclaimed. "We know they need cultivation and a lot else needs it too, but we can't have an ideal market-garden here this year. Look what the soil has done already."

On the 23rd John mixed some nitrate of soda with earth, half and half, and sowed it beside the peas, lettuce, cabbage and cauliflower (cauliflower between the peas, I mean, only 100 plants).

That was 60 lbs. of nitrate, the only fertilizer the crops ever had. Still we kept the sprayers going, for the drought lasted until the 2nd of June, but peas yielded, radishes were so thick there was not force enough to gather and ship them, while lettuce began heading up in excellent shape.

The last of May gave us the first discord in our Farm family. A woman we had befriended had been growing grumpier and grumpier for some time, while a member of her family was often sullen and morose. A cloud-burst was soon to appear, we felt the human thunder in the air.



The only fertilizers used: Wood ashes, young rye and stable manure

At last the pleas from her "that there was more than one pair of hands could do," although she had been working for a much larger family, decided the question. She was either to stay under the same conditions without further trouble from her, or go. Go it was, and that promptly on June 1.

The last day of May the man boarded the train from New York without leave. The Master ordered him back from Port Jefferson on the grounds of desertion. He did not return and the woman disappeared that afternoon, returning about 9 P. M. in a disturbed frame of mind. The secret was out. The man returned the following night in an upset condition, announced himself a deserter not only from the Farm but also from the English army and that he was a dangerous man generally. Amid storm and much unpleasantness and many more incidents, the episode, although closed, left with us a feeling of regret for a man who just missed being a useful and fine member of the community. Powerful, well-built, willing, obedient, faithful, many fine traits, all spoiled by one weakness.

Yes, we had our troubles. But Mike, the Italian, was with us now, loyal and faithful, though three hands for these 13 acres was short help.

How we coaxed feathered insecticides to make their home with us and
save us time and money



The "Bird Bath" at No. 1



Lettuce of choicest strain

Summer



THE first day of June and I am going to invite you into the dairy-plot with me. A walk from the front gate where the lawn was showing green, flowers growing happily and vines beginning to climb; past or through the little portable with its books, pictures and atmosphere of a busy life, out to the drive-turn in the middle of which was my vegetable flower bed. Here scarlet-runner beans were starting up the young oak saved from the fire's destruction. Cardoon around the tree, now borage with its large hairy leaves and a tuft of buds in the center, then peppers and a large circle of rampion gorgeous with its delicate violet bells and parsley bordering the bed.

Down the middle of the road (which by the way is not in the middle but one-third the distance from the north to the south fence) past the chicken house where the fowl were happily ensconced, a glimpse of rhubarb raising its enormous leaves above some kegs and boxes placed about the crown.

To the left the orchard, every tree showing rich foliage of superb color, here an apricot standing out with its exquisite pinkish leaves, there a cherry almost black with intensity of vigor. The tomatoes between the rows of trees showing at a glance which were potted and which from a nurseryman's seed-bed, the former erect, sturdy, keeping right on with their life's work; the latter drooping, wilted, making a hard struggle to gain a foothold.

To the right the lettuce drilled in, emerald green and reddish brown, peas dwarfed yellowing showing the need of an experimenter's mind and care in their behalf, radishes in the distance, rows upon rows of them, with transplanted lettuce in every third row (this plot was singled out for super-intensive cultivation). Next beets with tops of rich red and sombre green growing in ragged rows, more coming up each day telling again of a prolonged successive yield, then onions telling the same story with cabbage plants from a Huntington grower in the background.

To the right an unplanted acre, heaps of old manure dotted upon it; this is to be the melon field, near the house and in full view of our buildings, a wise location for melons. Next this field the potatoes with a small boy, can in hand, picking the "potato bugs." The leaves show where Bordenx and Paris Green had been applied the day before, but the Colorado beetle cared naught for its presence.

The next acre shows queer patches of early cauliflower, early corn, and parsnips—a sad tale the cauliflower tells of being raised with the heat loving tomatoes and then no one to cultivate it when it had been set out but a few days. Here and there a huge one of superb color proclaimed where a bonfire had burned last Fall, telling better than words the value of wood ashes upon new land. To the right of the road, the last acre before the dairy gate is reached, a patchwork quilt of true market-garden type. First some beautiful cabbage plants of early Jersey Wakefield and All Head, grown in the same hotbed as the cauliflower but feeling change much less; behind it a patch of tiny leathery carrots, the pride of its planters' hearts because "old farmers" had none this year. Beside it oyster plant, green and white endive in varying shades of tender green; next salsify and scorzonera looking like rows of grass. Nearer to us and next the road a big patch that should have been spinach, but a few plants, however, proclaimed the intent of the plot. Little harm was done by its loss, it required but thirty minutes to plant it and but a few more cents for seed and we knew for another time it was unwise to plant it in April, the plot was ready to receive another crop with but small work of preparation. A tiny patch of corn planted

April seventeenth showed more than ever the effects of May's frost; an interesting experiment however that should have the benefit of all the time needed to prove itself. Brussels sprouts had been set between the hills, making the patch, we hoped, a little more productive. Alas for our hopes, these plants came from the same nursery in Maryland as the lettuce, and brought with them blight and cabbage louse, an act that should no more be tolerated than the shipment of orchard trees infested with San Jose scale.

We reach the dairy line. John, Ted and Mike are at work upon Acre 1 to the right. The acre is divided into quarters and being prepared to receive alfalfa. The field has already been plowed, dressed with Canada wood ashes, harrowed, leveled, rolled, harrowed and harrowed again, raked and again rolled in order that the soil might be in the best possible condition. We have brought with us some Litmus paper, and to test the acidity of the soil, a handful is moistened at a nearby irrigation stand-pipe and the paper applied. Anxious watching and it slowly turns blue.

"All right," calls the Farmer, "sow that soil carefully John, in the northeast quarter and don't let any lap into the other quarters. When you come to harrow it in Mike, let Ted go with you and lift the harrow from quarter to quarter so no earth will be dragged."

The soil? That is from an old alfalfa field up New York State and we are sowing it to inoculate our soil with bacteria. The far or northwest corner is the highest you notice, it is the check quarter, that will have no inoculation whatever. The southerly are U. S. quarters, one will have the seed, and the other both seed and soil inoculated with bacterial culture from the U. S. Government Laboratories; this is a test for Uncle Sam.

The acre across to the left is divided in half; this was the poor thing that was not plowed until this Spring. Isn't it rough and aren't the rows crooked? Teo-sinte, the Japanese fodder that can be cut four times in a season, won't care. See, it's breaking ground. Yesterday they sowed the other half of this acre with Japanese barnyard millet.

And this? O yes, white flint corn, beyond sorghum, and still beyond, Virginia horse tooth. They were planted the twenty-sixth and of course are not up yet.

"Why do we plant in hills?" you ask. "Isn't that old fashioned?" Perhaps, but a good fashion, for the crop can be cultivated both ways by horse, saving that tremendously expensive item—hand labor. But why do you raise corn here, you query, you thought that was given up in the East long ago.

We are not raising corn, we are raising silage. Here at the end of the road in this protected swale will be the cow barns and silo, all these crops will be gathered for the silo, for modern dairymen carry all food to the cows in balanced rations. Come and see us again when these crops are growing.

Here you see the rough unstumped land and there the "Daddy-long-legs" harrow with which the attempt at culture used to be made. We have tried it, the work is tremendous, the strain and liability to injury to horse astounding, while the results amount to naught. We are putting in Canada field peas and cow peas, but the chances of germination are small, because it is impossible to cover the seed.

Let me take you back through the south of the Farm. Here is the black Mexican corn, the sweetest and weirdest of all the sugar corns. It is already breaking ground. Next are mangel wurzels and sugar beets; some of the seed was soaked over night to see if it would hasten germination. Next is where the sweet potatoes will go. Do we think they will do well here? Yes, but not as well as in the lighter soil on Experiment Station No. 2, at Medford. It is an experiment worth trying however, for they have been grown successfully on the North Shore. We plan to put in nearly an acre.

Why is this part of the land so very rough, you ask. O, this is the acre that had 797 stumps upon it, all over eighteen inches in diameter. Imagine the forest that one day must have covered it. These acres eight and nine are left for late "flowering," cabbage and sprouts; but acre number seven, down yonder, is thriving. These are a second planting of green pod and wax beans, next squash and pumpkin with cucumber alongside. I know they are supposed to mix, but they never have in our home garden and I see no reason why they should here.

This is a third planting of corn, there are five varieties here and all up strong you see. Yes, limas next, both bush and pole. Beyond you see a space without poles, here we intend placing a section of fence, for we have a theory that the beans will ripen more evenly, while by cutting the runners back we will throw the strength into the beans. Another experiment you see.

Stop here a moment and look over the Farm, then look beyond to the west and see what it was just nine short months ago. Has the experiment paid, is it not already proven that the land is productive, though the harvest is not yet?

Come through the orchard and you will see the tomatoes in bloom. Look, here is one already formed. O, there's no doubt but that potted plants pay.

Here are the strawberries. It's no wonder you are surprised; yes, they are actually in bloom. Did you ask when they were planted? Last November. There is the Udo, as happy in America as in Japan, and there in the seed-bed are the Pe-tsai, Chinese carrots and Sakurajima radishes.

Have I given you, my readers, a glimpse of the Farm this first day of June?

The next day the melons were planted, a furrow run, a big forkful of manure placed in each hill, some earth drawn over and the seed sown. These are greedy fellows and we felt success would be lacking for them in unaided new ground. There were four varieties of cantaloupes and two of water-melons.

Such busy days as the diary now reveals: potatoes and beans to be sprayed with Bordeaux, lettuce to be cultivated, radishes to be washed, bunched and shipped to market, lima beans to be replanted where the germination was poor, peas hand-cultivated and here seven horse-cultivated, a thousand and one things the diary does not reveal, including photographs by the score. Thus passes a single day.

The evenings busy with books and chemicals, to bed late and to rise early, but living in the free and open, close to mother earth and her unparalleled wonders.

The birds were coming—swallows, thrushes, bluebirds, they were looking for water and well we knew if they found it they would build, becoming neighbors and benefactors in their destruction of insect life.



Preparing vegetable food for city dwellers

Over in the dairy among the pines, the Senior Partner found, last Fall, a stump long and slender and hollowed into a basin. At the time he thought of a bird bath. Now was the time to fix it.

"Mike, hitch up Texas and go into the dairy and bring in that stump; we'll pipe it to-night and have a fountain in the front lawn."

"Can't we go too?" came the piping voices of wee ones.

"Of course you may, and I'll go with you for Mike doesn't know where it is," I replied.

All that evening by lantern light the plumbers worked, Mike supplanting the 'longshoreman, and a wonderful change for the better it proved to be, for Mike had been trained as a pipe fitter. In fact, he seems a jack of all trades: cobbler, carpenter, plumber, farmer; that necessary adjunct to a complete home—a "handy man." The stump was set by the flagstaff where on Decoration Day the flag had been raised on its new pole to half mast. (The American Flag has always waved at Peace and Plenty). A very convenient hole in one of the tap roots admitted of a pipe being run through while a gas-jet as a tip threw a fine spray like a fan shaped flame. The stump was inclined slightly forward, a kerosene barrel, with the bottom knocked out, sunk at the end of the stump; this filled with large stone received the drip from the fountain. From our next trip to the beach we returned laden with bright pebbles which the children dropped in the fountain bowl to sparkle in the water. In a few days our efforts were rewarded (if the beauty of it and the trickling sound of water was not reward enough) for bluebirds came for a bath, then the thrushes, and later indigo-buntings and yellow warblers, while sparrows of many varieties proceeded at once to build in the trees about the homestead.

On the fourth the State Agricultural Inspector arrived, his surprise at the Farm's appearance warmed our hearts and inspired us with new courage and greater determination. We needed the courage for that same day we discovered root maggot in Pe-tai and Sakurajima radish. We had wondered why the latter went to blossom while so small, for at home they grew enormous before sending up the blossom stalk. Root maggot galore in every last one of them!

"All right, sir, we'll fix you," we said.

"Ted, take out all those Sakurajima (there was one long row), fork over the ground well and make a drill in exactly the same place. Everlastingly pour in Canada wood ashes in the bottom of the drill and we'll plant Sakurajima right over again in that same spot," said the Railroad Farmer.

"It will be a tough maggot that can live in those ashes, sir," said Ted. "Guoy! but they do go for my 'ands."

No maggots could stand them and our Sakurajima filled the heart of even a Jap with delight for he carried one home from the Fair weighing ten pounds.

With the exodus of the 'longshoreman's family, came "Shep," a cook loaned us to tide over until new help could be procured. We were somewhat of a family; we four and the stenographer, Ted, Mike, Nettie and Walter, my faithful maid's brother of fourteen whom we took from a home, knowing well the value of a boy this age to "fetch and carry."

In a few days Roger and Sophia, a colored couple of some fifty-five summers, appeared. Aunt Sophie was a sweet-faced, gray-haired little bit of a woman, while Uncle Roger was large, rheumatic and jolly. She was a true Southern cook and gave us loads upon loads of hot bread and fried things in general. Uncle had always been a porter and didn't know a hoe from a shovel. The agricultural instinct is in the race, however, and he soon learned to hill up corn and hoe potatoes in due and ancient form. In spite of all the modern farm machinery there is a certain amount of hand labor necessary, especially in new ground.

Peanuts went in early in May, the little Spanish and the huge Mammoth.

Walter soon learned to gather radishes, assist in transplanting and made himself generally useful. From the seed-bed were transplanted 180 kohlrabi, some of the North China products, and Emerald Isle kale.

Radishes were so abundant it kept one of us busy all day, washing and packing them. Many were sent direct to one of the big restaurants, being packed, unbunched, in crates lined with paraffin paper 1,400 radishes to a crate was the average and each radish perfect of its type. One of our first resolves and firm compacts was that nothing but the very best that we could produce should leave the Farm. Therefore from radishes, right through the season, every variety was sorted, washed and polished, according to its needs.

On the seventh of June the shipment reads fifty-five bunches for a Huntington grocer, 1,400 loose in a crate to a New York restaurant, and twenty-one bunches each in a paper pot to the "History Makers" and experts who visited the Farm the day the first stump was blown up.

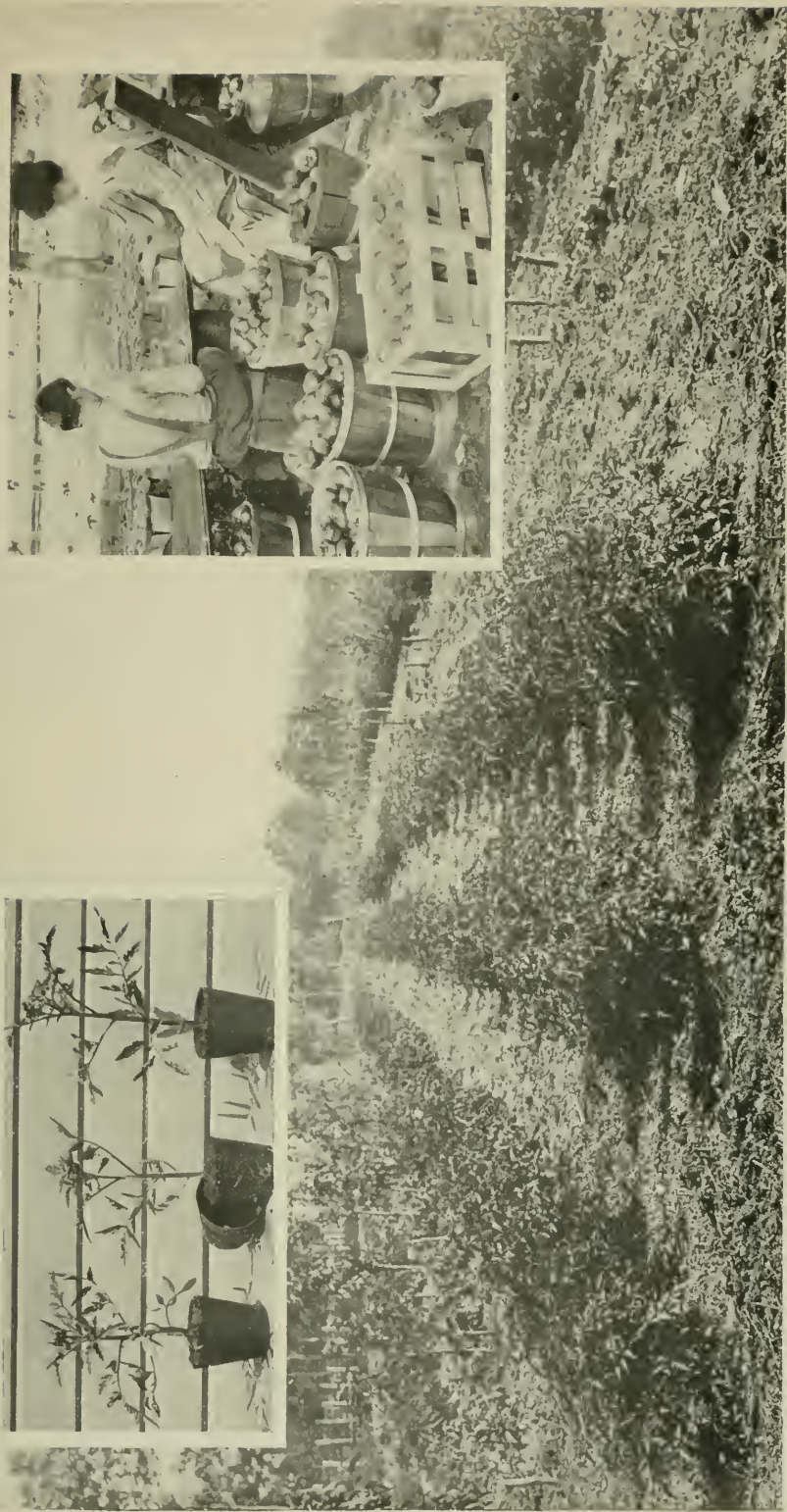
Ted and Walter were set "bushing" peas. We wished to test the time given to bushing and that to placing a portable wire fence (a strip of wire fastened to sharpened stakes). Brushing two rows each one hundred feet long required one and one-half hours, placing fence to the same length rows required eight minutes. The wire was neat, satisfactory and easy to pick from. The bush was straggly, untidy and almost impossible to pick from, especially if the picker wore long hair and skirts.

Potato bugs were pestering the life out of us by this time. Walter picked by hand each morning and strange to say they were worse on the tomatoes than on the potatoes. John dusted a mixture of Bordeaux Paris Green and land plaster dry upon the potatoes and blew slug shot upon the tomatoes; yet the beetle went merrily on its way rejoicing.

Some exquisite eggplants from the Huntington grower were set in the east end of the orchard among the tomato rows where imported tomatoes had given up the ghost. In twenty-four hours they were so black with flea beetle you could not detect the color of the leaves. Hellebore blown on thick seemed to drive them away.

We have a standing joke in our little home town. The assistant postmaster is an enthusiastic gardener, and above all else he loves an eggplant. For years he has tried to raise them and never has succeeded in even getting one to set.

"Hello, neighbor," he called through the post-office window, "I hear you're goin' farmin' out in the scrub oaks."



Early tomatoes in the young orchard—how we started and how we packed them

"Yep, and we'll raise anything that grows on the temperate zone," was the confident rejoinder.

"Bet you don't," he replied. "Bet you can't raise an eggplant."

"Taken," cried the enthusiastic one. "I'll send you the finest eggplant you ever ate before Summer's over."

And so flea beetle on those precious plants would never do.

Of course, the mounds about the orchard trees had been leveled in the early Spring, now was the time to give them a mulch of old straw from the stable, this one not to keep them warm, but to conserve the moisture about the roots.

Radish seed was planted in every melon hill, scraping the earth slightly with the foot, dropping a few seed, pushing the soil back and treading upon it. That sounds like a shiftless way to plant, does it not? but this was only a guardian crop; they break the ground, germinating in a few days, also the flea beetle loves radish leaves much better than melon leaves, and feasts upon the latter only when the former are not to be found.

The spinach patches being virtually a failure, Walter was sent over them to pick some for home use, then Ted sowed Canada wood ashes preparatory to cultivating for a new crop of a different type.

The ashes remind me of an incident of the early Summer. The high-chief-boss farmer had just gone over to Thanksgiving Cottage to dinner, when Mike appeared saying:

"They a man over there want see you, Mr. Fuller'."

"Well, tell him to make himself at home and I'll be there in a minute."

Mike returned very promptly, saying: "He say he can't wait, very important."

"Tell him to come over here then, I'm going to finish this meal as quick as I can and get back to work."

The gentleman appeared making profuse apologies and saying he was from the State Department sent to analyze our fertilizers.

"You've an easy job neighbor," said the Senior Partner, "better sit down and join me in my frugal meal. We haven't any fertilizer but good old stable manure."

"That's a pretty story all right, Mr. Fullerton, but everyone knows you couldn't make a place look like this without chemical fertilizer," he replied.

"It's a fact nevertheless. Why, man alive, this is virgin soil, what does it want with chemical fertilizers? I wouldn't have used manure if it had not been burned over so many years. All this land needs is humus."

By this time they had gone out upon the Farm and were joined by another gentlemen, a companion to the first.

The spokesman said:

"Mr. Fullerton claims he has used no commercial fertilizer, Jim."

Whereupon "Jim" asked:

"What are all those bags in the barn then, Mr. Fullerton?" And it was said with a tone of voice that implied that the Railroad Farmer was caught "dead to rights" this time.

"Canada wood ashes, help yourselves. Take a whole bag with you and analyze it if you desire."

They went to the barn and were soon thoroughly convinced it was wood ashes pure and simple.

"Mike bring me that bag of nitrate of soda."

"This, gentlemen, is the only thing in the nature of a chemical fertilizer that I shall use this year and I got this only as a hastener for lettuce, celery and endive. This is one of the Farm's best assets." And he showed them out behind the barn a tarred kerosene barrel sunk beside the stalls; raising the lid disclosed all the liquid stable waste.

"This is as good as nitrate and costs nothing," he further explained.

The experts went away after more carefully inspecting the crops, fully convinced that our point was well taken and saying:

"Well, those fellows down in the village will be mightily disappointed when they see us, for they were sure you had some special brand of fertilizer and we told them we could find out all about it. But we've nothing to say. Arn't you ever going to use fertilizer, Mr. Fullerton?"

"Bless your souls, yes. Didn't I use fertilizer when I plowed that rye under? Next Fall I am going to put on about ten tons to the acre of manure again and I am going to turn under crimson clover, vetch and rye on every square foot I can get planted. Then I shall use lime for a sweetener, for we now can afford the lime a little time to work. Next Summer when I am putting in a second and third crop on the same ground I shall probably use blood and bone or bone meal. Don't misunderstand me, I think chemical fertilizers are bully for old worn out land, but it would be like 'carrying coals to Newcastle' to put it on this virgin soil. The craze for chemical fertilizers has gone too far. There are places where they have put it on so heavy (with the theory that if one ton is good two tons will be better) that they have chemical laboratories, not farms. All chemical fertilizer is 'lazy man's way,' he claims he will not have weeds, so will save cultivation. Weeds are the farmer's best friends, they force him to cultivate, and lack of cultivation is the crime of modern farming. If they'll pile some old manure on that ground now and so liberate through decomposition the various component parts of the chemical fertilizers, they will have farms again."

"We're glad to hear you speak that way, Mr. Fullerton, for the fertilizer men all thought you were down on them and felt pretty sore about it."

"Give them my love and tell them they are the best thing that ever happened, only they are working the game the wrong way. They think by selling a man two tons where he needs one they are doing great work. Let them study the subject and give the farmer real help even if they only sell him half a ton, they'll be much better off in the end and the farmers will swear by them, instead of at them as their crops run lower and lower."

"You're right, Mr. Fullerton, we're glad we came," as they swung on the train.

By the eleventh of June the radishes were so well gathered, sweet corn was planted in every third row (radishes had been planted eighteen inches apart), while Ted with the Planet Jr., cultivated all of



Real Sweet Potatoes and plenty of them



Sweet Potato Vines in early Summer

acre number three in the afternoon. These little hand implements are wonderful time savers, two rows of a row are cultivated in the time it takes to walk down a row; in the new ground it took longer, for sometimes huckleberry roots would check the progress, but as time permitted, all the rows were raked after cultivating, which gave the land a much cleaner appearance. In fact, the rakes attached to the cultivator make about the best tool imaginable for this work. Ted always called it his "baby" and went whistling down the rows, covering the ground in truly remarkable time. Even Uncle Roger got so he could push one after his slow fashion, while we would see Aunt Sophie steal from the kitchen and run him a race with one across the field.

"You'all makes me tired goin' so slow wid dat ting, why don't you git along."

"Haw! haw! haw! You tink I'm a spring chicken, don' you know I got de rheumatis powerful bad? Go wan!"

The spinach patch on acre number three was ready for Mike and the horses. It did not need plowing, so he went over it with the horse cultivator five times, with the leveler three times, then raked it, dragging the fine roots to the road and finally gave it a good rolling, leaving the plot in perfect condition. This latter operation is one that is seldom attempted in farm work. After cultivating, the soil is left in so porous a condition the roots do not get a firm hold until rains have flattened it well. Ted and John came right along with the seed drill and in two hours had the entire patch planted with onions, carrots, peas, beans and sugar beets, seventy-six rows each 127 feet long. The rows were as straight as a die, the drill did not check once, in fact, no one-hundred-year-old farm could produce a plot in better seed-bed condition, and this was not yet a yearling.

This planting of peas and beans was the third one of each. The first planting of peas you will remember we saw on our walk to the dairy. They matured very early, were extremely dwarf and the vines yellowed badly. It puzzled us much to know the cause. We irrigated (which no doubt saved their lives during the drought of May) and we wood-ashed them. The second planting on acre number seven were taller but started to yellow also.

"Well, it beats me," said the Farmer, "what do you suppose makes it? There is a patch in the middle perfectly normal, tall, green and luxuriant."

"That's where a bonfire was last Fall," I rejoined. "Don't you think they need more ashes?"

"We've put more ashes on them. Don't you remember I had John sow them last week?"

"Yes, but maybe they need it underneath; let's plant more down on the spinach patch and give them a good dose of it."

"All right, I'll go you," was the rejoinder.

This crop was entirely satisfactory, the soil had been heavily sown with ashes, and when the peas were about four inches high, more ashes were sown along the rows, then the little Planet Jr. plow attachment was run through, hilling the vines up well. The crop was abundant and of high quality.

Beans had been one of our greatest disappointments; we knew well their susceptibility to anthracnose (so-called bean rust), and to guard against it had sprayed them with Bordeaux. The vines were superb, laden with pods and almost ready to gather; in a night they were gone with the dread disease. Those next to the house, by the tower, were the first to go. A second application of Bordeaux on the second planting, acre number seven, was promptly made, but it did not save the crop. Therefore beans went in beside the peas with a firm resolve to spray them the minute they appeared above ground. In six days they appeared.

"John, those beans are up and you want to get Bordeaux on them at once."

"All right, sir, shall I use it dry?"

"Not on your life! Use it wet and soak 'em for fair. I'm going to have some good beans off this place if it takes a leg."

In six more days they were wood-ashed and hilled-up like the peas; in another two weeks they were Bordeauxed again. The yield was perfect; beans in abundance, and while the other plantings had received as many applications of Bordeaux we feel they need it when very small, as this disease must be prevented; it cannot be cured. This patch one hundred and twenty-seven feet long and twenty-nine feet wide, yielded twelve and one-half bushels of stringless and wax beans.

Potato bugs and flea beetle were still making lace of potatoes and tomatoes while the cabbage worm was keeping us very busy as well.

By the fourteenth of June we women folk were picking peas for shipment, while Mike was preparing acre number ten for sweet potatoes. It required much cultivating and leveling to get it into anything like shipshape condition. Ted was cultivating lettuce and weeding the strawberries.

"Mother, what shall we do?" came small voices.

"Help us pick peas, won't you?" I answered.

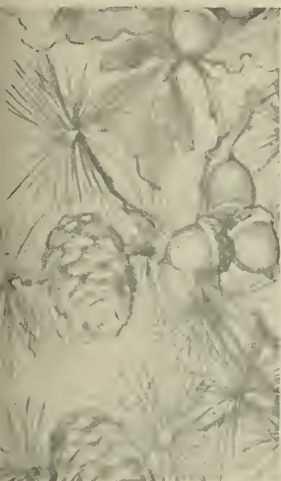
"O, yes, I'll help," said Hope and she promptly sat down in the patch and proceeded to eat all she could reach. "That's great helping," I said, "the guests at the French restaurant will enjoy those."

"O well, never mind, mother, he can have the 'fatty, fatty, boom-a-latties' and I will eat the 'petit pois.' They are sweetest," said the connoisseur, just turned seven.

"Look, maunny, ain't I a helper?" piped the four-year old. An apron full of big ones disclosed her efforts, but then she does not care for peas either raw or cooked.

That night the plants arrived. Sweet potatoes, camellflower, Brussels sprouts, tomatoes, celery and lettuce from Maryland. They were taken from the basket carriers, spread upon the cellar earth floor, and thoroughly sprinkled.

The next day was very hot and the ground exceptionally dry. Mike took Texas out and plowed up ridges for the sweet potatoes. They are always planted in this way, for they love dry soil and must never have water stand in the roots, besides when so planted the vines are more easily raised to check rooting at each vine joint. Uncle followed raking off roots while John and Ted planted, Walter helping. A dibble hole was made, Walter filled it with water and dropped a plant; Mike came after, setting them. A long hose attached to a standard at the center road and run across the fields, gave them water right



The Long Island "Home Hamper"
A "Farm to Family Fresh" creation at No. 1

at hand—score number two for the irrigation system—while the same trick later gave them water handy for mixing fungicides and insecticides to be applied in the far fields.

A bucket of water to which had been added a cupful of oatmeal and a sliced lemon, to remove the flat taste, was kept there for drinking purposes. Frequent drinks on hot days are necessary, but the stomach must be kept active lest the blood rush to the head. The oatmeal water keeps the stomach in just the proper condition. It does not look pretty to drink, and some of them at first refused it. I noticed, however, every hot day thereafter came the request for oatmeal-water.

On that same day the diary says:

"Grasshoppers appeared to sit upon the sweet p'tater vine. Turkeys now the only thing lacking."

That day about 3,500 sweet potato plants went out. The next day dawned with warm heavy showers; the men worked as best they could between them finishing the sweets, while Mike cultivated fodder corn. In the afternoon John and Ted set out 1,800 celeriac on acre number one by the house and in the seed-bed swale, and about 400 tomatoes in the orchard, again filling up gaps. The plants were all fair looking specimens, but none equal to home-grown. Still we had no choice; plants we had to have and we could not grow them ourselves, therefore, after much study, we ordered from a firm considered the largest and best in the country. Alas for the day these plants touched the place as future history will show.

The Brussels sprouts were the saddest looking of all the plants; the leaves were yellowing in spite of frequent waterings, and this was Saturday.

Mike came to Mr. Fullerton and said in a whisper:

"I get up early to-morrow and plant those sprouts. I no believe in work Sunday, but can't be help, those sprouts must be plant or they die."

"All right, Mike. I am glad you spoke, for Mrs. Fullerton and I were going to do it ourselves anyhow. You're right, they'll die if they don't go in to-morrow."

This is one of the worst features of buying plants, they come all in a lump regardless of order, regardless of whether you are ready for them, regardless of weather conditions or the time of week. Having your own plants in your own seed-bed they can be transplanted when conditions are favorable.

We made a little molto for ourselves this year:

"Raise your own plants even if you cover only half your acreage, it will pay."

The sprouts went in on a Sunday morning and the day should have cleansed them of all their sins. Alas, it took but a few weeks to show us they might better have lain and died upon the cellar floor. Black rot and cabbage louse were rampant upon them. And the celeriac? Covered with blight.

The next week one of our neighbors dropped in to see us and he said:

"Three years ago I did not have time to sow any celery seed, so I ordered some plants from a Maryland firm. They were pretty poor specimens of celery all right and soon developed celery blight and do you know it is in my ground so now I can't raise celery without an awful fight."

"Oh neighbor, neighbor, if we had only known! Ours came from the same place and we not only have celery blight but cabbage louse and black rot, and it is spreading over the whole farm at a most appalling rate."

"It's a crime!" I exclaimed. "Why does the Government allow it, when no nursery is allowed to send out stock unless it is inspected. This is worse than San Jose scale. It means bankruptcy."

"Why, I've heard since that these big growers' places have been infected for years and they can't grow a thing to maturity. But what do they care, the seedlings don't show it and it's too much trouble to spray," said our neighbor.

"It's a burning shame," I said. "A brand new place like this covered with blight the first year!"

"Well, if spraying and hand picking will check it," said the Senior Partner, "it won't get into the soil. And if hard and persistent work will prevent it, I am sure our beloved 'Peace and Plenty' will be exempt from further trouble."

June twenty-sixth saw seventy-seven heads of lettuce off for New York, crisp, firm, fresh and delicious, packed in paraffin paper ready to be eaten the same day. That's what New York needs, fresh vegetables that have not been on the road a week.

Our own cauliflower and cabbage seedlings in the seed-bed were well along by this time. They were planted June fourth and were making sturdy growth for a late crop. Cabbage worms were after them, however, so Paris Green, and Bordeaux were kept upon them. Frequent cultivatings with the Planet Jr. (Ted loved to run through them just before he put the implement away) kept them growing steadily and helped develop a fine root system.

Some pigs had been ordered in the early summer, but failed to arrive. We knew their value as consumers of refuse and providers of fertilizers, besides making a good winter provision. One (a Chester white) out of the four finally arrived on the twenty-third and was promptly named "Eventually." A week later a black Berkshire came and being promised to the wee one she named her "Violet." These seemed all the dealer could procure for us, so our good friend of the apple orchard sent two Poland Chinas. Hope named hers "Rosebud," while mine assumed the name of "Ceedee" in honor of our good friend.

Early peas were taken out on the twenty-eighth and Mike prepared the patch in the same manner as he pursued with the spinach patch. The pea vines, by the way, were put into the compost heap, for this is one of the plants well worth saving, giving back its accumulated nitrogen as it decomposes. Had conditions permitted the vines would have been plowed under, but the ground was too rough for that.

Celery was planted on a portion of the space, while endive and turnips occupied the balance. Endive was planted again, because the first sowing, lacking sufficient cultivation, had run up to seed. Three men and a rheumatic on thirteen acres. We should have had a man to the acre to handle the crops properly. A pretty expensive proposition you will say; not for a market gardener who raises three and four crops a year on every inch of ground. Ask any good one and see. You will say, "Well,

why didn't you have them to you needed them." For two reasons, we had no shelter and we were proving what a man could do with a small amount of help, and, just as the other man would find, some things would be left undone.

Lettuce and beans or peas were being shipped daily now. Imperfect heads, or those not quite hard enough for market were sent to hospitals, Y. M. C. A.'s and the Sunshine Society.

Ted found time in the evenings to work on the shower bath we had long intended for the men. A space beside the engine was partitioned off, cement floor laid on a slant, pipe connections made and a spray attached. This was thoroughly enjoyed by the Englishman, but Italian and American natures seemed to "dodge."

The last day of June found us preparing to fill acre eight with cabbage and cauliflower from our own seed-bed. July first fell on Sunday, a second one destined to be a work day. Early morning inspection showed the cabbage so full of worms we were afraid to leave them until morning, so faithful Mike, who knew the danger as well as we, "passed" them with Paris Green. It took us sometime to quite understand this phrase of his:

"Mr. Fuller' I think best I pass cauliflower to-morrow, what you think—of course you boss," with a shrug of the shoulders.

We finally gathered that he wished to spray the cauliflower.

The last time I saw him I said:

"Mike, how's the cauliflower?"

"My gaw! Miss Fuller' I pass them eleven time and they no good, I never see such worms." And his eyes snapped with true Italian fire.

This same Sunday night more plants arrived from the South.

"I don't dare look at them," I said. "Of all the times of year to travel these past three hothouse days are the worst. They must all be dead."

And a sorry looking sight they were; celery, more sweet potatoes and late cabbage. These plants had been ordered of a Long Island nurseryman who said he could supply us. Irony of fate! They were from the same Maryland grower!

The following day foreboded rain, so the entire farm turned out to plant. By no means least among the number were the wee ones. The procession moved like this: Mike and Buckeye making a furrow, Ted following drawing a plank to smooth the top a bit, Uncle Roger making dibble holes, John and Walter sorting out the plants that might possibly grow, Hope with a basket of plants upon her arm dropping one at each hole, Eleanor placing the plant in the hole and Mike coming after and firming them, the Junior Partner marking each row, while the Senior Partner with a camera made the scene a part of history. It was hard work, but many hands made it light, while good will and bantering fun made the time seem shorter. As a test of speed, Mike, Walter, Hope and Nettie planted 498 drumhead cabbage in twenty-five minutes. The small ones grew pretty tired but did not desert until the last plant was in. Rain came and we were all glad the good work had been accomplished.

Blight was spreading fast, aided and abetted by continued damp, warm weather. It kept two men busy "passing" the various crops.

On the third, melons were ready to be thinned and radishes pulled from the hills. They had fulfilled their mission and strange to relate many were still in fine marketable condition; from the field we sorted 1,200 as fine as heart could desire.

The fourth could not pass without some celebration and a case of fireworks made the little ones long for evening. Big ones enjoyed the day as it passed. A diminutive cannon gave the grown-up boys much pleasure and the national salute of twenty-one guns echoed from the surrounding hills.

Target practice has always been our "fourth" habit, for I think a woman should know how to shoot as well as a man. A target was placed in the swale to the south of the barn; we took our turns using revolvers. Mike and I took honors, while for the sake of my sex I must say I led, but the shots showed all of us would have "winged our man." Shotgun followed, firing at a can thrown in the air; that weapon is not to my liking, so I withdrew before I lost prestige. Mike is a fine shot, while Ted followed a close second. Old Uncle had a glorious time but most of his shots went wild. I have no doubt the contest was a good thing; the melon patch was let severely alone. The evening's display was a delight to all and although our neighbors had been invited, but few appeared.

On the sixth, crops began coming in in earnest, early cabbage and young carrots were added to the list.

There are days with the best of us when everything goes "dead wrong." The ninth of July was one such with the Railroad Farmer. Everything was dead wrong from the time he arose; when a young chicken having escaped from the chicken yard got into the seed-bed, that was the "dead wrongest." A dive for the chicken, a catch of the foot in some huckleberry roots and the Farmer lay prone. The knee had been wrenched and then began three months of limping and bandaging; a sad and unfortunate mishap in the midst of such a strenuous season. No amount of persuasion would keep him quiet and as the limp grew worse the children dubbed him:

"Old Mr. Micklejohn had a leg of hickory on."

Several days later Aunt Sophie, who had been steadily growing lazier, about decided she had had enough of country life, so, much to Uncle Roger's disgust, we sent them back to the city.

"Why I's just gettin' my hand in, boss, and I likes it powerful; but Sophie she always does this yere way."

Three weeks followed, in which but for Nettie's willing help I should have been in a bad way, for no cook could be procured.

Cabbage louse was tormenting the life out of us, spreading day by day, from sprouts to cabbage, from cabbage to cauliflower, kale and kohlrabi until it seemed as though nothing would stop them. Their natural enemy is the ladybug's child, they help man keep the fuzzy louse down. But ladybugs were very scarce this year.

Eleanor and I were walking down the middle road one afternoon when a ladybug happened to light on her stocking. She looked down and said in her sweet baby voice:

"Why, you cunning thing, do you think I have aphids on me?" Their love of benign and animosity toward malign insects is very strong.

We tried tobacco tea for the louse (really an aphid covered with a grayish hairy substance), dry powdered tobacco, slug shot, Bordeaux, Paris Green and lard plaster mixed, but nothing seemed to affect them. Won't some good chemist invent something to kill them? We are beginning to feel that the soil should be poisoned, for nearly all these insects come from the ground.

We had a most delightful call about the middle of July from a United States forester. He put new heart into us by confirming our use of manure and wood ashes and saying we had the finest garden soil he had ever seen.

"Mr. Fullerton, if I should make soil with everything I could want to do it with, I could not equal your natural composition here. Man could not make such drainage, or loam in such ideal proportions of clay and sand as you have here. I had no idea Long Island was such a wonderful spot. As for its trees I am simply carried away. Never in all my travels have I seen such clumps of second growth chestnut. If you had told me there were groups of seven and eight all a foot to foot and a half through, I would not have believed you."

"Our trees themselves are not only wonderful to me, but the last variety is astounding. Years ago the sea captains brought home trees and shrubs from foreign ports and many of them are now native to the Island. I know a forest of Japan maples, swamps where magnolia trifolia grow, while foreign evergreens seem especially happy here," replied Mr. "Micklejohn."

Upon further examination of cabbage and cauliflower affected by blight, we found in nine cases out of ten root maggot had been at work. This pest is a difficult one to fight, but bisulphide of carbon injected by the root will kill them, while sulphur or wood ashes in the drill will keep them out. I must confess we felt better, I would much rather fight an insect than a disease any day.

Lettuce was ready to come out, it had been an interesting crop, full of failures. The majority of transplanted plants went up to seed. In drills they headed beautifully, teaching us the lesson that they must be thinned severely and kept cultivated while young, that without irrigation during dry weather it is useless to try to grow it.

"But, gee whizz, it's hard to thin it enough," said the book farmer, "I believe every seed sown came up."

"Excuse me, Mr. Fullerton," said Ted, "but at 'ome we bake 'alf the seed before we plant it."

"Bake it, what for?"

"So it can't come up, sir," he replied. "Then it isn't so thick."

"Good scheme, Ted, we'll just about try it next year." And the more we have planted the more we are convinced that such things as lettuce, endive, beets, turnips and in fact any crop needing thinning should have half the seed "baked."

Of all the varieties of lettuce we tried, the "Golden Queen" suited us best. Brilliant in color, golden of heart, solid, crisp and mild flavored, while its tenderness exceeded any lettuce I have ever eaten. As the Farmer says, "Big Boston isn't in it."

On a small irregular shaped plot near the well, beans had come out as well as lettuce and the bean vines had been burned sometime ago, anthracnose was too dangerous to have around. A small amount of manure was spread because being near the tower some soil from the well had been spread upon it; this soil came from too great a depth to be productive. Wood ashes followed the manure, and Mike prepared the ground to receive summer radishes where the lettuce had been and summer lettuce where the beans had been.

John drilled them in, and when the lettuce appeared one variety looked more like turnips than lettuce; further growth disclosed the fact it was turnip, a mixed seed from a reputable firm and out of a sealed package. Thus does the farmer labor against great odds.

With the exodus of Aunt Sophie and Uncle Roger, we were left with but three hands and crops coming in faster and bugs growing thicker every day.

On the eighteenth Dynamiter Kissam came again, for it had been decided to clear the remainder of the dairy. We had proof enough of the utter futility of the ancient method. The Dynamiter's appearance necessitated Italian help for him. The sprouts had grown so vigorously during the Summer, one would not have dreamed the land had been burned over last Fall. Then, too, manure for the dairy and farm was coming, as at this time of year it could be purchased at sixty cents a ton. This, of course, had to be unloaded. Mike succeeded in getting two Italians, who proved on their arrival not to be agriculturists but Neapolitans. They marched up to our wash-stand by the tower, helped themselves to a glass of water and proceeded to Thanksgiving Cottage for dinner.

Lime for Fall use had arrived, and they were first set to unloading it and protecting it from rain storms; then into the dairy to pile stumps for Dynamiter Kissam, who, working alone, had blown one hundred the first day, having prepared the charges the day before. The Italians went to the "Port" Saturday for food. Sunday they returned rigged out in most gorgeous style, saying as their cousin had died, they were about to return to Italy. They of course struck for pay for Saturday afternoon (having left on the noon train) but a good dose of Mexican Spanish, interpreted by Mike into Italian, soon made them understand that would not work.

"Mike, were you afraid they would draw on you? That big fellow probably had a couple of knives in those high boots," said the Farmer.

"O no, Mr. Fuller, I not afraid, I had three year Italian fencing school. They know me."

The nineteenth was marked in many ways. First and foremost we picked the first tomato, a beautiful large smooth Earliest Pink, and the first cauliflower; both, of course, went to the Fairy Godfather. A quantity of rhubarb was planted, having been sent from some section of the road where improvements had extended into a West End market-garden, and we packed our first "home hamper."

For years the Railroad Farmer has been convinced that there is a ready market for produce shipped

direct to the consumer. A crate or hamper filled with vegetables in season was his idea. He has never been able to persuade a farmer to try it. "Oh, it would be so much extra work," they would say.

"Yes, but you get the extra pay," he would reply.

"Well, I know, but I guess it wouldn't be worth while." Here at last was a chance to try the scheme himself. A crate holding six "four-quart" baskets was selected. The three baskets in the bottom contained beets, newly dug potatoes (the kind you can eat boiled in the skin) and cabbage. A partition over these and the top three contained peas, lettuce and cucumbers in one box, young carrots and young onions in the third box.

As a test for this package they were shipped to friends with the urgent request for criticism. This criticism usually came in the request for more, although many friends helped us with the suggestion that tomatoes be packed tight and that peas and beans be wrapped in paper as they spilled through the crate.

Mike had brought his wife to cook for us. She is a delicate colored woman with some Indian blood in her veins. She has six children; one a baby of six months, the oldest fourteen years, and she is twenty-eight. She was too sick to work, therefore after having a doctor see and prescribe for her, I sent her home with strict injunctions to rest all she possibly could.

A regular cloudburst occurred on the twenty-first with sharp lightning and heavy thunder near by. We dreaded lest all the corn be knocked flat, especially the fodder corn which was becoming, together with the alfalfa, the pride of our hearts. Thank fortune little damage was done.

The potatoes' growth was bothering us considerably. Some varieties were extremely dwarf and turning brown early. There was no sign of blight, which puzzled us all the more. We went into the field taking up hills here and there and found many of the potatoes scathed, but without any apparent cause for it.

Finally reward came. One potato stuek full of huckleberry roots proved to our satisfaction that this was the cause of the scars. The "State of Maine," the last to be dug, was the first to bloom, while the "Extra Earlies" were the last to bloom. Queer things potatoes! Uncle Gideon's Quick Lunch suited us very well. We dug some on July twenty-third, finding them medium sized, nearly round, shallow-eyed flecked with carmine and a delicious "eater." At this season forty feet yielded one peck. Some day all vegetables, fruits and eggs will be sold by the pound. I hope the day is not far distant, for that is the rational method. Weigh one dozen measly store eggs against a dozen fine fresh ones and you will see where the buyer would gain. The "Extra Earlies" gave a greater yield, but were not nearly so fine either in appearance, shape or flavor.

Almost every day after this saw a "home hamper" going on a mission.

Early in June or just after the bird bath had been placed, we "doctored" the lawn a little. In patches it was still bare, so Ted raked them over, then rolled the entire lawn. Again raking it he sowed more seed and rolled a second time. The sprayers were started immediately, and by the twenty-seventh the song of the lawn-mower was heard in the wilderness. As pretty a lawn with a goodly showing of white clover had been procured as many sections could show at the end of two years.

Mike succeeded in getting three agricultural Italians at last. One had been on the section gang, passing the farm every day all the season and had become much interested in it; one came from "Easter New Yorker," a young fellow whose father had been a farmer; while the third had been for some time with neighbor Tesla at his "wireless" station. Their names were Antonio Bignoni, Martino Luliccio and Pedro Centro.

They made for themselves a bunk in the work shop and a cook house along the eastern fence. They are quiet, content, polite and faithful, and are still with us. They learn quickly, and after once being shown a thing can be trusted to do it alone.

There were times when we were glad to borrow them from the dairy, for the entire farm needed cultivation, while picking could under no circumstances be neglected.

For the twenty-eighth the diary says:

"The entire farm is this day thoroughly cultivated"; and as that was Saturday, a sense of rest naturally pervaded the entire farm family. In fact one of the things that struck me most forcibly this Summer was everyone's enjoyment of Saturday afternoon after mid-summer. No picking and packing to attend to, just getting to rights for the Sabbath and cultivating the crops that everyone had been aching to get at for days. There were no Saturday half holidays and there were no kicks.

Rainy days were always filled clearing the barn and shops, putting together crates and doing indoor work, often these chores were saved for a rainy spell and many times the buildings looked neglected and unared for, but we knew their turn would come in good season.

At the end of July invitations went to the same "history makers" and experts who visited the farm on its first blasting day. They went in the form of a "home hamper" and a call to come and see the vegetables growing. August seventh was set as the date, eleven months and a day from their last visit, when they had begged us not to attempt the problem.

A hint from the diary for August first is as follows:

"We picked and packed one bushel of wax and three-quarters of a bushel of green pod stringless beans, beautiful in color and form, and so tender and brittle it was difficult to handle them." Well I remember them, for they were the first pick from the third planting and we were glad that we had persisted in our efforts to grow them free from disease.

That same day we had a flying visit from a member of the New York City Board of Education. He came, he said, because he could not credit the stories he had heard of such marvelous development in so short a time. He frankly confessed as he went over the farm that it was almost beyond the powers of conception to realize that eleven months before the place was in its primeval state.

And truly it was a sight during August. Such wealth of growth, such a variety of vegetation one seldom sees.

A three days' rain from the northeast in the first part of this month gave us opportunity of doing many small indoor jobs. Seed boxes were made, more crates put together, engine room straightened

cut, baskets piled and between showers wire put up for berry and grape vines. But at the end of the third day "Mike cultivated the pea patch on acre number three, John drilled in red top and Aberdeen turnips, Ted cut the lawn and trimmed up borders," which shows what a truly remarkable soil this is.

The sixth was spent in preparing for the morrow's distinguished visitors. The day being clear they were to feast in the open upon the farm's products. Ted also drilled in some spinach between the rows of corn on acre number two, the "intensive plot." This was the fourth crop on this land in one year without fertilization. "There's many a slip 'twixt the cup and lip," however, and county fairs claimed our attention to such an extent during September that this fourth crop did but fairly well during the six weeks' drought of this Fall.

The seventh was "made a purpose for us." Warm, west wind, overcast, just the day to make city chained men glad to be in the country. Our guests arrived at noon; a short survey of the farm from the house plot and they sat down to dinner on the lawn by the fountain under the shade of our rescued trees. I give you pictorially the menu and I can assure you I never saw men enjoy a meal more. Ten vegetables, all from the land they had been afraid to have us go into a few months before.

If I may take you with us again after dinner on a tour of the farm I will try to show you what they beheld.

The lawn more beautiful than ever, while oxalis in bloom about the trees, roses, sweet peas and coboeas and other vines climbing upon the fence, porch and tower; gladiolus in clumps and the nasturtium root pile a blaze of gorgeous blossoms. Bulbous begonias in riotous bloom opposite the tank tower and outdoor wash-stand where "root antlers" serve as a towel rack, past the house and Government plot to the turn in the drive. Along the chicken yard fence rich red gladioli are in their prime, attracting a flock of humming birds, while the vegetable flower garden shows scarlet runners, cardoon of tropical growth, and peppers that I doubt can be excelled anywhere, and borage, self-sown, in bloom of blue.

The summer radishes and lettuce are thriving remarkably, while corn is in tassel beside the cottages.

Beets with their rich foliage, erratic onions (which, by the way, several were delighted to help themselves to) and cabbage. Let us pause here a moment. Mike had brought one in during dinner measuring with its leaves still on, forty-two inches in diameter. The exclamation arose, "How did you do it, Fullerton? You certainly must have set up nights with that fellow!"

"There are plenty more in the field," he replied, but they were hardly convinced.

Here before us is a patch containing many of equal size, while the entire growth is way above the average.

"My goodness, how did you raise those melons?" broke from one of the party. "I never saw such a set in my life. I'm coming out again when they're ripe."

"The prophecy is they will not be sweet, because the soil is a little heavy," said the "show guide." "But if there are any good I see our finish trying to pick and ship them."

"You'll have your hands full, all right," they replied.

Potatoes, carrots, beans, peas, parsnips, cauliflower, salsify, sprouts, all on the way to the dairy, called forth applause.

"By jingo, Fullerton, that's alfalfa, isn't it?" exclaimed one who is considered one of the best alfalfa experts in the United States. "You don't mean to tell me you planted that this year?"

"Yes, sir, the first day of June. What do you think of it?" the farmer asked.

"Think of it! Why it's the best I have ever seen, no matter of what age. Why, man alive, that's here to stay and the bacteria are at work all right, all right." "Golly, this part," as we walked toward the top dressed quarter, "knocks the stuffin' out of anything else I have ever seen. How did you do it?"

"Had the soil alkali," replied the book farmer, "and we didn't guess about it either, we took a very small piece of litmus paper and a handful of soil and found out."

"Well, sir, you've done the best and biggest thing that has been done for the Eastern States in many a year," replied another.

Here to the left is teosinte, a new crop to some of them and one that called forth much admiration. Its broad leaves, shortness of stalk and luxuriant growth appealed to any man interested in silage.

And the millet, which had been a light green sea of beauty all the season was now shoulder high and blossoming with a soft long brown "bull-rush-like" tassel. This field showed more plainly than any other spot on the whole cleared acreage, where the bonfires had been; not only did it show the effects of the ashes in height, but in density of color.

The field of fodder corn calls for further exclamations.

"Fullerton, that's the best corn I've seen this season," said one guest, who travels much in the interest of agriculture. "What did you leave so many stalks to the hill for?"

"This was planted for fodder, old man, but 'Penny millions' failed to buy us time enough to get a silo up in which to put it, so I had to let it grow," answered the Senior Partner.

"That sorghum is no slouch either," replied another.

"Gee whilleans!" exclaimed a third, "where did you get this?" as we came to the Virginia horse tooth. "Man alive you must think this is Kentucky. How high do you suppose that is?" as he went up to measure it.

"A good twelve feet," said one, "you're a bean pole yourself and you look like an infant in there."

(Man language is often more forceful than complimentary).

"What will that be when it's done? Why this is only early August, it has another good two months yet," said a third.

"We're hoping for sixteen feet and to be able to mature it," said I.

"Well, you have a record now," was the reply, "no matter what happens to it in the future."

"Dynamiter Kissam is working here and he'll blow a few stumps and some trees for you if you want," said the farmer. "There's a good big chestnut six feet through and he will blow it by battery."



No. 1

Boiled Dinner

[Scrub-Oak Style]

[Huntington] Corned-Beef

[Madison River] ^{and} Cabbage.

Boiled [H₂O] Potatoes.

[Stingless] String Beans

Cauliflower [Natures Bleach]

[Real] Sweet Corn [Unstarched]

Apple-juiced Beets.

Vine Ripened Tomatoes.

Chloro-Proof (Sliced) Cucumbers.

Vegetable Ice Cream.

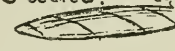
Cake and Water [49°]

[Sterilized]

[Unboiled]

Farmers Pests (Weeds)

Fire Sticks.



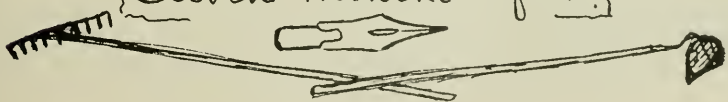
All Produced, Raised, Developed,
Made or Improved on
Long Island.

Pure Air, Pure Water

Good Air · Pure Friendship. Good
Good Water Ad Seb.
Good Roads. Fellowship.

August 7th 1906.

[Eleven months after.]



"Oh, please mayn't I?" I exclaimed, and womanlike, I had my way. My but it was a "beauty blow" (that's technical). She came out clean, and pieces went way over into the corn.

"We're going to take out some of these pines, we want a few as shade apology for the cattle but these three extend too far east."

"Are you ready, Charles?" he called.

"Fire!" came the reply and twelve feet up into the air flew the tree, root and all, and falling split through the center.

"There you are," said the wise one, "land cleared and wood split all for ten cents."

"How much dynamite did it take?" asked one.

"A half a pound," was the reply, "and time enough to affix the cap and charge the stump."

"Are you going to clear number two the same way, Mr. Fullerton?" asked one guest.

"Ten acres are cleared, the dynamiter has just come over from there," he replied.

"How many acres have you in that piece?"

"Eighty. It was the smallest we could buy. Ten of it will be market-garden and for the seventy we are considering a plan to reforest and grow railroad timber. A thirty-foot fire strip to check the annual burn-over permitted by thoughtless or careless owners, will be cleared all around it and there we will grow corn and such crops to pay for the clearing. Then all good specimens of oak and chestnuts and enough pines and underbrush to give forest environment will be left. We think of planting European larch, and will blow a hole to plant them in. Of course these trees want a protection of undergrowth just as all forest trees require, so we will do no clearing," said the farmer.

"What do you mean by blowing a hole, Mr. Fullerton?"

"Why it struck me one day it would be a good sight easier and cheaper to blow a hole with a charge of dynamite than try to dig one in that mess of undergrowth and roots, so Charlie and I went over into the woods yonder and inserted a quarter of a pound at a forty-five degree angle about two feet below the surface. She tore up a hole two and a half to three feet in diameter, leaving perfectly pulverized soil fully two feet deep in which to plant a tree. By putting the charge in a little flatter we secured even better results. With a helper Kissam can make 250 holes a day at a cost of \$12.12. We think Black Judson powder would do just as well and would reduce the cost to \$10.88 per 250 holes."

"Great head!" was the reply.

Returning from the dairy we go south along the division fence where we can see the cowpeas making a brave struggle among the sprouts and ferns of an uncleared section. The sugar beets and mangels are making fine growth, while the sweet potatoes delight the hearts of Southerners and Westerners. Sunflowers, two long rows of them, which John and Mike had planted quickly one day, making a dent with the heel, dropping the seed and pressing the earth over with the toe, were thriving well. Astonishment at them was exhibited until we spoke of the use of the seed as poultry food, when it was thoroughly understood.

Now we come to the pride of our hearts, our own cauliflower, sprouts and cabbage seedlings, fields as fair as man can look upon, plants stocky and vigorous enough to make one feel certain of "big returns."

Squash and cucumbers in profusion, while corn just bearing, and limas filling rapidly, brings us to the orchard with its luxuriant tree growth and tomato vines laden with fruit and every inch of spare space covered with crimson clover to be plowed under in the Spring for green manure; berry vines, asparagus, rhubarb, red carrots from China tasted as a rare treat and found as sweet as a parsnip, and we are again back to the east of the house, where the tiny ever-blooming roses are making a good headway.

Down into the cellar we usher our guests, where the transverse section of the soil calls forth fresh exclamations of delight and wonder, and the bushels of vegetables prove that this is a market-garden competing with and forcing recognition from the world at large.

A drive through the beautiful old village of Wading River and up to the depot, where the Farmer accompanied his guests a portion of the way back to the city's turmoil, ended for these gentlemen what I am sure was a unique day.

Returning at eventide the Senior Partner brought with him a doubtful one, a Congressman of good Quaker descent and a thorough believer in and earnest worker for Long Island, but "Fullerton's farm stories are too big to believe," he said.

"Seeing is believing," and his tour of the farm drew from him a frank and delighted acknowledgment that we had "produced the goods," and, like our visitor of a few hours earlier, he pronounced the alfalfa, "the finest I have ever seen and I raise it in Kansas myself."

The early potatoes having been dug, Mike spread some lime upon the patch, harrowing it in and preparing it after our usual manner, ready to receive spinach. Though August is early for planting this crop, we felt the irrigation plant would give us good aid.

For the eighth the diary says:

"Packed two crates fancy tomatoes, two home hampers, two bushels of lima beans, ten dozen ears of corn, and two barrels of cabbage."

That may sound simple to the uninitiated, but in reality it means sorting the tomatoes, rejecting all that are not perfect either in shape or otherwise, polishing the good ones, packing them in "four-quart" baskets six baskets to a crate. The hampers called for early potatoes sorted and washed, beets washed and the tops slightly trimmed, beans packed with paraffined paper to prevent spilling, cabbage trimmed and thoroughly washed, tomatoes polished, carrots and onions cleansed and trimmed. Beans are slow to pick and like peas deserve to bring a high price in the markets. Corn was sorted and packed in a crate, while all cabbages were thoroughly sprayed. Such was the packing required of Number One for the label that goes on our packages we wish synonymous with "the best that can be produced."

As an illustration of what a man can do in a day, the following from the ninth is fair:

"Mike Bordeaused and Paris Greened all melons, sprouts, early cauliflower and cabbage, also



Cantaloupes of many varieties

cultivated nearly all of acres eight and nine." Mike also had entire care of the horses and was our chief help in the packing.

For days the weather had been overcast, hot and moist, true hothouse weather. The morning of the tenth it seemed as though our entire hopes were to be blasted. I think I can give you nothing more vivid than the report the over-wrought Senior Partner sent that day to Mr. Peters:

General Conditions on Experiment Station Number One, August 10, 1906.

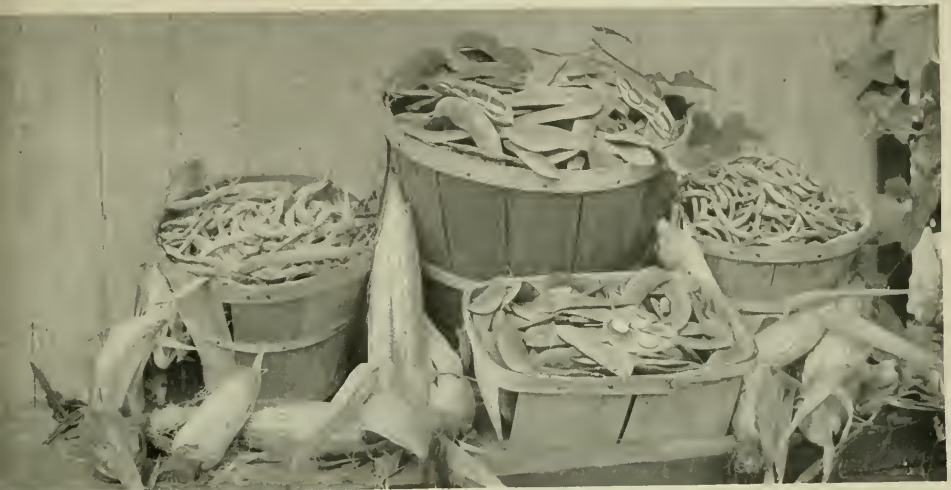
"Mr. Ralph Peters, Pres., Long Island City.

"Dear Sir:—The weather conditions prevailing throughout this the first year of the Long Island Railroad Experimental Station Number One have certainly been abnormal and lately the astounding change in vegetable growth, showing in a most marked manner probably because of one day's absence caused by hospital visit on account of my ball and socket joint knee, made me feel that details should be recorded for your log book of Number One.

"The blight imported with celeriac from big commercial plant growers has extended to fine, healthy cauliflowers, Number One, grown from seed. In spite of almost daily personal attention and care there is hardly a head of either cabbage or cauliflower planted on acre number one in the home plot, in order to keep it under continual observation, that does not show anything from slight injury to absolute destruction from this very serious imported blight. The long continuing overcast Turkish-bath weather has sent the shallots into a weedy-like growth resembling closely marsh grass effect. Peppers are apparently the only things that are truly happy. Summer lettuce lately planted is making a weedy growth, with the exception of one variety which came up turnips, a mixture I understand skillfully concocted by a discharged foreman of one of our American seedsmen who carried out exactly the same methods of revenge pursued by a superintendent of a German house who succeeded in absolutely destroying all landscape gardening effects in Europe and America where nasturtiums were part of the color scheme. Various summer radishes lately planted look more like foliage plants than vegetables. Corn, of course, is supremely happy. In the cabbage patch acre number two imported plants, the growth of black rot and fuzzy cabbage louse is far superior in vigor to the cabbage plant itself. Our splendid stand of kohl-rabi has been infected from the cabbage just east of it through the medium of our frequently prevailing northeast winds. In order to save them, we shall ship all we have at once. The finest lot of kale that I have ever seen even about Long Island City has also been affected by imported black rot and louse so that it must be cut and shipped immediately in order to pull out all we can. The carrots, both first and second planting, are paying beautifully. The shell beans, although as erratic in growth and set as elsewhere according to reports throughout the United States, show freedom from anthracnose and other blights, because of continual and early use of Bordeaux. Turnips planted July twentieth appear to be in fine condition. Salsify and scorzonera show up superbly. The tips of the salsify leaves are shrivelled and black and occasionally the same effect is seen in the scorzonera, a normal peculiarity. The frost touched golden bantam and peep-o'-day corn is making up for lost time, many of the stalks running three and four ears on main and side shoots. Brussels sprouts planted among this corn show up best of all plantings. Parsnips supremely happy, and sugar beets ditto. Turnips of August fourth show in even and very nearly straight rows. Sprouts in acre number six are in spots badly affected by the louse. Cauliflower, home grown, which was in fine shape, affected badly by imported blight. Potatoes show some erratic browning, which is strikingly prevalent in every section of Long Island and I should judge throughout the United States from reports in the papers. Beans on acre number three would be fine specimens in the best bean season ever known. This beyond question entirely due to Bordeaux applied as soon as plants appeared. Onions planted June thirteenth on acre number three show that ground is in far from proper condition to suit onion germination and growth. The same erratic showing of rows is here that was found in the first planting made on acre number two. The cabbage set out in acre number three has done marvelously well, yielding a very large percentage of not only marketable but very large solid heads. First planting of onions still reminds one very much of a slave with a dull razor. The beets, because late germinations, have somewhat caught up and transplantings have helped out broken rows, are growing thriftily and look somewhat like a well kept market-garden. Turnips planted on acre number two were superb the day before yesterday; to-day leaf and even bulb have rotted so badly that in appearance and stench the showing is awful. Endive for the first time is making beautiful growth and promise for crop is excellent.

"Melons I hardly dare speak of, for fear they will have the blight. The acre is the most beautiful patch I have ever seen and I came from a melon country. The set is superb, the bees are marvelously thick and the melons are filling out large and shapely. The assorted blighted and measly celery plants have at last secured enough vigor through copious doses of wood ashes, Long Island fertility, diluted salt water coming to us in the form of fog, to show considerable promise. The very best of the bunch, however, is golden self-blanching, raised in number one's seed-bed.

"In our vegetable flower garden, peppers, are as elsewhere, superb both in leaf and fruit. The cardoon shows here and there leaf blight, but makes up in part by a number of good sized buds. Scarlet runner is growing luxuriantly with no sign of vegetable enemy. On the United States Government plot both haricot beans and lawn are in fine shape. The squash and pumpkin samples near horse plot we have apparently saved in part from the ravages of the brood of the small striped beetle, who do not seem to keep ahead of the special brand of imported blight. Celeriac and celery look like a convalescent's home. In the orchard, acre number four, the trees are making superb growth. Crimson clover well high covers bare places. Tomato plants are most disheartening, besides the loss of at least eighty-five per cent. of the set crop, the wet weather is rotting the plant itself so that from the present outlook ninety per cent. total loss is probably nearer to fair statement. The yellow raspberries from which we even had a small yield are dying rapidly. Will endeavor to discover cause. Peanuts 'all to the merry'. For some reason limas look particularly thrifty, reason unknown; they should be totally or nearly destroyed by mildew. Corn on acre seven superb, in silk, in growth, in tassel and leaf. Early cucumbers' season about done; yield and freedom from disease first rate. Squashes of all varieties have done particularly well and still making fine fruit. Turnips sown July twenty-ninth splendid



"Home Hamper" fillers

Late tomatoes are holding up well. Eggplants with the aid of a large assortment of bumblebees, are settling remarkably well. Some of the late tomatoes are apparently keeping in style by rotting from the ground up.

"We life partners have in going over acres eight, nine and ten inabbed a vegetable mint-julip or cocktail according to one's early environment, the late cabbages, red, curly-leafed and regular; the Brussels sprouts, and the late cauliflower, which are as magnificent as anyone could possibly see. Occasionally there is an affected leaf, which to us shows that the spores from the imported plants have been wafted their way. Bordeaux has done well, but we are taking no chances nor omitting any precautions whatever, and to-day all hands are picking infected leaves. The sweet potatoes remind me of Loveland, Ohio; more cannot be said. Two rows of sunflowers planted for the benefit of the feathered stock go billowing across the field showing plainly where the stumps were burned last year. The soaked sugar-beets have at last about caught up with the unsoaked rows. The test mangels are doing splendidly. The black Mexican sugar corn is in tassel, and showing up well. Second planting of early corn all well and made quite an even stand throughout. In spite of frequent showers and downpours, we have certainly demonstrated the necessity for frequent applications of fungicides and insecticides, and that it unquestionably pays to use both through the very earliest period of plant growth. The necessity for a sprayman even on a market-garden of only ten acres is proven conclusively and next year if you approve, one man will be assigned solely to this work, with instructions to keep up an endless round in a methodical manner, so that no plot may be overlooked and further to be careful to make a spraying tour directly after a storm. Have had a particularly good man to handle this part of the work, but the setting out and cultivation many times forced us to leave alone plots showing up thriftily and without signs of coming disaster. It was most unfortunate that we were unable, because of a great deal of new work to be done which will not need thought next year or labor, to raise every plant for Number One. We imported a great number of insects in various forms and certainly two of the most dangerous and rare blights and fungous growths and undoubtedly others of lesser moment. One thing we shall urge most strongly in pamphlet, which is now well along, is that nothing be planted in this new ground but the best of seed from strictly reliable firms and that under no circumstances should plants be secured from outside territory. From the very first we have feared introduction of pest and for this reason took extraordinary precaution with two varieties of potatoes we received showing a mysterious, impossible to locate, disease which caused us to destroy a very large number of them.—Yours truly, H. B. Fullerton, Special Agent."

The day brought us however, a cook; a woman with a three-year-old child who came through the Sunshine Society.

The striped beetle were as thick upon the melons as though it was not time for them to have disappeared for the season. They are the most difficult things to kill one can find, while their young are the terror of all gardeners. These beetles lay their eggs just under the soil, the young, a worm, bores into the stem of the vine and promptly kills it. The melons were sprayed way beyond the time that is considered safe, in order to kill the beetle if possible, but nothing seemed to avail.

On the eleventh, Mr. Peters came, his heart seemed wrapped up in that melon field, he spied each large melon, tapping and testing it to see if he could not find one ripe.

"Mr. Fullerton, try different insecticides around some of the vines about the roots and let's see if we cannot save them. My, it would be a shame to lose that melon field," he said. So we made the following applications. Going across the field from east to west and taking three rows at a time, this brought each test upon each variety of melon.

- 1st three rows lime and tobacco stems steeped.
- 2nd three rows tobacco stems steeped.
- 3rd three rows slug shot.
- 4th three rows ashes and kaimit.
- 5th three rows lime.

This was placed immediately about the roots. None of them showed marked results and the beetle tried harder than ever to get inside the melons themselves.

That night we had rose China radishes for supper, twenty-six days after planting the seed.

On Monday, the thirteenth, the day and date being propitious, John was sent out to mow the alfalfa. It was twenty-six inches high and in full bloom. After it was cut (and John said it was pretty heavy), all weeds, roots, etc., were picked from it before weighing, that the figures might be exact. It was weighed green. The weights are as follows:

Northeast quarter (soil top dressed)	1673 lbs.
Northwest quarter (uninoculated)	724 lbs.
Southeast quarter (seed inoculated)	416 lbs.
Southwest quarter (soil and seed inoculated)	377 lbs.
Total	3192 lbs.

Next it was spread, and the day being overcast but not forboding rain it was allowed to remain until nightfall, when it was raked into windrows. The next morning early it was spread, and in an hour being dry but not crackly, was tied into bales of about twenty-five pounds' weight and taken to the barn. Here it was weighed again.

Northeast quarter (soil top dressed)	701 lbs.
Northwest quarter (uninoculated)	313 lbs.
Southeast quarter (seed inoculated)	189 lbs.
Southwest quarter (seed and soil inoculated)	168 lbs.
Total	1371 lbs.

It is cured to perfection, the leaves remaining on while the stem is still green. Horse Texas will almost break his harness to get some, while Buckeye disdains even to notice it.

Corn was now a daily diet in our household. Of course we tried every variety of everything



Fine Tobacco at both No. 1 and No. 2

grown, but nothing caused such a howl to be set up as the non-appearance of golden bantam corn. It was absolutely useless to put any other variety on the table as long as this little gem lasted.

In the Senior Partner's phraseology, "it's the earliest, ugliest, smallest, sweetest corn that grows. If you once taste it you won't want any other." 'Tis extremely yellow, therefore not popular with tradesmen, but a decidedly good crop for home hampers.

Italians were sent into the tomatoes to pick every morning now, for it required two and sometimes three of us a good part of the day packing various products. Many a morning they have brought in fifteen to eighteen bushels of tomatoes, while cabbage, radishes, lettuce, kale, kohlrabi, carrots, eggplant, corn and beans, kept all hands pretty busy.

We were informed by one of our Huntington neighbors that a little excursion had been planned from that point to the Farm for the fifteenth. Glad we were to hear it, for we were anxious to have more people see and believe the stories of the wonderful growth. For their benefit we had arranged part of the day's pick on the front porch and it made a very good "agricultural exhibit" including corn, eggplant, green and wax beans, pole and bush limas, squash, vegetable marrow, four varieties of tomatoes, (pink, red, large and small yellows) cauliflower, one cabbage weighing when stripped for market, fifteen pounds, beets, carrots, onions, and peppers.

The Farmer was particularly anxious to see the assistant postmaster and for a greeting had arranged a large perfect eggplant in a peck basket and carried it under his arm to present to him as he alighted from the train. The eggplant lover did not come, but a kind neighbor carried it home to him and he afterward said to me:

"It's all right, Mrs. Fullerton, I didn't think the 'Squire' could raise them, but that was the best I ever ate."

"We had plenty of bees," I responded; "they are an absolute necessity where eggplant is attempted."

The "bees" remind me of everyone's query when they saw the "weather bureau" (where the maximum and minimum thermometers are housed). "O, do you keep bees?"

"Yes, but not tame ones, we coaxed them by strong colored flowers. They come for them and are daily visitors. We intended having a hive but have not come to it yet. Still our honey friends have done all the work necessary," we would reply.

For some time the children declared, "we took the weather out" every morning when the thermometers were read.

The "little birthday excursion" (for it was the Farmer's birthday) numbered ninety-four and we felt as though the good news would travel far when they left the farm.

I was showing friends over the place and explaining operations how this crop was the second on that ground, that, the third; explaining how it was all done with no commercial fertilizer and but little help. We came to the dairy where we met an old man who had preceded us; he was returning from reviewing the fodder corn, and I said:

"Well, what do you think of it?" And of course I was swelling with pride.

"Humph!" he replied. "I don't think much of that there corn; it ain't got no ears." And as he was referring to sorghum, I could but be amused, as sorghum bears its seeds on its tassel.

"This here's that there new thing they call alfalfa, ain't it?" he asked.

"No, sir," I replied, "that is Japanese millet; but this is alfalfa," as I showed it to him.

"Japanese millet! We didn't raise them new fangled things in my day. I suppose you think this here corn is good too, but it ain't got no ears neither," he said.

"But that's not corn," I remonstrated, "it's teosinte, a grass, and comes from Mexico."

"But 'a man convinced against his will is of the same opinion still," and he went away muttering to himself.

Our other guests were fully satisfied that no one had drawn the "long bow" in regard to the crops, and fresh vegetables from Experimental Station Number One became very popular in Huntington after that.

Our visitors drove to the beautiful Sound beach, (it should be famous as it *belongs* to the *village* of Wading River) where they ate their picnic dinners, and on returning to the train, found the car decked with armfuls of exquisite gladioli, a gift from Wading River's famous grower of this gorgeous flower.

Ted had been mowing millet all day. It fell in a golden wake behind the scythe, making as pretty a picture as one could wish to see. What satisfies us to the very core of our beings more than the harvest? Nothing.

Spinach planted where the early potatoes came out was up in seven days and immediately irrigated to hasten its growth.

The secret of all leaf crops is the rapidity with which they grow and nothing can further them more than water coupled with cultivation. Endive needed a little of this medicine, the sprayers were turned into this field.

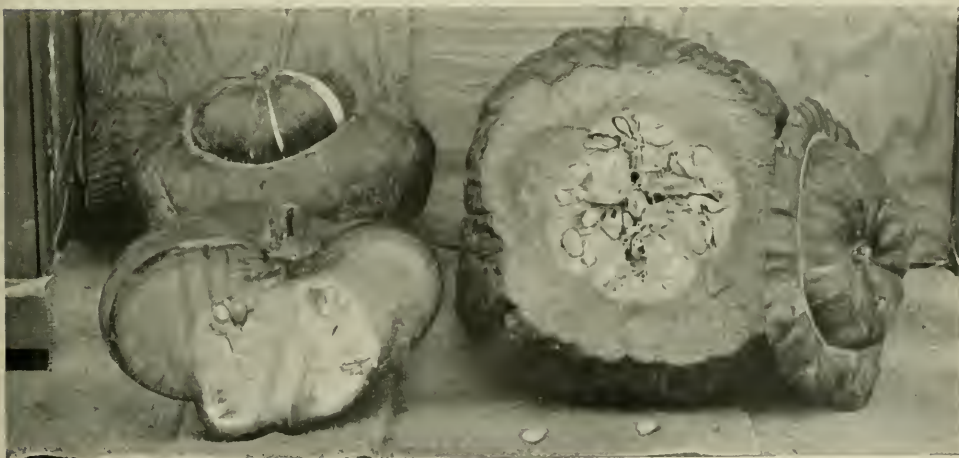
Young carrots were somewhat in demand in the market in mid-August, so we decided to dig all of the early planting and ship them. The second planting was by this time providing for home hampers. John took the wheelbarrow and fork and went out to the field, he soon returned with the barrow full to overflowing. A second, a third and a fourth came by and it seemed as though there could not be so many carrots in all the world. They were taken to the packing shed, which, by the way, was a very quickly improvised affair. Time did not give us a chance to build an ideal one, so a strip of quarter-inch mesh galvanized wire was tacked to the rear of the barn, stretched out to the north and fastened to some stakes driven into the ground. The wire was turned up at the edges and allowed to sag slightly in the center, thus admitted of a good many vegetables being placed in it at once, while the spray from the hose of course ran right through. As a protection from the drip underneath some old boards were placed in front of the drain; a table made of old boards (some second-hand stuff left from the barn) laid upon boxes, made the packing table, while an old sail cloth fastened up among the trees with rope made good enough shade.



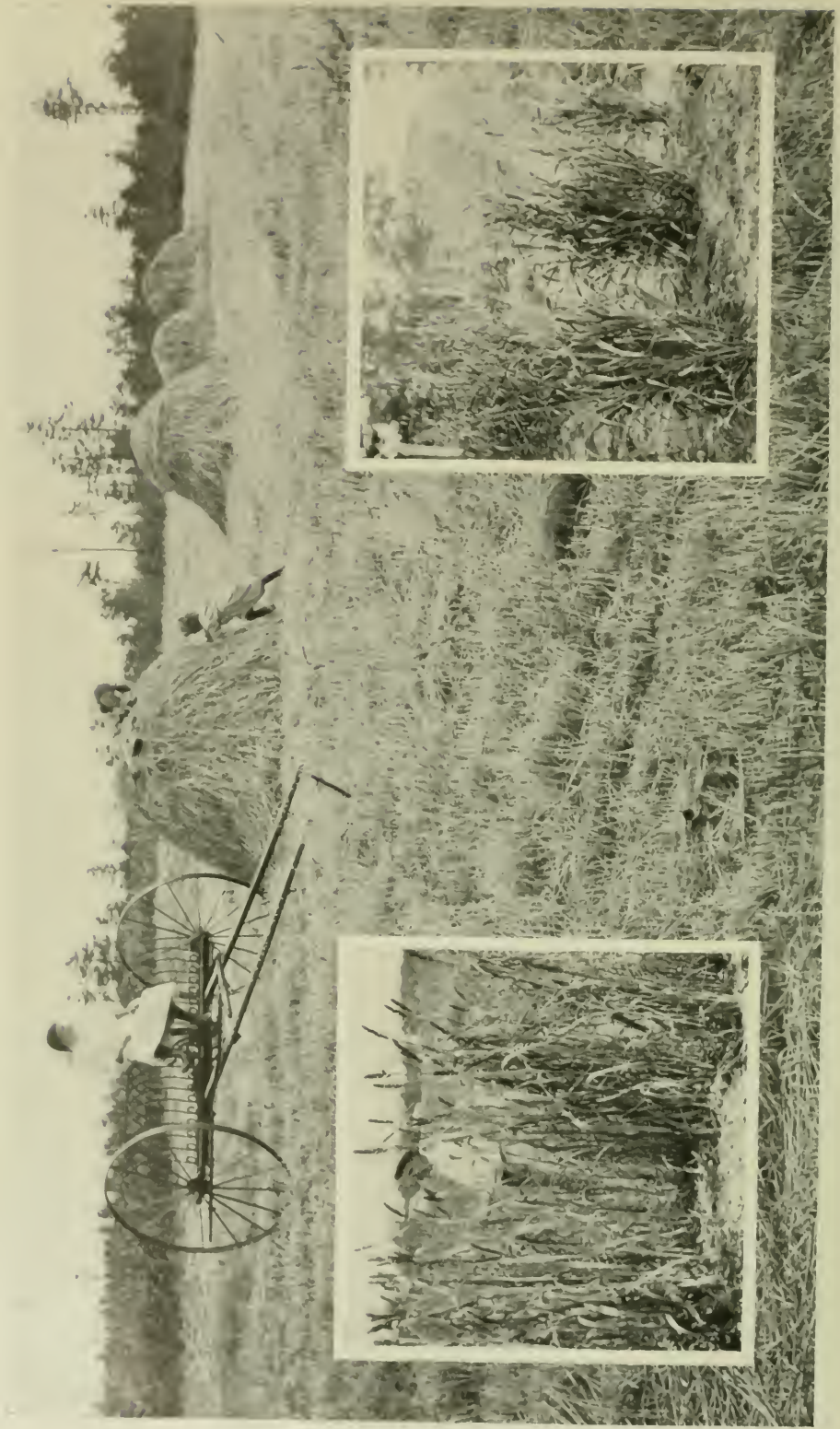
Sea Kale—earlier than asparagus



Whitloof Chicory of Barbe-de-Capuchin—The Famous Salad



Venetian Squash—finest of all squashes



Japanese Millet and Volunteer Oats

Mike washed and John bunched. They were sorted into two sizes and piled upon the table. Young carrots are sold with the leaves on, and nothing could have been prettier than that table laden with orange and green. 335 bunches, twelve carrots to a bunch, was the final count; while added to that 173 bunches of pink, white, yellow and black radishes made a fair shipment of root crops for one day.

This plot of carrots covered a space of ground forty-six by sixty-seven feet and yielded, all told, 485 bunches or 5,820 perfect carrots.

I think August twenty-second a good representative day of work at this season. I give it to you straight from the diary:

"Ted finished cultivating celery and celeriac (we also put some Bonora, which had been sent us by a good friend with an earnest petition that we try it, upon the celery) in dynamite swale, weeded and cultivated all berries, Udo and peanuts. Mike and Pedro limed the patches where early cabbage, kale and kohlrabi had come out, sowing 400 pounds. They also sowed 450 pounds Canada wood ashes on the alfalfa, and 600 pounds old rotted manure on the southwest and southeast quarters (these quarters had given the smallest yield), Pedro and Martin picked tomatoes for two hours, Tony all day spraying cauliflowers, cabbage and sprouts with Bordeaux and Paris Green.

"Sorted, washed and packed twelve crates tomatoes (1,200), three barrels corn (650 ears), one crate corn (72 ears), one basket summer squash (36), one basket of cucumbers (60).

"John finished making crates. Ted cleared out the barn and stacked empty crates over the shower bath-room.

"John and Mike picked and packed the corn in two hours, brought in two bushels and one wheelbarrow load of squash in forty minutes."

I might insert here the "crate incident." On the seventeenth day of July a half car-load of packages in "knock down" shape arrived, they were stacked up by the barn and everyone except Mike exclaimed:

"Where do you intend to store them all winter; they will last a couple of years."

"O no, Mr. Fuller, you need more than him this year," Mike said, "I know you wait till cabbage and Bruss' sprout' ready."

"Why, Mike, we'll never fill those in the world," I said.

"You wait see, Mes Fuller'."

He was right, many a message has gone forth this summer "for goodness sake rush packages as much as you can, crops are spoiling for want of them." But many barrels alas, are lying empty!

Kale had been shipped two days previously, the plot thirty-one by thirty-nine feet yielded 355 heads, the last shipment filling three barrels. The kohlrabi, from seed from North China, yielded 144 roots and the space occupied by them after being set out was thirty-one by fourteen feet. These "rabis" differed in no way from the kind usually raised here as far as we could see.

The night of the twenty-second it stormed, so the Italians were sent over the cabbage, cauliflower and sprouts again the next day. In fact it seemed that a spraying day was invariably followed by rain. There were times when "Fullerton luck" did not hold good.

Endive was tied up when thoroughly dry, this must never be done when the plants are damp for it is intensely susceptible to rot. The field was the quaintest "Dutchest" thing imaginable when the men were through.

"Fullerton luck" brought a thunder storm the next night so there was nothing to do but spray again the following day. We went to the field in the early morning as was our habit and the sight that met us was enough to make the heart sick, leaves turned black and yellow with blight insects so thick they positively looked crowded.

"What shall we do?" we exclaimed, "the pride of our hearts and the portion to bring in the greatest returns going before our eyes! It surely cannot be our fault, or from any neglect."

"Mes Fuller," said Mike, "about every five year, the cauliflower he go so, you can't save him, I know, I grow him many year."

"Should we have sprayed more Mike?" I asked.

"Mah gab, Mes Fuller' we pass this field about eight times already and two times be enough. This year, you can't help him," he replied.

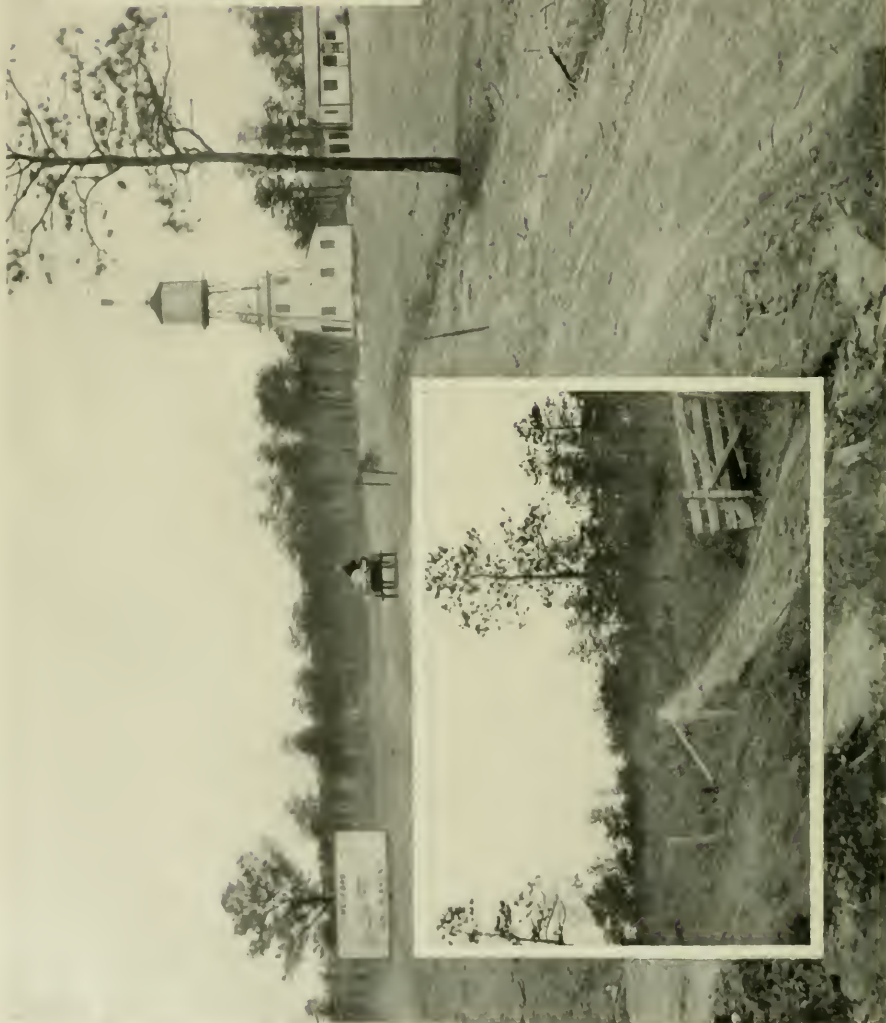
"Well, if this is the year we have him for fair," said the Senior Partner. "Mike, tell Tony to go over again, this time dust on tobacco dust and slug shot mixed half and half. Then let Martin and Pedro pick all infected leaves and the entire plant, where they are bad, and bring them up to the barn to be burned. We'll save the balance of them if we can."

The plants and leaves were taken to the barn plot, but we could not burn them green and considered them too dangerous to leave until dry.

"Mike, tell the Italians to dig a hole here and bury that stuff," said the farmer. He watched operations closely and when they had tossed in a good layer of leaves he had them spread it thick with lime, another layer of leaves, again lime, until all were safely interred. I have no doubt that will be a rich spot next year.

Eleven times those fields were "passed" and there is nothing to show for it. Not a cauliflower and but few perfect cabbages and it is doubtful if we get any sprouts. The latter are set and hard and the plants are laden, but the louse has discolored them so badly they would not pay for the picking. The plants average one quart of sprouts each and as there were 5,211 plants set out, the loss can be safely estimated at 5,000 quarts. During mid-winter these bring from twelve to thirty cents a quart. I guess I won't figure what we might have made for there is no use crying over spilled milk and we have not trusted all the eggs to one basket; a diversity of crops is deep wisdom for those who deal with Dame Nature at first hand. Man as yet cannot foretell the season's wet or dry characteristics, therefore it is most unwise to rely on one species alone, a season fatal to one vegetable assures a phenomenal yield of another. Our only consolation, if consolation it can be called, is that all experts and old farmers have suffered the same loss this season.

"What is the cause?" I asked one visitor from the east end of the Island, who always has a large acreage of these special crops.



"Why that damp warm weather started the rot," he replied, "and then I think last winter was so warm and open all the bugs lived through and we have a particularly choice assortment this season."

"Well, it's thoroughly discouraging," I said, "to work so hard and have the crop come almost to maturity and then die before your very eyes, while you are powerless to save it."

"Yes! Yes! It certainly is," was his rejoinder, but he said it in a way that showed it was not the first time he had met such defeat.

The spinach was given a good dose of liquid manure as a tonic at this trying season of the year and it later amply repaid the labor.

The tomatoes had received their last cultivation July tenth and crimson clover was broadcasted and harrowed in. It came up in four days and by mid-August the field was a mat of green, while the four-leaved ones among it were Hope's delight. Many a day she has come in with sixteen fours, a goodly number of fives and sometimes a six-leaf.

Clover was now sowed wherever a crop came out, the early cabbage patch received it August twenty-seventh, while early September showed many other patches covered with either this or vetch, or sainfoin, or alsike. Manure, lime and ashes were spread and cultivated in before these nitrogen gatherers were sown, for they will be allowed to remain all winter and turned under for green manure next spring. It takes but little time and costs but little money to sow these crops and they render untold good to the soil.

By the thirtieth endive was ready to gather. Those that had been tied (and they must be well grown before tying) were out, the raffia removed and thoroughly washed. The hearts were blanched as prettily as could be and thirteen bushel baskets were made ready for morning shipment. All things that left the farm in the morning were picked the night before, sprayed and allowed to remain out in the night air unpacked until morning. The consequence was such things as lettuce, endive and spinach were as crisp as possible, for these plants wilt immediately after picking, but quickly revive if watered and placed in the shade.

When the returns came from the commission merchant they read—"baskets of chicory."

"Well, if the big New York dealers don't know endive from chicory, don't let's grow it any more," I said.

"I guess we have other things to do," replied the Farmer, "Let's try romaine and escarole next year, just a little to see if they know what that is, they are easier to grow than endive because they need no tying."

The last day of August, our last at the farm! To-morrow would see a new era, for we must return to the dear old home to get ready for school days. John had become converted to market-gardening and he had bought himself eight acres of land and went to prepare it for Spring work, while Mike moved his entire family to No. 1 to remain for the rest of the winter.

A Western visitor gave us a feeling of satisfaction. There arrived in the afternoon a gentleman from Indiana, a total stranger, who said he had heard of the Station and would like, with our permission, to look over it.

"Mr. Micklejohn," for the Farmer was still pretty lame, made him welcome and escorted him on a tour of inspection.

"Well," said our visitor, "I'll tell you, Mr. Fullerton, I've been traveling for a year and a half to find just the place I want for a farm. I started in Texas and I have been to every State Experimental Station in the Union and this beats anything I have ever seen. It is the most practical, the best looking and the most educational of any, and I don't see how you have done it in a year."

"It's the soil, Old Man," (all Westerners call each other Old Man, it seems to give them great satisfaction) "soil and climate, you can't beat it!" said the Farmer. "Come down in the cellar and see what we have," and he showed him the now famous cellar wall giving the strata of the earth's construction.

"This suits me," he said, "my weary search is over. But there is something more here than soil in which to grow vegetables, your island is one of the most beautiful places I have ever seen, the unexpected views and beauty spots make it a continual surprise. Why, those lakes just to the south of you are gems, and the eyes of man have hardly rested upon them, I suppose."

"Right you are, and there are 200,000 acres of this virgin soil lying idle just waiting for a helping hand to give New York its fresh food."

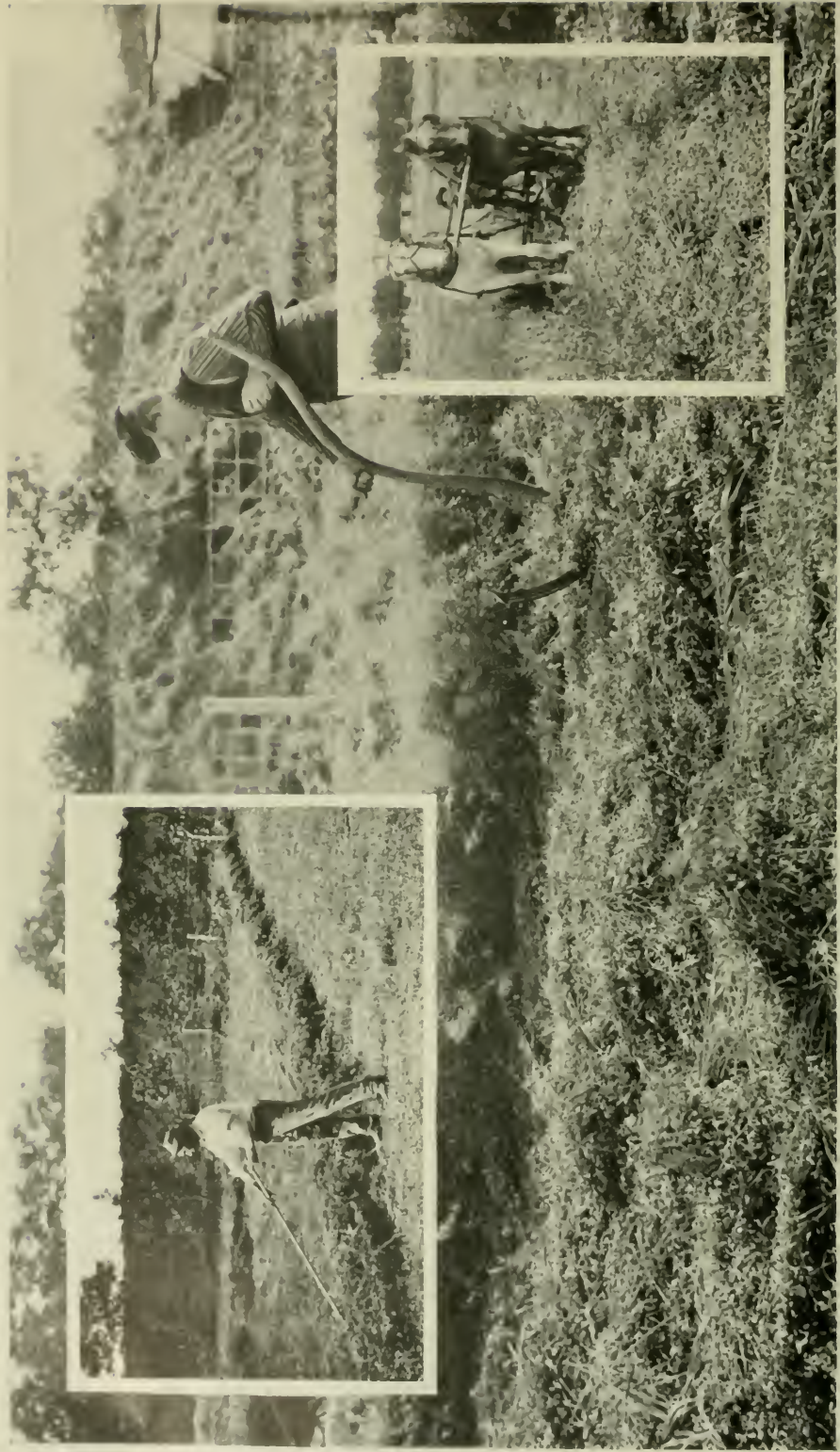
"Well, I'll make a prophecy, it won't be many years before there is precious little of it lying idle, and I, for one, am going in to help you. I want a good big farm and I'm going to buy it next week," he said. "By the way, I hear you have another Station at Medford, what do you think of that section, soil's pretty light, isn't it?"

"Lighter than this," replied the Senior Partner, "but deeper. The surface is drifted over with white sea-sand and we supposed we would find soil a foot and a half at the deepest. When they were clearing they dug a cellar under a shack, in which to store dynamite, and we found the soil four feet deep. You could have knocked me down with a feather, for no one is more enthusiastic about the Island than I, but I never supposed there was four feet of good soil in that section."

"Well, it only goes to show mighty few people know much about the land they live in," he said. "May I bring some friends in a few days to see the place, they will think I have lost my head when I tell them about it, so I want to show it to them?"

"Sure thing! bring as many as you want and come as often as you wish, and stay as long as you like. Always glad to see you," was the rejoinder.

Dynamiter Kissam had been called away, so that but one acre of the dairy had been cleared, he was to return when he could and finish the piece for we were anxious to get rye in this fall.



First cutting of Alfalfa at No. 1



Our "Biggest Girl" and Japan's Biggest Radish

Autumn



THE first of September saw the children and myself off to Pennsylvania for a few days. They had been "good as pie" all summer and often when father and mother were too burdened to be pleasant they had had dull times. Rides were their great joy and they always went to the depot with shipments; but companionship of their age was lacking and it was time they had a "vacation." Such a glorious one they had with a bunch of cousins; pillow fights, early morning squeals, romps and picnics.

With the aid of records kept at various times by the stenographer, Mike, Walter and Martha (Mike's eldest daughter), I give you the fall work.

Sunday the second records the picking of the first melon, a Long Island beauty. The Italians were pressed into service more now for John's going left a hole in the force. Tomatoes were coming thicker than ever and I remember asking Mike on my return from a day's visit:

"Any tomatoes yet, Mike?"

"My gah, yes, Miss Fuller', we ship forty-one crates this morning."

"Forty-one crates! Goodness, that must have been some tomatoes, how many culls?"

"Eight bushel, I give 'em to section hands and train crews, they like 'em," he answered.

No wonder the diary records "two Italians picking tomatoes one-half day."

Sugar corn that had been gathered was cut and stacked and the land prepared for a legume. Barrels had to be unloaded and stacked, for we still had hopes of gathering some cabbage and cauliflower, while sweet potatoes held out the promise of an abundant yield.

More endive was ready for shipment on the sixth and the diary records:

"Washed and picked six barrels of cabbage, eleven bushels of endive, also some carrots and beets."

Tony showing the greatest aptitude for market-gardening, was given the more particular work and he soon took John's place in helping Mike with the packing. Walter, the boy, had become quite proficient in many ways, and for a lad of fourteen shows good signs of a budding farmer.

On the sixth the Assistant United States Agrostologist visited the farm to see the alfalfa. As a test had been made for the Government at their special request, they were naturally much interested.

His verdict coincided with others already given and he further said upon examining the roots and seeing the nitrogen nodules, that Long Island virgin soil must contain the needed bacteria, for the largest nodules found were on the uninoculated section. That the bacteria was at home and at work in all sections he felt was true without a doubt, and he further predicted that "next year you will not be able to tell one quarter from another."

The tenth records the shipment of five crates of melons, and from that time on we could not compete with the field, the yield was too great. The prophecy held for them came true, they were not as sweet as we had hoped, but like cauliflower this was an off year, entirely too wet and really good melons were as "scarce as hen's teeth." I give you here a letter to Mr. Peters on the subject:

"Wading River, Long Island, N. Y.,

"September 10, 1906.

"Mr. Ralph Peters, Pres., Long Island City.

"Dear Sir:—The weather, which sent the thermometer down to forty and even a trifle below night after night, held up our melons and further weakened the vitality of the vines to a marked extent. The striped beetle, which has been our



"Virginia Horse-Tooth" Field Corn and Mexican Teosinte

hardest nut to crack, true to the usual procedure, appeared late in August in immense numbers. This was a time when he could only be fought with severe damage, not only to the vines but the melons themselves, and in spite of the greatest of care and most thorough work they succeeded in laying eggs in great quantities. The beetle itself and its 'maggot' not only attacks the vines, but it attacks the melons themselves as it does cucumbers and squashes. While they are seldom able to injure, or in fact penetrate the interior, they certainly spoil the appearance of the melon and in many cases where they happen to work close to the juncture of the vine, they partly cut off the sustenance supply and check growth and ripening considerably. We have a big lot of melons of excellent quality, but they do not look right. I went into the city on Thursday afternoon, Friday and Saturday, and found that, without exception, both Jersey and Southern melons had been attacked in exactly the same way as melons on No. 1. I also found that Rocky Fords were coming in with mutilated skin coverings. At the Delaware Water Gap when I went to bring home my family, I found exactly the same state of affairs existing with every melon I could discover. A few of them were native, most of them were coming from Jersey, Colorado and the South. Nevertheless, in spite of the scientific explanation that there are certain seasons when the natural enemy of our insect pests are entirely absent, or present in numbers so small that they do not exert any apparent influence and man alone cannot cope with them, we have no hesitancy in saying that we will prevent this marking another year and base this egotistic statement on the results of our experiments, which, although started late in the season, will show conclusively that the aftermath of the striped beetle need not be feared if tobacco is used freely, particularly, about the melon hills, etc.

"Yours truly,
H. B. Fullerton,
Special Agent.

On the eleventh "we two" went to the farm for the night, for the following day we were to receive a delegation of dairymen to view the farm's successes and failures.

For their benefit we placed upon the porch a bale of alfalfa and a bunch of plants (roots and all) from each quarter section. They seemed wonderfully pleased with the successes attained and one of them upon examining the root nodules, said:

"May I take some of these home with me? We have tried for three years to raise alfalfa at our dairy and we cannot get a nodule or get the plant to live over winter. It is a remarkable showing this section has made and I congratulate you most heartily."

No less interesting to them were the other fodder crops and they were as surprised at the Virginia horse tooth as any one else had been. By this time it had grown to fifteen and one-half feet, with the ears, seven and eight feet from the ground.

A six-footer stood among it holding an umbrella in his upstretched hand and the tip of the umbrella could not touch the tassel.

The Suffolk County Fair opened on the seventeenth and much time was consumed in making ready. A little portable house, the same size as the one we had been living in, was erected on the fair grounds, and for some time we had been preparing and framing photographs of the farm's development, to hang upon the walls. Sunday the sixteenth took us all to the farm again, giving to the children a good treat, for they really had grown very fond of the place, and to us another busy Sunday.

Being "Suffolk Countyites" we are allowed to enter vegetables for competition and strange to relate, the yearling farm won eleven first prizes, six seconds and an honorary mention. The portable had its miniature sign by the front door flanked by teosinte and backed by Virginia horse tooth, the interior had one room finished as a bed-room, while the others had tables loaded down with vegetables of various sorts. There was a goodly showing for the time of year, lettuce, endive, summer and spring radishes, beets, onions, carrots, parsnips, salsify, beans, sugar corn, tomatoes, squash, marrow, cantaloupes, watermelons, mangels, sugar beets, pe-tsai, and sakurajima, potatoes, sweet and white, cabbage, sprouts and peanuts, alfalfa, millet, corn, sorghum and teosinte.

The little cottage was crowded with visitors every day, some from curiosity, some from real interest, many came back a second and third time, becoming so absorbed in the subject we would often talk for hours.

"These are scrub oak vegetables, raised in one year without the use of commercial fertilizer," we would say.

"Oh, I don't know about that," would come the rejoinder.

"Then I'll tell you," and the whole story of the farm's history would be repeated. No one who heard or saw it as I have tried to relate it in these pages, but saw the logic in the venture, and many an agriculturist had new heart put into him from the long chat, while without a doubt we received as good as we gave.

They contended, those who had not farmed, that ten tons of manure to the acre was "a heap of fertilizer." I would like to quote here from the *American Agriculturist* of recent date. The extract is from an article on raising melons in another state and the quantities used are for one acre.

"In the Fall is spread twenty tons of stable manure free of stalks and straw (this would equal thirty to forty tons of ordinary manure).

"1000 pounds high grade Carolina phosphate rock.

"300 pounds high grade sulphate of potash.

"This is harrowed in and I sow twelve to fifteen quarts of crimson clover to be plowed under in April. I then sow 1000 pounds complete fertilizer (formula two per cent. nitrogen and four per cent. phosphoric acid and ten per cent. potash)."

This surely dwarfs ten tons strawy manure into insignificance.

The second morning of the fair, a carriage full of visitors drove up to the door and an east-end neighbor, who had visited the farm in the early summer alighted, bearing several large bouquets of asters and dahlia's. He brought them with the thought they might help brighten our exhibit. In reality they were a peace offering. I relate the incident as one which to us was full of glee.

During his visit to the farm he espied the newly set out celery plants.

"Your farm's all right, Mr. Fullerton, but what did you plant that for?"

"Celery? Why not?" said the Senior Partner.

"Why not? Because you can't raise it here and there's no use trying," he replied.

"Do you raise celery?" asked the Book Farmer.

"Um!" as our guest nodded his head.

"Exhibit at the Riverhead Fair?"

"Um!" again as he acquiesced.



A good crop of watermelons in a good way

"Well, so do we, and if you win a prize this year you'll know it, for you'll have to work overtime." A smile broke over his face and he clapped the "gude mon" on the shoulder, saying: "Fullerton, you think the Island will grow anything under the sun, don't you?" But his expression said, "He's an enthusiastic youngster (the said 'gude mon' being some years his senior) but he'll get over it."

We exhibited celery at the fair and won second prize. Therefore the flowers.

One afternoon I was standing in the bedroom door tired from the day's exertions (the Senior Partner was away that day holding another exhibit at an agricultural gathering). The house was crowded with visitors, among them some Irishmen.

One large, portly man said: "Och, come on out, they know what to put in their fields."

"What did we put on the fields?" I flared up, supposing, of course, that he referred to a high-priced fertilizer.

"Shure an' didn't they have you in the fields! Sure, I'd worruk meself if you was out there!"

I blush to tell the story, but it is too good to keep, that was the time my zeal for the farm got me into hot water.

In our beloved home town, the Horticultural and Agricultural Association held an exhibition and they particularly requested a showing from the farm, sending us entry blanks for competition. We were glad to help and filled out the blanks with twenty entries. As this took place during the Riverhead Fair week, the Senior Partner left me late one evening, drove the twelve miles to the farm, gathered and packed crops all night and took them in to the exhibition the next morning.

The farm's showing was as pretty as could be, its greatest attraction in one sense being a basket of dainty miniature vegetables from the children's garden. Their plantings had been made very late and in the shade which tended to dwarf them, but under the circumstances seemed very apropos; as at other exhibitions people wondered whether the corn was not spliced, while the high quality coupled with the extensive variety attracted much attention.

When the Farmer returned to Riverhead I eagerly asked the news, meaning, of course, what prizes had we won.

"Nothing doing," he said, "they seemed to think it was honor enough to be allowed to exhibit fifty varieties and would not allow our stuff in competition. I guess the next time I 'help out' I'll think twice before I work all night doing it."

"That hurts," I replied. "If it were outsiders we could speak our mind, but that touches the quick."

At the Mineola Fair where the exhibit looked even prettier than at Riverhead, the Senior Partner had an odd experience.

A gentleman came in and said, "How are you Mr. Fullerton; I've been looking for you and asked a man if he could tell me where to find your exhibit. 'There's the whole d—— humbug over there,' he said, so here I am."

"Where's the man," said the Railroad Farmer, "and what's the matter with him?"

"He's outside now looking at that corn to see where it's spliced. He says you didn't raise the things and if you did you had five tons of commercial fertilizer to the acre," replied the visitor.

The Senior Partner stumped out under full head of steam and the following wafted in the window:

"Howdy, neighbor! Hear you don't believe we raised this stuff without commercial fertilizer. I'll tell you what I'll do. I'll give you \$1,000 for every ton we used on every acre of the ten, and if you don't think my personal check is good, I'm sure President Peters will be glad to back me; in fact, I'm not sure but he'll raise it a \$1,000 or so for every ton we used and I mean it," he reiterated. "At your figures that would be \$50,000 sure money, at least, and you had better start in at once. Here's the name of the man we bought everything from in the way of fertilizer, that will start you right and quick."

The stranger had nothing more to say, but left the exhibit at once and I doubt very much if he is hunting for the fertilizer.

Among our visitors at the latter fair were many market gardeners (all of whom were most complimentary about the produce and felt the Experimental Station had done them a personal favor in opening up a territory that had so long been looked upon as valueless and not even considered. Many of them were forced to give up their farms near the city, as price of land and taxation was too high to compete with longer, and big figures were being paid for their acres. They now felt a promised land was open and they would come out into "Suffolk.")

Many of our vegetables at the fairs proved tempting, especially the black radishes to the Germans, while a pile of very large sweet potatoes near a door disappeared mysteriously. One portly lady was seen walking across the grounds with a large yellow potato hugged lovingly against a black silk dress. To quote Kipling, "it showed up like a ripe banana in a smoke house."

It was particularly fascinating to watch the interest shown in the various varieties. Without a doubt the one bale of alfalfa, together with the photographs picturing the work in the field from inoculation of seed up to and including the harvest, caused more comment than anything else there. Interest in it was shown by young and old, and in fact the younger men seemed the most eager to know how to grow it successfully.

A lad of about eighteen became so engrossed in it and the other farm products, that he spent a whole morning in the building; while a boy nearer fourteen said, "I'm going to make my father grow that if I can." It well repaid us the long days and incessant talk to see the keen awakening of the budding agriculturists.

Women, of course, showed more interest in "garden sass," especially in the martynias, large radishes, including the twelve pound Sakurajima and the Pe-tsai. Request after request was made for the names "written down so I won't forget" and I doubt not many little gardens will grow them next year.

One gentleman spent much time over the exhibit, went away and returned shortly, with two companions. They passed silently around noting every detail and finally one of them broke forth:

"They've got Jersey beat to death!"

That was a draught of nectar to we "book farmers."

Ted became indignant many times a day at the remark that the sixteen foot corn was "spliced," and would say:

"Even after they've looked it all over, from the root to the top they will hardly believe it."

The little stenographer, who is short and round, became, after a brief while, utterly disgusted.

"Why, you can't make people believe we grow them without tons and tons of fertilizer." She had a long argument with one man, who finally said:

"Well, what do you eat to make you so fat?"

And she replied:

"Scrub oak vegetables," which seemed to be conclusive proof of their merit.

The last day of the fair the little house was thronged with people asking for their favorite vegetable, while many asked for peppers, tomatoes, melons and squashes "for seed." The watermelons were eagerly sought for, they were not very large, but the sweetness made up for lack of size.

I remember asking the Senior Partner, when we were breaking up the Riverhead exhibit:

"Are there enough melons for Mineola?"

"Enough! The cellar is half full, Mike don't know how to get time to ship them."

Ted had been constantly at the fair and after going back to No. 1 to see the engine repaired (a blow hole in the cylinder had been causing us a good deal of trouble) went to Experimental Station No. 2, where a countryman of his, with his wife and little children, are ensconced in the portable that did service at the fairs.

As the weather grew colder we deemed it wise to dig the remainder of the sweet potatoes, but Mike begged so hard to be allowed to leave them, saying:

"I save him, Mr. Fuller, I make big brush heaps all around, a frost come, I light him, that save. I make brush heaps too all around lima beans, after frost he bring much money," that we allowed him to have his way.

On the tenth the Farmer went to the farm with some very important photographic work in hand. He had scarcely stepped foot upon the place when, as he says:

"I got uneasy and told Mike to call the men in from the dairy and pick every tomato, bean and eggplant. I felt we would have frost that night."

Mike sat up until midnight to watch for it and deciding there would be none as no dew was falling, went to bed without lighting the sweet potato brush fire. Signs failed for the thermometer fell to twenty-eight degrees and potatoes had to come out next day. They were practically mature, but we would like to have had a week longer. The yield of this digging was forty bushels; this with the previous one bringing the yield up to 51 bushels.

Virginia horse tooth not only reached the desired height of sixteen feet, but went two feet higher and has also matured. The yield in bulk of forage is tremendous, while the depth of kernel and circumference of ear are remarkable. One of the prettiest sights on a farm is stacked corn when the yield is good, while as true wigwams for make-believe Indians they cannot be surpassed.

Alfalfa was cut for the second time October twelfth. The yield was, of course, a mere handful compared with the first cutting, but the field has held to its reputation even in this respect, the second cuttings totaling 207 pounds, green.

A trip over the fields in October makes one feel desolate enough, crops out or half out, signs of the heavy frost everywhere. The most peculiar thing, however, is to find the field where we have lately removed turnips, thickly dotted with beautiful endive; radishes where sweet corn has been cut, and carrots, pears, beans and spinach among the crimson clover. These plants were "first crops" on each section and it does not seem to matter how deep the seeds have been buried, they all come up in their own good time.

Thus stands the farm, but a year and a month old. Proudly does it raise its head and look the world in the face, calling to mankind to come and liberate its sister acres lying in idle waste and unproductiveness, awaiting but the touch of that magic wand—the hand of man.



The "Littlest Girl" and an "All-head" Cabbage

Packing and Shipping Notes and Epilogue



To the beginner this portion of the business is fraught with as much uncertainty as any other. The method of packing varies materially with the locality.

We have been much interested in the subject this season and find that if a package is good, and the principle based on common sense, backed by first class products, the market is glad to have it.

One day during the height of the tomato season we made a pilgrimage among the markets and commission houses. We saw the same article packed in many differing ways, each with some feature, which must have appealed to the packer. Lastly we went to a commission house where we had been shipping the farm's surplus and asked them the method in which they would rather have us pack tomatoes.

"Well, Mr. Fullerton, I'll tell you," said the young man in charge, "tomatoes usually come in what we call Jersey crates. Here they are, rather heavy and hold about a bushel."

"Then you don't care for our package of six baskets to the crate," said the Senior Partner.

"Why, yes, we are doing well on those. Jersey crates are selling now for fifty cents and we are getting one dollar for yours right along. In fact, there is one buyer comes here and won't look at anything until he knows whether you have a shipment in. Your goods are fine and we know they're the same all through. If I were you I'd keep on packing tomatoes your way."

"I guess we will," was the rejoinder.

One thing is certain, it pays to pack your fancy goods in a fancy style for the fancy trade, then ship your seconds as such. Our tomatoes, as I have said before, were all sorted, which left every day from three to eight bushels of seconds. These could have been disposed of easily in a local market for a reasonable price, while "our fancies" were bringing just double the price of the usual shipment.

The same holds good of other products. Young carrots washed and bunched, with the tops left on and packed, we think, either in crates or bushel baskets, will bring far and beyond the price fully matured carrots with the tops cut off, then barreled. One package appeals to the fancy grocer, the other to the wholesale dealer.

Some dealers wish a dozen bunches of carrots tied together, I imagine this is when they are shipped by the barrel, for it is then easy to ship a barrel's contents without much handling. If, however, the carrots are packed in bushel or half-bushel baskets this quantity is about what the retail dealer would handle.

The commission merchants are in need of some education also. When they calmly call four distinct varieties of endive "esgrove," it shows they are not on the "fancy" scale; they should seek the "fancy" trade when they have a shipper who sends them "fancy" goods, particularly varieties of the favorites of foreign climes.

It seems to us that a change is needed. The grower's products go now to a commission merchant, are sold by him (between 12 and 3 A. M.) to the wholesale dealer, by him to the small grocer and lastly to the consumer. This necessitates the following delays and handlings:

Our products, for instance, would leave the farm at 7 A. M., crisp, tender and fresh; that night at midnight they would be sorted out to the wholesale dealer, the following morning he sells to the grocer and by night the consumer has it. This condition is, of course, much worse where the produce is from twenty-four hours to one week in transit between grower and dealer.

The day is shortly to arrive when all restaurants, hotels and clubs will deal directly with the farmer giving to him the full value of his crops. This means to the producer a very large increase in his returns.

To the private consumer, the "Home Hamper" will bring to the door absolutely fresh vegetables in season, unhandled. If you will stop to think one moment what "unhandled" means, you will be astounded. "Unhandled by a dozen people, not having stood in hot stores, foul cellars, or along dusty streets"; and it means the same to the famous steward as it does to the simple housekeeper.

The "Home Hamper" means a mail order business, and let me say here let no man, or woman, undertake market-gardening unless they distinctly understand it is a business; as such a business as a department store or a manufactory. This hamper is delivered in New York or Brooklyn for \$1.50 exactly the same price in mid-season, much less when vegetables are scarce, than you would pay for the articles at a fair green grocer's. To the housekeeper within the city limits the mail order gardener opens to her door through which she can bring in fresh supplies for jellies, jams, preserves, canned vegetables and pickles, the exact quantity she desires fresh from the garden. To the gardener who adds chickens to his other products, a market for eggs is at once opened, for these may form a portion of the "Home Hamper" contents, and "dormant" food for city dwellers be reduced to a minimum.

Perishable products, such as lettuce, endive, spinach and radishes, should be picked either in the early morning or at nightfall. They should then be spread in the shade, thoroughly sprinkled and left in the open all night. These products wilt instantly when gathered, and the usual method is to take a barrel into the field cut the crop and pack it at once, the result being the produce wilts and heats tremendously. Radishes when shipped to a hotel or club should be packed in crates, which have had paraffin paper laid on each side and each end. They should not be bunched, which is a saving of much time to both parties concerned, and every radish should be so perfect that the steward may take up a handful and see that they may be served at once. Is he willing to pay a good price? Of course he is, for it saves him one man's time and brings him much commendation. Lettuce well washed and crisp, saves him further time; in fact, the benefit he derives is well worth a fancy price no matter what the vegetable.

Sweet corn, without a doubt, is the most difficult product to get to market in its best condition. It heats very fast, while after a few hours the sugar is transformed into starch. If possible, pick it in the early morning and ship at once; if not, pick the last thing at night, spread so the ears do not lie on one another and leave it out in the night air, packing and shipping at once in the early morning.

The Senior Partner says, "A true corn eat is where you pick the corn *after* the water is boiling," but alas for city folks, they will never know a "true corn eat." I doubt not the "Home Hamper" this summer has given them the nearest to it they have ever known.

The farm has shipped this summer upward of one hundred "Home Hampers," most of them to "history makers" and "critics," which if sold as many of them were, at the usual rate (\$1.50) would have netted a tidy sum—they have been forwarded through New York City to interior points and never failed to arrive in prime condition and receive encomiums.

The personal equation here as elsewhere means much, therefore study up your packages, decide what you will use and put them together during the winter, time is too precious in the summer season.

Gathering a crop when it has reached the best stage is a matter that entails much thought. The coming idea is "not how large, but how good." Peas picked when young and sweet will sell as "petit pois" at an advanced figure. Small beans bring "baby bean" figures, while small, crisp radishes are the only ones worth shipping. Young beets are in demand, also young carrots, onions and turnips. Gather your corn before the kernels have reached their largest size and do not wait for lettuce to become as hard as a rock provided it is well blanched and headed.

It seems to me the mutual interests of market-gardener and consumer could be materially advanced if the former would form a league and meet the National Stewards League of America. They would find their interests identical and here, on equal terms, matters of vital interest could be brought up and discussed.

The Market-Gardeners' Association could have at its head an agent whose business it would be to keep in touch with the members of the association and the members of the league, so that a larger harvest of one commodity could be disposed of where the league members most wanted it. The Suffolk County Cauliflower Association has been established on these lines for some years. Their agent keeps in touch with the markets of both East and West, giving to the members the knowledge where to ship to their best advantage and thus save a glut in the nearby market. Now the producer and consumer of garden crops are as far-apart as the poles with the commission man between them. This may and no doubt does sound most tremendously hard on the commissioniers; they still have their place in the world, however, for the big ear-load lots and imported commodities must always be looked after by them. The market-gardeners' consignments are usually small and many commission houses do not care to handle them at all. This has been our personal experience this summer, therefore the fact has been forced upon us, that the small producer must find his market direct; easy in this case for the one wants what the other has.

On the same date from the same house there may be a wide difference in the returns on the same commodity packed in different ways. Again the return from one house may be much higher than from another on the same goods packed the same way. For instance, from one house on the same day we received the same price for a basket and for a crate of melons. The basket, of course held much less, but the quality of the two packages was the same. At one time and at one house turnips sold for sixty-seven cents per barrel, at another house, seven cents per bunch, in crates; this seems to be good proof of the advisability of fancy packing. Tomatoes loose in crates (even though carefully sorted) brought fifty cents per crate; in baskets in crates, as high as \$1.75.



No. 2's "Wickson" Plum, not yet three years old. Peaches that pleased the palates of even the epicurean Oriole. Grapes of superb quality and big yield



The "Seawahaka" Watermelon; a Long Island "Creation." "Dives" Cantaloupe a new comer imported from France
"Vendian" a Spanish introduced by U. S. Bureau of Plant Introduction

Watermelons and eggplants should be packed with a little straw that they may carry unblemished. Lettuce wrapped in paraffin paper and a piece of paper laid over the head of cauliflower will raise them at once to the ranks of aristocratic vegetables.

For the convenience of those who are uninitiated, two and one-half bushels make a barrel; spring radishes should have twelve in a bunch, while the summer varieties require only six. Beets and turnips should have six, eight or ten, according to size; understand this is merely the custom of one locality, and package customs, like others, have their good and bad points. Individuality, on a basis of common sense, will prove as good with vegetables as it has with fruits and flowers, while new varieties and hybrids are being as eagerly sought for by stewards as by landscape gardeners.

List of Plant Life

Flourishing at Experimental Station No. 1 within a year after clearing commenced

Vegetables

Name	No. of varieties	Name	No. of varieties	Name	No. of varieties	Name	No. of varieties
Artichoke, Jerusalem	1	Celeriac	1	Onions	4	Sakurajima	3
Asparagus	1	Chives	1	Parsnips	2	Salsify	1
Beans, string	8	Corn, sweet	10	Parsley	2	Scorzonera	1
Beans, Lima	6	Cucumbers	5	Peanuts	2	Shallots	1
Beets	3	Eggplant	1	Peas	3	Spinach	3
Borage	1	Endive	3	Peppers	4	Squash	5
Brussels Sprouts	2	Horseradish	1	Pe-tsai	1	Sunflower	1
Cabbage	14	Kale	2	Potatoes, white	10	Tomatoes	16
Cardoon	1	Kohl-Rabi	1	Potatoes, sweet	3	Turnips	4
Carrot	4	Lettuce	19	Pumpkin	2	Udo	2
Cauliflower	3	Martynia	1	Radishes	8		
Celery	9	Okra	2	Rhubarb	2	Total	180

Fruits and Berries

Name	No. of varieties	Name	No. of varieties	Name	No. of varieties	Name	No. of varieties
Apple	10	Currants	3	Nectarine	1	Strawberries	1
Apricot	1	European plums	6	Peaches	6	Watermelon	2
Blackberries	1	Gooseberries	2	Pears	10		
Cantaloupes	5	Grapes	3	Quinces	3	Total	64
Cherries	4	Japanese plums	3	Raspberries	3		

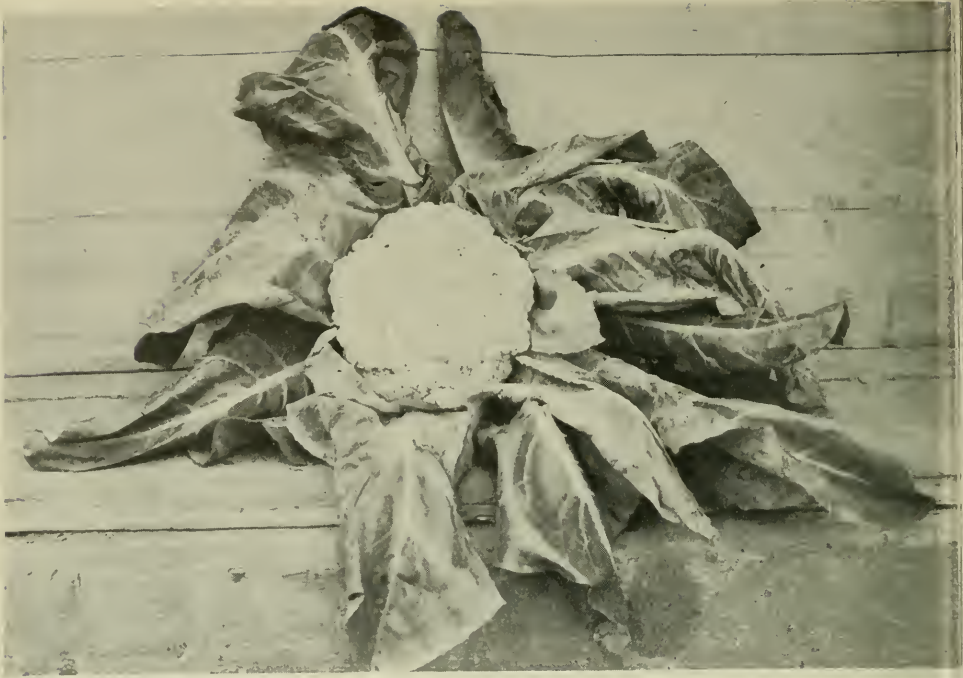
Forage

Name	No. of varieties	Name	No. of varieties	Name	No. of varieties	Name	No. of varieties
Alfalfa	1	Clover	3	Millet	2	Teosinte	1
Alsike	1	Corn, field	2	Oats	1	Vetch	1
Beets, sugar	1	Cow peas	1	Rye	1		
Canada field peas	1	Mangel Wurzel	2	Sorghum	1	Total	19

Foliage and Flower Plants

Name	No. of varieties	Name	No. of varieties	Name	No. of varieties	Name	No. of varieties
Adlumia	1	Cypress vine	2	Iris	3	Salvia	1
Asters	3	Dahlia	3	Lilac	2	Scarlet runner	1
Bessera	1	Daffodils	3	Lilies	2	Shrub, scented	1
Bulbous begonias	4	Eulalia	3	Nasturtium, dwarf	4	Sweet peas	6
Calendul	1	Forget-me-not	1	Nasturtium, climbing	5	Sweet William	1
Calladium	1	Fuschia	4	Oxalis	3	Thunbergia	1
Catalpa	1	Geranium	4	Pansy	6	Violet	3
Coboea	1	Gladiolus	6	Perennial pulox	6	Wild Cucumber	1
Chrysanthemum	6	Grass, lawn	3	Privet	1		
Crocus	3	Hollyhock	4	Roses	15	Total	117

Grand Total.....380 varieties



Long Island Cauliflower unequalled elsewhere

Summary

Giving data, also conclusions of Broad Gauge Men

THE history of Twentieth Century Pioneering has been written from a record kept day unto day in two diaries; this being supplemented by a very large number of photographs to graphically portray the methods and happenings incident to the subjugation of acreage, frequently referred to as "wild land," in the quickest time possible. Unquestionably many improvements will suggest themselves to even the casual reader.

Three hundred and eighty varieties of plant growth were successfully developed or naturalized. This great number was experimented with in order to prove conclusively to the world at large the fact well known to real Long Islanders, that any plant growable in the Temperate Zone could be developed far above the average in quality, and further, many little known or entirely unknown growths of marked food value in their native countries would readily naturalize with the particularly favorable conditions of Long Island climate and soil.

In no respects were the experiments with unusual plants a failure. The failures as enlarged upon in the body of this book, were without exception with those species long ago proven particularly profitable on the Island. And the failures upon Experimental Station Number 1 were duplicated not only on Long Island, but throughout the East because of the practically unique atmospheric conditions prevalent during the summer of 1906.

Commercial fertilizer was not used or experimented with because it was not needed in the virgin soil, whose only lack was humus, or decaying vegetable matter. A particularly small quantity of manure was used in order to show that a very small amount of capital could be made to yield more profit when invested in agricultural pursuits upon the libeled Long Island territory still lying idle and without reason called "pine barrens" and "scrub-oak waste," than from acres long tilled by "penny wise and pound foolish" owners.

To plant and cultivate thirteen acres, the majority of them intensively, but three men were employed. Again, to show primarily that a small amount of capital would carry on the labor end of market-gardening, also that three men with modern machinery could do what from five to eight experienced hands would accomplish with only the strongest of efforts without the aid of labor-saving devices. The use of mechanical drills and hand cultivators proved time and time again, by measurement and by clock, that one man with a machine whose first cost as from \$7 to \$10 and with a life lasting many years, equaled ten men with a hoe.

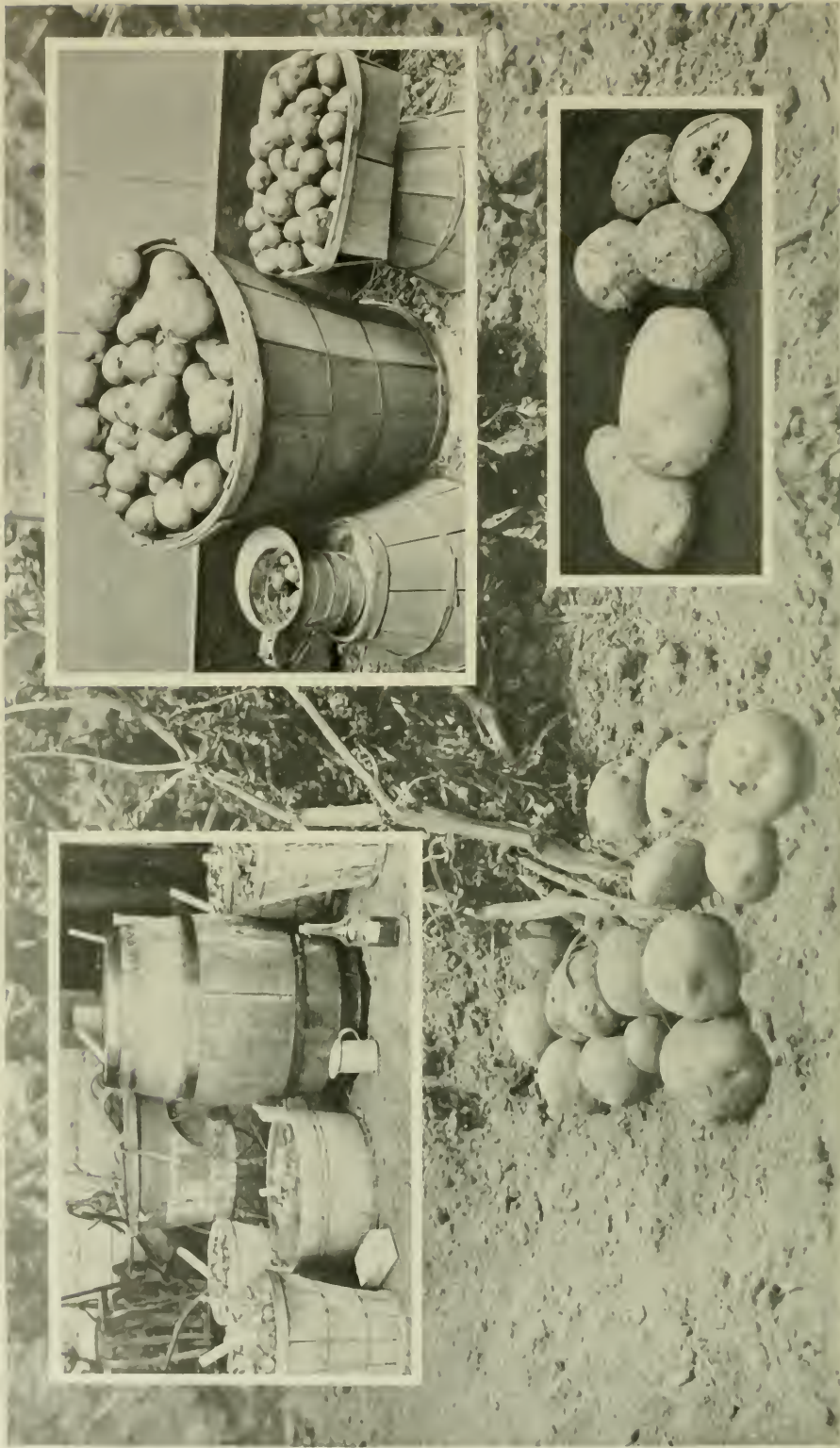
Many experiments in packing and marketing were tried, proving conclusively that individuality in packing paid. That there was a great market for strictly choice, fresh, products of the earth and further that the principle proven so successful by manufacturers and mercantile houses, must be pursued to secure the largest returns by those who select to go to Mother Nature for a livelihood. The trend of the times is summed up in the phrase "from producer to consumer direct." The consumer secures not only absolutely fresh food, but vegetables and berries and fruits that have ripened, as the chemistry of nature requires, upon the parent stalk at no increase in cost, but, in fact, at a marked reduction; while the grower who has given time and labor, thought and capital, receives a return sufficient to prove that agriculture is a business, assuring not only a comfortable livelihood but profits fully equal to those of any manufacturing or mercantile pursuit. It is sincerely hoped that the following data will prove of interest and value.

Total area of Long Island, 1,076,480 acres. The west end, comprising Kings, Queens and Nassau Counties, 337,363 acres. Suffolk County, the easterly two-thirds of the Island, covers 739,117 acres. Of this over 40,000 are without assessment. This non-producing territory consists mainly of beaches and salt meadows, while 200,000 acres lie idle and with merely nominal assessment against them, much of them covered with second and third growth timber consisting principally of oak, chestnut and pine which is not considered large enough for cord wood. Some of it through lack of forethought has been burned over by the forest fires so prevalent generally in the spring. As a matter of fact the cord wood on much of this idle acreage would pay and more than pay for the clearing and the first cost. Practically all of it is absolutely virgin soil with every requisite for raising a high quality and big yield of flowers, fruits and vegetables.

Prices of uncleared land vary from \$25 to \$150 per acre. Cleared land, some of it fenced and with dwellings and farm buildings upon it, varies in price from \$100 to \$250 per acre. Much of this land is extremely valuable having been kept up by the waste matter of live stock of many species. Other acreage has been handled by progressive men who knew the value of cover crops and green manure. Some, of course, has been handled with less intelligence but quickly responds to methods proven rational and assuring yearly increase of fertility.

Every section of Long Island is readily accessible. The narrow island has three divisions of the Long Island Railroad paralleling each other; one on the south shore, one through the central section and one along the north shore, making it practically impossible to locate five miles from the railroad facilities, and much of the unsubdued woodland lies within seventy miles of New York City, the greatest market in the world.

The Long Island Railroad Company was chartered in 1834, construction completed to Hicksville in 1837 and in 1844 the main line had reached the terminal at Greenport, which, with a connecting line of steamers, opened up New England markets to the farmers at the east end of Suffolk County, which



High-class Potatoes—soaking to destroy imported "blights" and the deadly parallel between soaked and unsoaked tubers.

rapidly developed that portion of the fertile island. Railroad statistics show that the Long Island Railroad is the only railroad in the United States which has retained its original name and charter unchanged. Long Island, settled in 1640 both from England and New England, the particularly favorable climate backing up the fertile and tractable soil, soon brought settlers from neighboring states as well as across the water. The east end built up speedily and settlements first trended west along the thrifty tree-covered north shore. Huntington, mainly because of its good harbor, developed strongly and furnished in the early days the small villages of New York and Brooklyn with bread from its bakeries. Westbury, developed from Hempstead, was at this time supplying milk to these same small villages and the extreme east end was supplying meat, which was driven on the hoof to be slaughtered by the predecessors of the purveyors of animal food to the metropolis of to-day. As New York and Brooklyn grew, the wealthier classes selected Long Island for their country homes. In Colonial days the territory just east of Long Island City was covered by beautiful country places and we were entertaining celebrated foreigners, Lafayette among others. Driven eastward by natural development of the great cities, the Westbury Hills, attracted those longing for great estates and the dairymen exchanged the milk pail for the coupon-cutting scissors. At Glen Cove, between Oyster Bay and Hempstead, and at Amityville the rapid settlement by the wealthier classes continued and as transportation facilities were increased, the home-seeker of more modest means followed, until the territory up to the Suffolk line was dotted thickly with growing villages, now for the greater part suburban wards. Suffolk was an unknown country sparsely settled and devoted mainly to farming. The natural eastward trend, however, which started in Colonial days, has not abated, the newcomers in Suffolk as a rule selecting their home sites near the island's shores, leaving the interior still unsubdued.

Topographically the island's surface is most varied. Its north shore is composed of wooded hills dropping abruptly to the waters of the sound, and sloping gradually to the ocean shore, leaving its central section a gently undulating and very easily tilled territory. Its climate is remarkably temperate, records showing the range between May and October to be 56 in October and but 71.8 in July. The waters surrounding the island tempering the heat in summer as well as the cold in winter. The records show between 10 to 15 degrees in favor of Long Island. Government report shows the average date of killing frosts on Long Island to be October 20th, about one month later than in Brooklyn or New York. The same report shows that in the year 1898 there were 312 sunshiny days, a record only claimed in such semi-tropical states as California or Florida, such statistics explain in part why Long Island is the most favored spot on the Atlantic coast. It is the only land lying directly across the prevailing south-west winds of summer, which blowing from the ocean reach it unobstructed and uncontaminated. Its soil is known to the geologist as Norfolk sandy loam, varying in depth from two and one-half to five feet. Its underdrainage being ideal and far superior to that secured by ditching or tiles, composed chiefly of glacial boulders and gravel, surplus moisture is carried off as it slowly percolates through the soil above, which contains sufficient clay to hold the moisture and supply the needs of plant life. This same drainage is given as the reason that of the ten healthiest spots in the world Long Island stands third, the first and second being far up in the mountains of Europe.

In the agricultural statistics of New York State the island holds a high place; its area is given as about one-twenty fifth of the entire state. In Suffolk County over one-half of this land is undeveloped. The population statistics of the early days are interesting.

POPULATION

	1693	1698	1703	1723
New York State.....	2,932	17,848	20,749	40,584
New York City.....	477	4,937	4,436	7,248
Long Island.....	1,432	8,261	9,653	15,650

For a century and a half, while New York State was largely agricultural, the island in population and revenue was the mainstay of the Empire State, running up to one-half of the state's total.

Its crop yield led all other portions, not excepting the Mohawk and Genesee valleys' famous farms.

The average yield per acre from old state records show

	Long Island	Average yield per acre All other sections
Corn.....	35 bushels	28 bushels
Wheat.....	19 bushels	14 bushels
Oats.....	26 bushels	17 bushels
Rye.....	17 bushels	11 bushels
Barley.....	28 bushels	16 bushels

Suffolk County's settlement is strangely sparse, there being roughly, one and three-fourths persons per acre, averaging the island as a whole. An anomaly for a territory which is the logical residence section of Greater New Yorkers and which for generations has proven itself to be the natural source of supply of milk and vegetables needed by the great cities whose requirements augment stupendously each year. These two foods being of little value and even a menace to health, *except when strictly fresh*, must perforce be drawn from supply points close by. For even the most studious care and skillful refrigeration fails to compensate for the extended time necessary to reach the consumer from far-off regions. Milk cannot be kept in perfect statu quo nor can the change from vegetable sugar to starchy products of no human food value be checked, hence in the future the easterly half of Long Island will be relied upon to furnish the freshest milk, vegetables, fruits and flowers for the New York market.

The Long Island Railroad, continually anticipating the need of growers, is increasing its express service and runs special trains to carry freight cars of vegetables on standard passenger train schedules from growing localities to markets. In 1906 its special service placed vegetables in the hands of city

consumers inside of four hours after they were packed and shipped from a distance of nearly seventy miles.

In 1905 the freight shipments of vegetables by rail alone amounted to: berries, 433 tons; cauliflower, 10,075 tons; pickles, 20,962 tons; potatoes, 53,724 tons; requiring 3,250 freight cars to transport this large yield to market, where the growers secured for potatoes, cauliflower, asparagus, cabbage, celery, etc., etc., prices ranging from ten per cent. to forty per cent. above those offered for the same varieties raised elsewhere.

The express service handled 3,500 tons of cauliflower, 375 tons of lima beans, 160 tons of Brussels sprouts, 175 tons of peaches, 450 tons of tomatoes.

Herewith Long Island data of yield per acre compiled from carefully kept records extending over a number of years:

POTATOES.—Potatoes yield per acre 200 to 400 bushels; average price 75c. per bushel, varying from 50c., when bulk of crop is marketed, to \$1.50 and \$2 for early and for potatoes kept into the winter. The average gross return per acre is \$225, cost of production \$56.50, net profit \$169 per acre.

CAULIFLOWER.—Long Island alone can grow this delicacy in large quantities in the *open air*, the natural precipitation making this possible. This crop requires care, but protected and blanched, its floweret-formed head nets a profit per acre averaging over \$200.

CABBAGE.—Average twenty-two tons per acre. Price from \$8 to \$20 per ton. Easy to grow, gather and pack. One grower netted \$935 from three acres.

CABBAGE SEED.—One of Long Island's specialties, being the biggest producer, nets over \$400 per acre.

CELERY.—Long Island grown frequently commands a premium. Net profits vary widely from \$300 to \$1000 according to the care given the crop.

BRUSSELS SPROUTS.—Cost to grow \$30. Yield frequently over 3,000 quarts of miniature cabbage-heads per acre, which sell at 10 to 30 cents per quart. Average net return \$555 per acre.

ASPARAGUS.—Yields for thirty years, but good business policy dictates renewal after ten years' cropping. Profitable crop after three years. Average yield per acre 2,500 bunches. Value 12½ to 25c. per bunch. Net yearly return for 10 years averaged over \$550 per acre.

FRUITS.—Long Island has developed many famous strains. The Newtown pippin was valued so highly that in 1758 England exempted this pippin from the payment of duty.

PEARS have netted from \$600 to \$800 per acre.

QUINCES especially adapted to the island, \$1,500 being secured by one grower from a single acre.

PEACHES do well, especially on the hills.

PLUMS.—The Japanese varieties thrive marvelously, paying the third year a good margin.

SMALL FRUITS.—Gooseberries yield 200 to 400 bushels per acre, cost to raise and market 50c. per bushel, bring \$3 to \$4 per bushel. Average net \$900 per acre.

CURRANTS.—Annual yield sure and extremely heavy, two to four pounds per bushel, frequently net \$300 to \$400 per acre.

BLACKBERRIES AND RASPBERRIES thrive well and return upward of \$300 per acre.

STRAWBERRIES yield heavily, as high as \$800 per acre having been secured.

CRANBERRIES.—Long Island crops rank very high, yield over 200 crates per acre; value \$2 and upward per crate.

GRAPES.—At present grown mainly for home use. Thrive splendidly and would pay well.

SEEDS, PLANTS AND BULBS.—Floral growth has proven extremely successful on the island and growers of specialties as well as a general line are exceptionally prosperous.

It is not always possible to see ourselves as others see us, but the case of the Long Island Railroad's Experimental Station Number 1 at Wading River, proves the exception to the general rule as the following extracts from letters written by prominent men will attest:

Among the pleasant recollections that I carried away are the impressions of the possibilities that lay dormant in this so-called "scrub oak waste" land. It was a revelation in several respects. I was greatly surprised at the character and nature of the soil, especially the 3½-foot loam section your cellar shows overlying one of the most perfect beds of gravel as an underdrain that I have ever seen. What you have done in less than a year on the so-called "waste lands" is convincing proof that all this section needs is intelligent management and hard work to bring out the latent possibilities in vegetable and fruit growing. The character of the products I saw on your place was most striking. I have never seen a better showing of alfalfa or a more profuse growth of corn than you have at the present time. Your alfalfa plot, particularly the one on which soil from an old alfalfa field was used for inoculation is a wonder.

The work you are doing will certainly have a far-reaching effect in practically demonstrating the possibilities of vegetable and fruit growing in that section. Your method of clearing land by blowing out the stumps with dynamite is unique and interesting. This method will be of great value to others.

August 15, 1900.

PROF. W. G. JOHNSON,
Editor, *The American Agriculturist*,
Orange, Judd Co.

All were surprised at the wonders of your farm work and will talk about it for months to come. The "Home Hamper" is an excellent method of packing and is a fine method of shipping the splendid vegetables raised at Experiment Station Number 1.

August 10, 1900.

CHARLES E. SHEPARD,
Editor, *Brooklyn Daily Eagle*.

You could not have secured a better truck and garden soil if you had excavated and made it to order. The demonstration you made in growing such a variety of first quality garden crops in one short season on wild soil and without chemical fertilizer I consider nothing short of marvelous.

I am especially gratified at the fine showing of alfalfa and forage crops. You have demonstrated not only the possibility but the ease with which dairy herds may be maintained by the soiling system on soils always considered too light and poor for such purposes. The problem of an adequate milk supply for New York City becomes more acute each year and the opening of a vast territory of production within two hours' distance of this great market, in a section hitherto considered unproductive, should prove a magnificent opening for the dairy interest.

August 15, 1900.

COL. F. E. BONSTELL,
Editor, *Farming*; Doubleday, Page & Co.



Brussels Sprouts—picking and packing
A crop gathered when all other crops are done

You have delivered the goods. Long Island wood ashes and Yankee muscle and brains do work miracles.

July 22, 1906

WALTER S. FUNNELL,
Editor, *Brooklyn Daily Times*

Squashes and cucumbers arrived, melons were great. You are certainly producing the goods.

August 1, 1906.

COL. A. G. PEACOCK,
Editor, *N. Y. Herald*.

I expect to indulge in an old-fashioned country dinner when I get home. You are a bigger and a better farmer than Horace Greeley ever was.

August 2, 1906.

JOHN A. SLEIGH,
Editor, *Leslie Weekly*
President, Judge Co.

I was very much surprised to see what a fine lot of vegetables you have raised on what apparently was unproductive soil. I think that the experiment made by the Long Island Railroad was a very wise one. I have enjoyed watching the progress and development of this undertaking and I feel sure that when the people know how productive the soil is and how comparatively easy and economical the land can be cleared there will be many who wish to acquire good farm holdings within easy access of the city of New York.

Brooklyn, August 13, 1906.

JUDGE WM. J. YOUNG

The work of the Experimental Station is very interesting and edible.

September 17, 1906.

LEWIS WILEY,
Adv. Mgr., *New York Times*

The tomatoes were delicious. The first really good tomatoes I had this summer. The novelty of real sugar corn was also delightful to the palate. The radishes were sound and crisp, the beans fine and the potatoes about as perfect as any I have ever eaten.

There are those who would appreciate the opportunity to get really fresh vegetables. I think there is an especially good opening in New York for real sugar corn and real lima beans. You have the advantage and can command a higher price for the real thing, which is almost impossible to get in the market or even from the fancy greengrocer.

September 15, 1906

WM. WIRT MILLS,
Editor, *N. Y. Evening Mail*

The hamper containing the very attractive samples of your products was duly received. It is work in the right direction and, systematically pursued, cannot fail to prove of lasting benefit not only to the promoters but to the community at large.

August 9, 1906.

E. G. SANBORN,
Editor, *The World*.

The melons were fine, first-class, in fact, any term implying excellence may justly be applied to them.

September 18, 1906.

S. W. COOPER,
Editor, *Brooklyn Daily Eagle*.

It is needless to say that the contents of the baskets were used and enjoyed, which is not surprising in view of the fact that the entire contents of the baskets were the products of the finest land in the world. I always have been a great believer in Long Island and felt that all it needed was a show.

August 6, 1906

WM. HOLMES, JR.,
Bus. Mgr., *N. Y. Press*.

If you are going into the business of furnishing "Home Hampers" I will be able to get you some customers.

August 1, 1906.

WM. A. DEERING,
Adv. Mgr., *N. Y. Sun*.

The "firstlings" of the crop came duly to hand and were highly appreciated. Will you kindly permit me to thank you heartily for the token of your skill as a tiller of the soil and the proof it afforded of the availability of Long Island soil.

June 12, 1906.

F. DEXNA REED,
Editor, *Brooklyn Daily Eagle*.

I am exceedingly interested in the excellent report concerning the alfalfa experiments. I think the alfalfa has made a most excellent showing. That the results speak well for the possibilities of alfalfa upon this type of Long Island soil when given careful treatment, which appears to be essential.

September 13, 1906.

J. W. WESTGATE,
Asst. Agrostologist, U. S. Dept. Agriculture.

From the standpoint of development one of the most important features of the year's work is the practical demonstration made by the Long Island Railroad Company through neighbor Fullerton and his able assistants that the wild lands of Suffolk may be made to produce as good fruits, vegetables and fodder as any man need desire. The theory of "waste lands" on Long Island is knocked higher than a kite. The way is opened for truck farms, fruit farms, dairy farms and every other kind of a farm in a region which has heretofore been left to the uses of the rabbit, the deer and the wild birds.

—Uncle Jerry Woekers, in *The County Review*.

The above are from representative men, and prove conclusively that the Long Island Railroad's Experimental Station Number 1 produced, within one year of clearing, high-grade crops. The publicity given this effort to put the so-called "waste lands" in a condition to take their proper place in the world's work of yielding their full quota of revenue has been so successful, that development is now under way in various sections, and anticipating the rapid development of the thousands of acres of unused land on Long Island along agricultural lines, the Long Island Railroad Company has in hand plans for aiding in the establishment of a produce market where trains from each division of the railroad can be run direct, and thus furnish quick service and an adequate distributing point for the handling of products which will be grown on Long Island soil.

Most clearly does the following editorial sum up the situation and show the motive underlying the Long Island Railroad's demonstration of the Island's "waste lands" fertility.

Eden and Arcadia at Home

Commentators are not, even yet, all agreed upon the location of the Garden of Eden, nor is the local habitation of classic Arcadia clear as the associations which surround the name. Until quite recently, though, no one, even the most learned or otherwise entertained any serious suspicion that either of these imaginary or historic localities belonged to Long Island. Within the last few months, however, a movement has been in good faith begun by long-headed, practical business men, few, if any, of whom can be accused of idealism or rainbow chasing, which may end by the demonstration that the Island on which we live, and of which we know so little, has in it possibilities which may yet make it the garden and beauty spot of the entire Atlantic coast, not to say of the whole country. Three quarters of a million acres of as fair land as lies outdoors offers inviting, almost irresistible, bait for the experiment; the commercial environment is complete—that is to say, the markets and the money rewards are at hand, and as the appeal which is both the beginning and end of the most of the activities of mankind is direct and concentrated. The location of what have heretofore been regarded by the lazy and indifferent as merely barren wastes is already demonstrated in a sound line, both for immediate and remote development, with the greatest and most insatiable markets of the world at its very door, ready to pay even the highest prices for everything which the soil can produce. Never, perhaps, has a great industrial operation of unbounded possibilities and reaching into the far future been more advantageously begun than now for the new era of agricultural Long Island. Everybody knows that the real estate boom which has inflated values on the coastland of the Island almost to the bursting or breaking point, must sooner or later meet the inevitable, but for the work



Japanese Udo: a winter luxury. Pe-tsai: the delicate Chinese Cabbage. Witloof Chicory, or Barbe de Capucin: a Belgian Salad

which is now, for the first time, being seriously undertaken no such condition attaches, no such future impends. Intensive farming is the order of the day everywhere. The cream of the Western prairies has been skimmed, with the demonstration that ten acres, or even five, are enough; the trolley and the telephone have put an end to rural isolation; the cliff dwellers of the skyscrapers of the great cities are finding more and more every year the disadvantages of their environment, and the tendency to return to mother earth, to live close to nature grows stronger.

Apart, moreover, from the immediate and local interest in the undertaking which is to transform the greater part of the Island, to change what the unformed and the indifferent have regarded as deserts and barrens to blooming and fertile fields, the movement deserves attention, both from its economic and political aspects. The difficulties of real republican government in these congested human centers, the problems of administration, sanitation, education, and all that goes to make up life are the most serious, the most perplexing with which the civic administration of the present day concerns itself; and no solution has yet been found to compare, in any degree, with that of distribution of the people in homes of their own, supported by their own labor upon the land. If the Long Island experiment does nothing else than to spread out among the rolling, picturesque hills and dales of the north shore; the broad inviting plains of the central Island, or the breezy expanses of the southern coast, even a fraction of the people who may, in these surroundings, find prosperous and happy homes, it will abundantly justify itself. The public learns only by object lessons, and one like that which Long Island offers the opportunity and the reward will not long go unheeded, certainly in the entire Atlantic coast chain of towns and cities.

Another factor which should not be overlooked in the movement is the close and direct co-operation of capital. Indeed, the corporation which furnishes transportation to the Island, is really the genius of the whole undertaking, working out the practical details, gathering information and prosecuting experiments at its own cost, handling its trains and even extending its lines, all for the benefit and advantage of those who co-operate with it and who primarily receive the benefit of the development. It has been sometimes said that it would have been a good thing for the Pennsylvania if it had bought the Island when it bought the road. It may turn out to be better than that if it develops the Island and so gives to the owners of its lands, both small and great, share and share alike, the unearned increment, the inevitable advance in value which must come from the change in the condition, the use and the product of the lands. In other words, while Congress, commissioners and courts legislate and wrangle over railroad rates, the corporation most directly concerned sets an example by lending its capital, its services, and its enthusiasm in promoting a project which must give to its beneficiaries far greater and more permanent advantage than it possibly can to the railroad itself. Mr. Hill, perhaps the ablest railroad administrator living, worked this all out long ago, in his Northwestern development. The Long Island adopts the same principle, with methods modified to suit the conditions, and it is only reasonable to anticipate that what has been done on a large scale and upon thousands of square miles of prairie may be repeated, even more profitably, at our own doors and upon the plains of Long Island.

The incident illustrates, again, the old maxim that "the Lord helps those who help themselves," and that those who are looking for the chance to do something usually are able to find work close at hand. Perhaps, also, there is a side light on the much discussed municipal ownership idea. If anyone believes that the agricultural development of Long Island could be accomplished in any other way than that by which it has been undertaken, the experiments of municipal bridge operations, of tunnel construction, of street opening, and of public buildings, go very far toward demonstrating a negative. The corporation and the public are abundantly able to meet each other half way, at least, in their own interests, and anyone who will take the trouble to study the methods and the policy recognized between the railroad and the people of the Island will see an excellent illustration of the practical, common sense way of doing things. Taken in its large sense, the experiment of Long Island, though now in the day of small things, in its very beginning, is one of which a great deal more will be heard which will warrant the careful study and attention of those who undertake to read from events and from social and industrial changes their laws and lessons, as well as of those who are merely looking for a good thing, for a chance to get rich, not quick, but certainly.

—Editorial, *Brooklyn Standard Union*.

This broad gauge article written by Mr. Herbert L. Bridgman, editor, explorer and philanthropist, is assuredly a fitting finis.



Off for the morning train



The Homestead at No. 2 in 1909

Aftermath



It is now three years since "The Lure of the Land" was written and we are nearing the close of the fourth year of Experimental Station No. 1.

These four years have been overflowing with varied successes. The land becomes more tractable each year, the small fine roots disappearing and forming humus, which, of course, makes cultivation easier, and the planted rows much straighter.

Peace and Plenty's second summer saw it planted to as many crops as the first year, each plot of land was of course planted to a different kind of vegetable; that is crop rotation and the only sensible course to pursue. Each type of plant growth takes from the soil a predominance of one kind of plant food, another type of plant the following year takes of another element, giving the soil a change—which means to all of us—rest.

The balance of the dairy plot had been blown free of stumps, and this new land was planted to corn, alfalfa and potatoes. The alfalfa experiments were with various kinds of seed, no laboratory inoculation as we had proven soil inoculation the only rational method. There was seed from Montana, Canada, Dakota, Colorado, New Mexico and from Provence, France, and the Montana grown proved to be the best of all. The other fields were so poor they were plowed under and used for growing vegetables the following year, and the crops proved in a most marked way the value of this plant as a "green manure."

The orchard made brave growth and was sown to crimson clover early in the fall as it had been each year; that is the only fertilizer the trees have had except a small quantity of wood ashes around the trunk to head off borers and other pests.

The third summer saw the fields in still better condition with one or two exceptions. The onion yields had been so fine it was deemed wise to plant two acres to them, and the fifth and sixth acres on the left-hand side of the middle road (if you can picture them in your mind) were laid aside for this crop.

The Senior Partner said to Mike (who, by the way, is still foreman and whose family now numbers eight, "Peace" and "Nettie" having made their appearance on this planet of ours), "I want to try some experiments here with onions. First disc harrow that land just as soon as you can go on to it. One half acre has crimson clover on it and the rest was not winter covered; cut that clover all under and don't put any manure or anything else on it. On this part put 400 pounds wood ashes, and on this part 1,000 pounds of the special onion fertilizer you are so crazy to try."

"All right, Mr. Fuller, I do him, you see. I think fertilizer he be best, onion he big feeder."

"I know he is a big feeder, Mike, but I am willing to bet dollars to doughnuts that we get the best yield from the crimson clover."

Mike "did him," "good and plenty." He trebled the dose of wood ashes, so that most of the crop was burnt up as fast as it germinated; as for the commercial fertilizer, the onions withered and died with the first dry spell. There was chemical food in the ground but nothing to hold the moisture to make it available. The crimson clover patch yielded a good crop of fine onions.

Whether Mike went "dopy" or the proposition was too big for him the third summer, it is hard to

tell; in any event the farm had the most glorious crop of weeds along the fences and in some of the crops that anyone could wish not to see. I am inclined to think the burden was too great for an untrained man, and the Senior Partner was kept closely in the office in Huntington nearly all summer and could not be with Mike as much as we desired. This unexpected office has been a curious development of farm work. The "Lure of the Land" brought us so many letters that it was necessary to add to the office force. In August, 1907, Mr. Peters asked if we could get out a little leaflet every other week or so, giving the work at the Experimental Stations, so that people who had become interested in the "Lure of the Land" could follow the farms in their growth. The Senior Partner "lowed" that he could and in three days sent the first copy of "The Long Island Agronomist" on its life's mission. Every two weeks since then the little leaflet has gone gratis to anyone who wants it. It is now in the beginning of its third year and goes to every State and Territory in the Union and every country in the globe, numbering over 7,500 copies each issue. More office work to keep the Senior Partner away from the farms! And as a precious little son had come to keep me busy, I was of little or no use as a farmer.

In August, Mike was told he would have to do better another year or we would have to put in a new foreman. He has done phenomenally better and this year we and he are proud to have anyone see the farm at any time.

This year there have been magnificent crops of corn, potatoes, cucumbers, cauliflower, pumpkin, beets, beans, carrots, rhubarb, onions, Brussels sprouts, finocchio, squash, spinach, lettuce, all kinds of melons, tomatoes, okra, kale, martyrnia, eggplant, Swiss chard, cabbage and alfalfa. A new acre of alfalfa was planted in June after we had purchased seed from every seedsman we could find who handled it, and had them all tested for purity and germination by the State and National departments of Agriculture. There were but two fit to plant, the rest containing enormous quantities of dangerous weed seeds.

Knowing that we purchased weed seeds with the alfalfa, we decided to sow the seed in drills 12 inches apart. Also knowing that one cannot spend too much time in the preparation of the soil for a crop which will last so many years, the field was first disc harrowed four times each way, then spring tooth harrowed, then leveled, then rolled—the latter to compact the soil so that there would be no air spaces about the roots.

As we are still going light on "Pennsy millions" and did not have a grain drill, we opened a furrow with the Planet Jr. Mike's eldest son followed, sowing soil from the old alfalfa field right in the furrow and the Planet Jr. drill coming behind dropped the seed in the inoculated soil and covered it over. This is the finest field we have ever seen; it has been cultivated with the Planet Jr. twice and the weeds have been pulled out three times. This is a simple matter for it means walking up and down the rows, pulling out an occasional weed. The field has been cut twice, yielding 1,500 pounds first cutting and 2,300 pounds the second.

Another acre, where early potatoes were harvested, was sown in the same manner in early September; it is doing just as well, but our experience has been that late sowings do not get sufficient root hold to withstand the heave and thaw of winter.

Over in the dairy plot where the Virginia horse tooth corn grew the first year, a big crop of lima beans was gathered last year. With the last cultivation crimson clover was sown, as is the custom with every crop wherever practicable each year. This Spring the fine tall stand of clover was disked under, and no other fertilizer whatever was used. Cabbage and Brussels sprouts were planted there and it is the finest field of cabbage it has ever been my pleasure to behold. The total cost of fertilizing this crop for one year was \$1.20. Every cabbage and every sprout plant is perfect, the field running way over normal in point of evenness of yield.

It has been our custom to plant anything which we have been told will not grow in this latitude. Among those tried this year were Gibraltar onions, more commonly known as Bermuda or Prizetaker onions. In order that the experiment might be complete, the Senior Partner said to Mike last winter:

"In early March sow some of this seed in the cold frame, and set the young plants out as soon as you can, then sow the rest of the seed in the open, the same as the other onions."

"All right, Mr. Fuller! I see you think it not hot enough here for these onions. I sow them in hot bed—he be all right."

Orders were followed and both sowings of seed have matured their crops, but the field sown seed are slightly larger than those transplanted from the cold frame. The latter matured earlier, while the field sown grew larger after the usual Summer's dry spell and matured in late September. These yielded at the rate of 1,035 bushels to the acre. They measure 28 to the bushel and average 2 pounds each, some weighing as heavy as $2\frac{3}{4}$ pounds, running from $16\frac{1}{2}$ to $19\frac{1}{2}$ inches in circumference and averaging $\frac{1}{4}$ inches in thickness. Needless to say they will be planted in quantity at both stations next year, in 1910. Our friend, Professor Watts of Pennsylvania State College, says he purchased two onions about this size for 35 cents.

The Japanese Udo has exceeded all our expectations; the Summer growth is 10 feet and the winter shoots are large, strong and deliciously tender and inviting. Pe-tsai, the Chinese cabbage, this year headed marvelously and is a most attractive delicate head of greens either cooked or raw. Among the newcomers on the farm this year is the South African pipe gourd or "Calabash." The gourds grow with great ease to perfection and the following incident occurred just before Fair time this year.

"Eliot" (who is one of the efficient, enthusiastic, willing, faithful, office force) "go into a big pipe dealer's in New York and ask them to fit a mouth-piece and band to this pipe. Bert [another member of said office force, who, by the way, never know whether they are office men or farmers from day to day, work carrying them so much from one to the other] cut the end off with a back saw last night, and scooped the inside out. I want to show it mounted at the Fair beside a gourd as it comes from the field."

That night Eliot came back with this tale.

"I took it to the store on Broadway you spoke of and the clerk looked at me kind of queerly and asked where I got it. I told him we raised it on Long Island and he said I was crazy, they were all imported from South Africa and were dreadfully expensive. I told him that might be, but I saw this



Low-headed Japanese Plum, three years after planting



Japan Plums from three-year-old trees

one growing in the fields. He asked me to wait until the manager came in, which I did, and he was equally skeptical about my story, but finally believed me when I told him about the work of the Experimental Stations. He wanted to know how many we had and if we could supply him with any more. I told him we had a few and I thought you would grow more next year. He is going to write to you about them and would not take any pay for mounting this one."

"All right," said we, "a new industry for Long Island and another point scored for the Experimental Stations and waste land."

"Sugar pumpkins" and "crazy squash" from Italy are both new and extremely good. Pinocchio, the Italian salad plant, grows to perfection and matures a fine crop of seed. These seeds are used much in the culinary delicacies of the Italians, while the leaf and stalk are used as flavoring for soups and salads.

A new sugar corn, Burpee's "Catawba," seems to outclass Golden Bantam for tenderness and sweetness. In field corn Pedrick's "Perfected" seems to lead all others in quality and evenness of yield.

The orchard gave samples of fruit the third year, all samples were of the very highest quality both as to flavor and color. The fourth year a late frost caught many blossoms, but what fruit there was, was marvelous for size and color. I have never seen such color on peaches and pears; Bartletts, as large and handsome as anything Oregon or California can produce, with a flavor that these places cannot put into fruit no matter what the growers do. The quinces are excellent. Apricots and nectarines both set fruit and nearly matured them, then for some unexplained reason they shriveled and fell. I hope we can solve this mystery. The trees are all low headed and are kept well sprayed. There is not a sign of San Jose scale, the principal fight is with borer. An emulsion of Carbolineum, soap and water recommended by Dr. Thorne of the Ohio Experiment Station, was used this year with great success. It was sprayed on the tree trunks only and the bark is now in excellent shape and the borers much less numerous.

The "Home Hamper" came to stay; the demand grows each year and now both farms are kept busy packing and shipping to fill the orders. There has been no advertising of them outside of a notice in one issue of the "Agronomist." Each hamper is its own best advertisement; each new customer is pretty sure to bring two more.

Last winter we had an interesting incident. A New York M. D. had been receiving a weekly hamper (and from the orders which came through her recommendation we began to think she was prescribing vegetables from "Farm to Family Fresh" instead of medicine). About January 1st we told her that shipments would have to cease as the crops were now reduced to a few winter roots. She replied in a pitious letter begging us to continue, "even if you have nothing to send but potatoes and cabbage. I cannot buy such delicious vegetables in the city." She has now had a weekly hamper for a year and a half if not longer, without interruption.

Her Winter hampers have contained liberal portions of Witloof Chicory or "Barbe de Capucin," lettuce, radishes and young onions. Her continued demand inspired us to renewed efforts with cold frames, and the Double Sunlight Glass Sash made it possible for us to supply her, without any cost for heating apparatus. These sash are one of the greatest inventions of the age. They are built in the usual manner with the exception of two thicknesses of glass which are separated, forming a dead air space which holds the temperature even, and holds in the hot bed or cold frame the heat stored up on every bright day.

The surplus produce is still sent to Commission Merchants, but always to hotels, restaurants and clubs first. We pack only fancy goods in a fancy style and it is still bringing the same good prices.

The horses, Texas and Buckeye are as sound as a dollar. In Winter they are fed on alfalfa and in the Spring they come out fat, sleek and glossy and the farm has been offered \$950 for Texas, the sore-footed roman nosed buck-skin.

The farm help has been about the same. In the Winter Mike and his two boys take care of things. As hot beds increase, so we can ship hampers all winter, Mike will have to have one man to help him. In the Spring two Italians come to work all summer, and August 1st two more go on to help keep weeds from seeding, and sowing the farm to ruination; and harvest the crops. September is given over to Fairs and all hands work night and day with that extra work during the harvesting time.

The third summer a young Rutgers' college student worked on the farm in order to gain practical experience. As fall drew near the Senior Partner said:

"Well, Jim, have you gotten what you desired here? I am sorry I could not be with you more, but this confounded office work keeps me tied up."

"Indeed I have, Mr. Fullerton," was the reply; "this summer has meant more to me than a whole term in college."

This year a high school student gained practical experience before he and his sister and mother went to farming for their livelihood.

It is one of our dreams to be able to take all the young men who ask to come to us (and their number is great indeed) and give them practical experience in the fields. Many a lad makes or breaks in his first year in the open; and wise counsel, good common sense and such comradeship as the Senior Partner can give are worth much. Perhaps our dream will be realized at Experimental Station No. 2.

Let us go over to Medford now, leaving "Peace and Plenty" true to name, more beautiful than ever before, with the grove about the house plot growing so thick some trees will have to be thinned out, the vines and bushes at home and luxuriant; with a sense of settled peace and comfort pervading the place.

In part IV, I spoke of Experimental Station No. 2. This was established because the wisecracks said:

"Oh, it is all right Fullerton, you can do this kind of work and make things grow in this good soil of the North Shore, but you cannot do it in the sands of the center section. That is burned over pine and there isn't two inches of soil."



Homestead and Water Tank at No. 2



No. 2's intercropping the first year

Therefore the worst ten acres on the main line were picked out and they lie at Medford, 52 miles east of New York City. In order to obtain 10 acres it was necessary to buy 80, but only ten were cleared and developed as a market garden.

The portable house used at the Fairs was placed on the homestead plot, a well driven (and water was reached at 68 feet, going to 74 feet to get well into the vein), a tower built, another Secor engine installed and barn erected. Ted's friend George Barrett with his wife and two small boys were placed in the portable, and the work of planting began.

In digging a pit in the bunk house to store the dynamite while clearing, we discovered to our surprise and joy that the soil was four feet deep instead of two inches. It is a lighter (more sandy) quality than No. 1, but sufficient clay to form an ideal early market garden soil and it is fully two weeks earlier. The drainage below is just as perfect as at No. 1, so we had no thought but that "Prosperity Farm" would equal "Peace and Plenty."

We were sure this locality was an ideal fruit and berry territory, therefore we planted an acre of orchard trees, almost a duplicate of No. 1's, with the exception of a predominance of peaches where No. 1's orchard has a predominance of Japanese plums. One-half acre was planted to currants (Fay's Prolific, Cherry and White) American gooseberries (Champion and Industry) and English gooseberries (Crown Bob and Whitesmith). One-quarter acre was planted to red, black and yellow raspberries, and the following spring strawberries were set in the orchard rows. These plots were all experimental, for fruit bushes are expensive compared with seed and we must prove to other's satisfaction that our idea of a berry farm was correct.

Ted and Walter joined the Barretts and made the farm force of No. 2. Exactly the same procedure was followed as at No. 1. Ten tons of manure to the acre, wood ashes and some lime were the only fertilizers used. Rye was sown and turned under the next Spring, and the farm took its place in the world in exactly the same splendid manner as did "Peace and Plenty."

In the Spring one-half acre was planted to alfalfa. It was inoculated with soil from No. 1's best field, and surprising to say it surpassed the Mother field by a good deal.

In order to secure a revenue from the land the currants, gooseberries and raspberries were occupying, vegetables were grown between the rows of berry bushes. The same crops were raised as at No. 1, and the story of their success is best told by the fact that they tied with No. 1 in prize winning at the County Fair. The following year No. 2 won more prizes than No. 1.

Currants and gooseberries gave samples the first season, great luscious berries of very firm quality, and our theory that this was preeminently a fruit country was proven correct.

Therefore, the following Fall (1907), an acre was planted with red, yellow and black raspberries, red, white and a few black currants. A half acre was planted with English gooseberries as we had succeeded in raising these berries to perfection, controlling the blight fairly well. We felt sure that earlier and more frequent sprayings with Bordeaux mixture would give us perfect fruit.

In the Spring of 1908 our first plantings of berry bushes gave a fine yield, the currants were exceptionally large and fine flavored and met with an instant demand. The raspberries and American gooseberries did likewise.

The rest of the land was planted to regular market garden crops, with about one acre in potatoes, one-half acre in tosinite (which gave the horses green fodder all summer) and one-half acre in field corn.

Two express horses, "Pennsylvania" and "Old Dominion" or "Penny" and "Dom" for short, were purchased for \$75 each when the farm work started. They were fine big bays, but scratches on Penny and a bad fore knee on Dom made them not as fine a pair as Texas and Buckeye. Good care and watchfulness have kept them in perfect condition and they are a good team.

In December, 1908, it had been decreed, that, as the 10 acres market garden had been such a success it was wise to clear the rest of the 80 acre tract and take up farm work proper.

Ted had gone to an advanced position at another farm, and Walter had gone to the city to learn his father's trade (silversmithing) and Alfred, another Englishman, had become George's helper; he was later replaced by Henry Knight, an American.

Late in December we had two men come to us asking for work at the Experimental Station. The first to apply was an Alsatian barber, he wanted to get out of the confining work in the city, and he certainly looked as though he would not be able to stand much more. He had a wife and twins five years old. We told him the only work that season was clearing land, for we had started to cut the standing trees and brush on the balance of the tract.

"If you wish to go out and try it, Trappler, and see if you want to stay, all right. If you do we will put up a portable house just like the one already there and you can bring out the wife and children."

"All right, Mr. Fullerton, I will go out on January 1st."

He did go and in three weeks said he would bring the family and stay permanently. Consequently a five-room portable was purchased and erected to the east of the barn among a few living oaks and pines.

The second man was a Belgian, Dominique Boquet, who said he wished to learn American methods before he and his brothers purchased a farm.

He was also told that clearing land, the hardest kind of work, was all that presented at that season. He took the place, however, and worked like a trojan.

As Spring advanced we noticed George Barrett was not keeping up his customary good work, but as Mike had also let down some we thought George would brace up again, especially as we had decided to live on the farm ourselves this summer (1909).

The farm had never had us, except an occasional day's visit of a few hours duration. It had been conducted by voluminous written instructions and long distance telephone; we concluded, however, that this year the office would have to be run in that manner and the farm receive our personal attention. A five-room and two-room portable were purchased; the larger placed behind the tower and the smaller to the north and at right angles to it. This we called the "Elbow," one room was for our good Nettie, who again took up farm life with us, and the other room, ostensibly for guests, was occupied all summer by



No. 2's Orchard in 1907



First year samples of "Pine Barrens" fertility



Small fruits at No. 2 in 1909

a high school lad who was undecided whether to take the agricultural course at college or not, and one of the office force.

But my pen runs too fast! George had been given the farm plan in the late Winter; we always make a farm plan, each plot laid out to certain crops so there can be no excuse for mistakes. Three days of careful verbal explanations accompanied this plan and the foreman was given the "reasons why" for every detail.

There was to be no intercropping this year as the berries needed all the land allotted to them, three rows of strawberries could, however, be planted in the orchard rows without injury to anything. The southeast acre was to be put into strawberries, testing more varieties, and the southwest acre in potatoes to be followed by alfalfa, consequently was to be dressed with lime very thoroughly worked into the soil. The rest of the acreage was laid out to market garden crops.

In May we had a request to take on our force a young Norwegian just landed, sixteen years old. We took him as we hoped to get considerable accomplished in the new land. We had concluded to try clearing by stump puller, such a howl had gone-up about the dynamite method. We succeeded in getting $\frac{1}{4}$ acre cleared free of stumps; this was cut up with a bog rotary harrow, disked and harrowed and planted *without any fertilization whatever*, with various varieties of cow peas, soy beans and velvet beans.

Holes were dug in about one and one-half acres of the land that was cleared but not stumped, a little manure placed in the holes and melons, cantaloupes, squash, pumpkins and cucumbers planted. We wanted to prove whether these crops would net a return on partially cleared land. I can say right here they did not. It took much longer to spray, the brush (which seems to spring up over night), had to be cut about them, for the air drainage was not good. The plot was handicapped by two reasons: George, who was now foreman, had not seen that the earth in each hole was being thoroughly tramped so the roots would have a firm hold, and the nights of this season were too cold for the good development of these crops. A small crop was gathered, but not sufficient to pay.

In June our house was erected, the soil from the cellar (three to four feet under the surface) spread, some manure forked into it and on June 24th grass seed was sown. On one plot to the east of the house velvet beans were planted on this cellar soil, just to see if it was "pizen."

The grass was up in a few days, and the lawn mower going the last of July. Now the lawn cannot be surpassed for thickness and richness of color. The velvet beans have run riot over the whole plot, the pods are formed but will not mature as they were sown so late. The nodules on the roots are great wads, each one a storehouse of our valued nitrogen. The cow peas and soy beans have grown tremendously and furnished the richest kind of humus on which to grow next year's crops.

And the "pizen" theory of deep soil is once more exploded.

Mrs. Barrett was to be cook for our family, Mrs. Trappler taking Henry, Dominique and Anon Gunderson (the Norse lad) to board. The Barretts had two more wee ones added to their family, "Prosper" and "Edith" so there were with our own little ones, and the twins, nine children on the farm.

July 1st, the hottest of hot days, saw us move over. The painters had just finished the house, everything was at sixes and sevens, the baby resented the change, and life to me after the labor of leaving our home in "apple pie" order for summer occupants, was hardly worth living. A night's sleep in the dear little cottage where all the sweet night air blew in about us made the morning brighter.

A survey of the farm sent us indoors with long-drawn, thoughtful, faces and the following conference between the Senior and Junior partners took place:

"By gracious, I don't see what has come over George! This farm has always been the pink of perfection. We told him 'no intercropping' this year and look at those berries! Potatoes in the raspberries, beets, carrots and turnips in the currants, potatoes between the English gooseberry rows and cabbage and peppers between the berry plants. Five rows of strawberries where we told him three, and peas and sweet potatoes between the strawberries! Ye Gods we had better plow the whole farm up and start over. This is a corker and I ought to be discharged!"

"Steady there! This is a corker, but let's try to find the reason. There are many. First he has three men under him and he doesn't know how to direct the work and oversee it himself, he goes ahead and does a staving day's work and never sees what the other men are at. Next, the baby is little and maybe his wife has upset him some, she has a frightful temper. Next Dominique and Trappler who are Socialists and Anarchists have probably been telling him how to do things."

"You're right, there are many reasons; my main duty this summer is to teach George how to be a foreman."

Just one week and it was evident Mrs. Barrett would never do as a cook, though heretofore she had always served us good meals when we went to the farm. The children were dirty and absolutely lawless, there was quarreling between them and the Trappler twins and things were anything but pleasant.

The drought had enabled a brush fire, started and forgotten in the center of the island to the west of us, to spread and become a ravaging forest blaze, high winds swept it galloping over the country, threatening everything in its way. On July 4th all hands went out and fought it along the west fire line which had been planted to corn (sweet corn, of all things), but never cultivated, and at this time of all others, the pump rods in the well had parted leaving us unable to get water, and the irrigation had nearly drained the tank.

That night our Medford neighbors responded well to our invitation to view the fireworks. They were gorgeous with a forest fire as a background.

The night of the 5th a very bright blaze started up at the north of the 80 acre strip—which by the way is only 5 acres wide. All hands started out to fight it; in an hour we women folk knew how hot and tired they must be, so in our innocent hearts Nettie and I started out with a pail of water and a lantern across the scrub land. We walked it seemed for eternity, hallooing as we went. Finally we got a response and met them returning having protected the north bound by back firing. The fire went east and toward morning apparently died out.

On the 6th the Senior Partner went to the Connecticut Agricultural College at Storrs to address

the summer class and I to Huntington to pass on the final proof of the "Agronomist." I had hardly settled to work when Nettie's voice came over the 'phone saying:

"The forest fires have come up again and are coming along the East line, the men are trying to back fire and are playing the hose on the barn and Trappler cottage. The smoke is so bad may I take the children across the track to one of the vacant houses?"

"Yes, indeed, take some food and milk for the baby and I will be there just as quick as I possibly can. I will go by the way of Fort Jefferson and drive over."

"Don't worry, everything is all right only the smoke is choking us all."

I returned about 3:30 and everything had settled down again, the fire had been close because the high wind drove it into the high trees and the burning leaves and pine needles blew great distances. The greatest fight was to save our next-door neighbors who are almost surrounded by woods.

Dominique Boquet was becoming restive, he was explaining to us continually that everything was done wrong, that the Belgian methods were much the best and intensive, super-intensive methods were the only ones to follow. Here lay one possible reason for George's disobedience to planting orders. Finally, one day in late July, he said:

"Mr. Fullerton I did not know I was expected to do hard work; I thought I was to go around the farm once a day and report what was growing."

"Well, Dominique, I guess Mrs. Fullerton and I can take care of that. What did you think when you came out here to clear land?"

"Well, anyhow this farm is all wrong and I think I should correct the errors." (He spoke good English).

"You're right this farm is all wrong, it is one of the worst farms I have ever seen, and I am rather of the opinion you are partly responsible for it."

"Well, I can't stay and work like this any longer."

"All right, the team is going down to the 3:30 train and you can go along."

"All right, sir," and he promptly packed his belongings, filled every box and sack he could find with greens from his own little garden patch and departed in peace. We have heard from him in many parts of the country since. I guess he is a rover by instinct.

Mrs. Barrett had become hysterical and was childishly uncontrollable; she went from bad to worse and we concluded she had all she could manage to take care of her four small children.

Mrs. Trappler took us in until we could get someone else, and establish our dining-room in Henry's house, which was the cottage used at the Fairs in 1908.

In a week's time the back porch had been enclosed for a kitchen and Walter Jayne (who had been helping the painter and who was out of work) and his young German wife came to us and were installed in this cottage. This necessitated Henry and Anon moving into the tower (which was to have been an office) and a general "all hands change."

George was not improving, in fact was growing worse. Berry pickers—youngsters from Medford—were keeping us busy to superintend, and as each basket (pints for raspberries and quarts for gooseberries and currants) were lined with paraffin paper, it was one person's task to fix the baskets. There were signs of mutiny from George, which were encouraged if not absolutely inspired by his wife, so they were dismissed on August first. It has been hard for us to realize that a young fellow who advanced so rapidly in his place, who had the chance to become foreman of the 80 acre farm, who could have risen to any height he chose in his profession, could become so utterly ruined by a little prosperity. The few conversations that Dick the eldest child, had with the Senior Partner showed us that a mistaken idea of prosperity had upset them some time before.

"Mr. Fullerton," in his childish English drawl, "when are you going home?"

"Why, Dick? I guess I won't go home at all."

"Cause we want to go out in our yacht, same as we did last summer."

Yachting at Patchogue, four miles to the south, was responsible for part of the farm ruin.

"Mr. Fullerton, we are going to have bicycles, me and 'Francy' and 'Prospe'. They's going to be nicer than Hope's. And we's going to have a nice automobile, not an old one like yours. And we's going to have three horses nicer than Dom and Penny."

Such were the ideas being instilled into the minds of these poor children, whose mother neither fed, clothed nor cleaned them properly. We often wonder whether George would not have prospered with a good, sensible level-headed wife, far away from her influence he seemed to be a fine fellow. Oh, man is by no means to blame for all of the evils of this world!

The automobile story is too long to dwell upon. Suffice to say the one purchased for our use between the farms which is 14 miles by road and 150 by rail was unable to travel in the heavy sandy roads of the little used territory lying between the farms and showed characteristics which soon gave it the name "Mud Turtle." A beautiful road mare, promptly named "Pomona," took its place; she covers the distance, which is very lilly, in about two hours.

Henry Knight, who was the senior worker on the farm, was promoted to foreman. He shrank much from the responsibility, coupled with the fact that the farm was in such dreadful shape, but we urged and supported him and he is making good at every point.

Trappler next showed signs of mutiny. One cow had been placed in the dynamite shed which had been moved near the barn. A second cow was purchased when a neighbor, whose son met a tragic death, came and told us that she must get away to recover her balance and could not leave the cow with her old father.

We held council.

"What shall we do? Neither of us is cow-wise and we may get dreadfully stuck."

"I am willing to take the risk if you are for the sake of this poor creature. If the cow is no good we can sell her for beef and you and I will be out of pocket but the farm will not suffer."

"I'll go you," was the reply.

So "Sandy" became one of the community, and the following Sunday gave us a daughter

"Sunday." Sandy is all right and is a better milk and butter producer than "Wynde" who is a registered Guernsey.

Trappler was given charge of the cows, chickens and pigs. He was the most pessimistic human being I have ever met. Being an anarchist he was of course an atheist, therefore there was no "meum and teum" to him. The same lawlessness was instilled into the children, but as little ones are quick to "follow the leader" they became tractable and lovable while we were at the farm. As soon as we left they reverted.

Many times we asked Henry if we should let Trappler go, and each time he wished to give him another trial. Finally rank mutiny and worse made it necessary to dismiss him peremptorily the last of September. His place was instantly filled by a high class Russian from the south of Russia.

"Is he all right?" I asked the Senior Partner. "I am so tired of these people who have come to us from charitable organizations and industry settlements, that I am skeptical about anyone now."

"His eyes are fine and he has a good bearing. He is quiet and industrious and half starved. He has been working for a man who paid him almost nothing and fed him less. Before that he came out from the city with a contractor who owes him \$200, but as the contractor puts all his property in his wife's name it is no use to sue him."

"My, what hardship, and there seems no redress. Modern business methods sound much like the fall of Rome. I wonder what we are coming to!"

My story has outrun me. We will have to go back to farm operations.

Raspberries came in by the crate, 60 pints to the crate. They were shipped to private customers, were put in hampers and went to commission merchants, restaurants, hotels and clubs. The smallest sum we ever received was 4 cents a pint. We paid one cent a pint for picking, and two cents a quart for gooseberries and currants. We picked 797 quarts of raspberries this season from three-quarters of an acre of bushes. This is their first heavy yield, and, as potatoes had been planted in the rows the berries received no cultivation.

The English gooseberries had been sprayed very early in the season with Bordeaux and later with Sulphide of Potassium (or Liver of Sulphur) 1 pint to 30 gallons of water. There was a big crop of the most gorgeous fruit. The bushes averaged a quart each and these sold at wholesale for 12 cents a quart. There was absolutely no mildew upon them, so we have fought our fight and won. American gooseberries were way over average, currants also and we could have sold bushels more than we raised to those who want them for preserving.

The bushes had been so robbed of their feed by the intercropping and also by the fact that George had not placed the manure about them that he had been instructed to, that they were losing all their leaves. We took out the intercrops just as soon as we could, and in the meantime gave each bush a strong mulch of manure well forked in. This fall they have sent out new leaves, and are looking extremely well again.

The onion patch showed signs of thrip in June; this is a minute, I might say microscopic insect, which attacks the leaves. It unfortunately comes with our seed now, another inheritance from in-breeding and raising the same crop on the same land years in succession. Rain or moisture is their cure, so we determined to try irrigation upon them.

A line of Skinner irrigation pipe was run down the middle of the patch. This clever system consists of a line of galvanized pipe starting from our main 1 inch in diameter and reduced in about two lengths to $\frac{3}{4}$ inches. Every four feet a hole is drilled with Mr. Skinner's ingenious hand drill which is fitted with a spirit level in order that holes will be in perfect alignment. A tiny brass nozzle is screwed into these holes with an outlet hole about the size of the point of a hat pin.

Where the line of pipe joins the standard intake pipe, is a movable joint. This permits of the turning of the entire line of pipe (208 feet) so that the water spraying from the tiny nozzles may be made to fall at any desired angle. By turning the pipe so that the nozzles lie from nearly horizontal to perpendicular, the entire surface of from 25 to 50 feet, according to the pressure of water, will be covered with a fine rain. Then by turning the pipe over to the opposite side another strip is watered in the same way.

In order to see what the sprayings would do we used it only on one side of the line of pipe. The first spraying lasted $2\frac{1}{2}$ hours, two days later $1\frac{1}{2}$ hours. Then we had onions bulbing with tops turned green, while the unirrigated side produced only young bunch onions with yellowing tops. Whether the seed was mixed or George dreadfully or maliciously careless in planting we will never know; suffice to say we harvested five varieties of onions among the leaks.

Another irrigation pipe in the alfalfa field made it jump so in two days we could begin cutting over again. One would expect the sprayings to improve the crop, but the rapidity with which it grew fairly took our breath away. A short line in a little patch of rhubarb made it possible for us to send this delicious fruit in our hampers nearly all summer.

Another line at the east of the orchard gave us lettuce and spring radishes all summer. We hope to have at least 5 acres at each farm covered with irrigation pipes next year.

Among the new vegetables produced at No. 2 this year are superb Pe-tsai (Chinese cabbage). The heads were as solid as rocks and weighed 10 pounds. It is a new strain and the credit is due to Prof. Myers who has been Agricultural Explorer in North China for the U. S. Department of Agriculture.

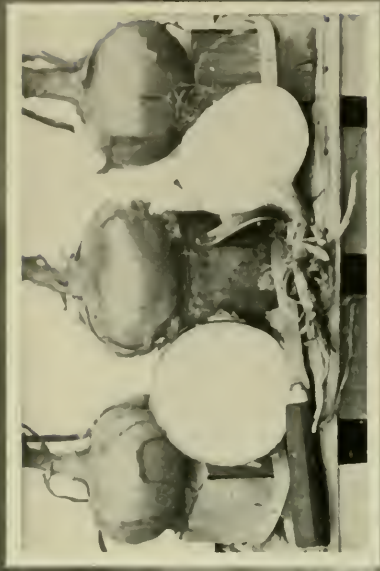
There is a glorious bed of sea kale ready to produce next spring early, for use in the hampers. This is a delicate blanched stalk which can be used the same as asparagus and is delicious; it is ready much before asparagus and is a great addition to our food supply.

"Second crop potatoes" are also a new stunt, and to Mr. Wm. Bodly, president of the Double Sunlight Glass Sash Co., we are indebted for them. It is a Kentucky trick; they hold the seed potatoes dormant in cold storage until late summer. When planted they make extra rapid growth, and our crop of "New Queen" and "Cobbler" planted July 29th yielded 70 bushels to the acre of Bermuda potatoes on September 29th, just two months.

Mr. Audré Bustanoby, of the famous Cafe and Chateau des Beaux Arts, says in a letter: "All the



Peanuts



Giant Gibraltar Onions



Swiss Chard

vegetables were up to the L. I. R. R. Experimental Stations standard, which means the best there are, but those Bermuda potatoes were particularly excellent." Higher praise than this, there is none!

And so we add a new industry to our Island farmers' list.

Let me say here, that the neighbors and others who first scoffed at us, who thought we were "book farmers" and upstarts coming to teach us "who have farmed man and boy," how to run our business and who looked on us as an insult to them, have all come or written thanking us for the real aid the farms have been, and now look upon them as their best friend. Need anyone ask now, "Have the Experimental Stations paid?" Indeed yes, a thousand fold, in this way at least, if not in money, and they have paid a handsome percent of real money on the investment each year in spite of the great handicap of so much experimental work, a big office, salaried help and the "Agronomist."

The orchard, this its third year, "did itself proud." One apple, a Yellow Transparent, gave us fourteen perfect specimens. This is remarkable for a three-year-old tree. The Japanese plums did very well, especially the Wickson, which is considered a shy bearer. The Burbanks were not so full of fruit except an occasional tree, and the Satumas developed a new and unheard of blight which the Senior Partner dubbed "spectacle spot." Sulphide of potassium soon put an end to it, but the fruit was marred.

The peaches, Ye Gods! what peaches. First to come were Greensboro, great, handsome beauties, with the flavor one dreams of but seldom realizes, next came Carmen, also delicious; then Champion, Belle of Georgia, Crosby, Everbearing, Hill's Chili, Hemphill and Klondyke. Carmen and Champion were superb from every point. Belle of Georgia very good and tremendously prolific. Crosby, Hill's Chili, Klondyke, and Hemphill good, and as they ripen very late they are to be highly prized. We gathered peaches from the middle of July to the middle of October.

The grapes—just a few set along the front walk as a trial—were so superb we have decided to set out an acre of them. Some of them, with the peaches, won prizes at the fair and that speaks much, for they competed with old established vines.

The varieties included Niagara, Delaware, Catawba, Brighton, Worden, Agawam, Salem, Wilder and Campbell's Early.

This Fall the "Elbow" or little two-room portable which constituted a portion of our house, went to the County Fairs. As usual it was crowded with visitors, not skeptics, as we found the first year, but friends of ours, coming in the spirit of neighborliness to tell us of their successes and confer with us about their failures.

The South African "Calabash" or pipe gourd (the gourds as they grow hung upon the wall, and a curved stem end of one fitted with a mouth-piece, forming the now "classy" and expensive pipe of the wealthy); butter from the alfalfa-fed cows, French musk melons, Japanese musk melons, Bermuda onions, Bermuda potatoes, Japanese pumpkin "Chirneu," Catawba sweet corn, Swiss chard, lemon cucumbers, fenchio, martynia, okra and Sakurajima radish, together with the superb fruit from the three-year-old trees and grapevines held the center of the stage.

Both farms entered in competition at the Suffolk County Fair, and we were delighted when they were forced to take second and third prizes and step aside altogether in some cases. The farmers are at work, they are producing better goods all the time, and I think we may justly feel that the Experimental Stations have stimulated their ambition. No. 1 won 30 prizes, and No. 2, because of George's disobedience to orders won only 14 prizes. The exhibit of vegetables in competition was said to be the finest ever shown, while the judges were driven almost to distraction trying to decide which cauliflower was the most perfect of a host of perfect ones.

Success was repeated at the Queens-Nassau County Fair, only for some peculiar reason fruits and vegetables alone are barred from competition if not raised in either of these counties. The little cottage in its pretty setting of oak trees was thronged each day.

At the American Institute, New York City, 8 prizes were won. Here the competition is against estates and men whose entire income is derived from just such exhibits and who raise as many varieties as possible for exhibition only.

At Huntington, where we were so unfortunate among our neighbors the first year as to be barred from competition after we had entered in all classes, we won first prize on collection of 6 vegetables. This was all we entered and I was surprised at the Senior Partner for sending anything at all, for one of his favorite sayings is "no sheep can bite me twice and live."

As the clearing went so slowly last winter, it was necessary to get outside help to do it for us. There is an Islander who has, for a long time, claimed that he could clear land much cheaper and much better with a stump puller than by dynamite. We determined to have it proven to us and therefore signed a contract with him to do the land at about two-thirds what it cost by dynamite, and the contract included the following item made at his suggestion, which was, that ten acres should be cleared, the stumps burned, the land plowed, harrowed, and seeded down to rye (we to furnish seed) in 30 days. It is now 60 days, and the stumps are partially out of about 2 acres, there is no plowing or harrowing done yet, in fact the remaining roots are so numerous it is almost impossible to plow.

Dynamiters go in next week and we hope to have at least 20 acres ready for use next Spring.

The 30-foot fire line is now being cultivated with disc harrow to prevent Autumn forest fires from reaching the Experimental Station plot. This will be seeded down to rye for a crop next Spring.

The two cows have lived all summer mainly on one-half acre of alfalfa. A little sugar corn in the fire line, and some of the tops of the cow peas and soy beans, have completed the green food for them. Now we start on a model dairy barn, just a small one to begin with, but so arranged that the herd can be increased with but little expense for additional building. The building will be of hollow tile, with stucco surface, all modern fittings; a silo nine feet in diameter with separate feed and wash-rooms. A milk and butter house will be erected near by. This will also be concrete construction and the floor four feet below the surface of the ground. Ventilators in both buildings will, of course, be installed. The stanchions will be of wood, painted with two coats and a third coat of enamel which will, we feel, make them germ proof. The floor, dropping gutter, and feed trough will all be of concrete; iron pipe stal

fittings, overhead litter and feed carriers. Windows hinged at the bottom and swinging in will give good ventilation.

The farms have lived their simple life; they have worked up from the simplest outfit including houses, farm implements and small corps of help. They have prospered and "made good" and just as any man starting out in a simple way would branch out when he prospered, so now the farms are branching out. A manure spreader potato digger, and grain drill have been added to each station, more help for the increased acreage at No. 2, and now a homestead, a real farm cottage is to be go up on the homestead plot for our occupancy. No. 2 will require most of our time, but No. 1 can be reached easily and quickly from it.

The selling problem is being solved, the farms are gaining their market just as any business enterprise would have to gain its market. Customers come to our doors, hotels, restaurants and clubs ask for our produce and commission men vie with each other to secure our goods. Witness, an extract from a letter just received from Waterman & Co., New York City:

"We have received the various shipments which you have made to us, and we congratulate you upon the very fine results you are getting. The goods are certainly the finest to be seen in this market, and we only wish we could procure this kind of produce for our entire business."

A small canner will be in operation at No. 2 next year to put into another form any surplus the farm may yield. Our tomatoes are all carefully sorted and packed in four-quart baskets, six baskets to the crate. No misshapen or dead ripe fruit is allowed to go into these packages; the consequence is there remains a large quantity of perfectly good food which must go to waste unless canned or made into catsup. Corn, beans, peas, beets, etc., can be saved in the same way.

Often a large picking of berries is necessary (in order to keep the vines producing) on Saturday. It is not wise to ship this fruit on Monday, but it's especially good to go into preserves, jams and jellies.

I cannot close without a further allusion to the "Agronomist." At this writing it reaches a circulation of 7,500 and is gratis to anyone desiring it, who writes to the office at Medford, Long Island, N. Y.

May we be pardoned for quoting from a letter received lately from the editor of the "Railroad Age Gazette." We are proud of our leaflet as anyone should be proud of success.

"I think the 'Agronomist' is the brightest publication that comes to this office. I find it regularly on my desk and it mesmerizes me. I can't indulge in the luxury of any other business in comfort until I have read it through. It ought to be an effective agent in promoting your pioneering scheme."

Space is cutting me short, and "the half is not yet told." Each year of each farm constitutes a volume in itself. I trust you have gained some idea of the development of the work, that you realize the soil, by constantly returning humus alone to it, is growing richer and more productive each year, that the farms are adding new vegetables and fruits as profitable crops to our Island neighbors (and in fact to all the world) by our numerous experiments, that the farms stand in fact for "Peace, Plenty" and "Prosperity."



The "Bird Bath" at No. 2



Long Island Agronomist

A Fortnightly Record of Facts

Together With Deductions Based Upon Natures Practical Demonstrations

Compiled by Hal B. and Edith Loring Fullerton

Publication office, Huntington, Long Island, New York

"I do the very best I know how—the very best I can; and I mean to keep doing so until the end."
—Abraham Lincoln.

Current Gleanings

When our food furnishers, one by one, show that they have finished the work set apart by Nature for each of them to do, when the flowers and trees show plainly that having matured their seeds and made certain the continuance of their species they are preparing for the rest they have earned, we two partners invariably size up our work to see if we have done our level best to accomplish our share of that portion of Life's Lot that has been placed in our care.

This train of thought gives rise to multitudes of thoughts, to plans for bigger achievements when plant growth starts anew, this, coupled as it is with crop time, makes the doleful drawl of dyspeptics and pessimists seem silly.

Full well we know that like ourselves the "modern methods" soil tillers of Long Island are chanting something like this:

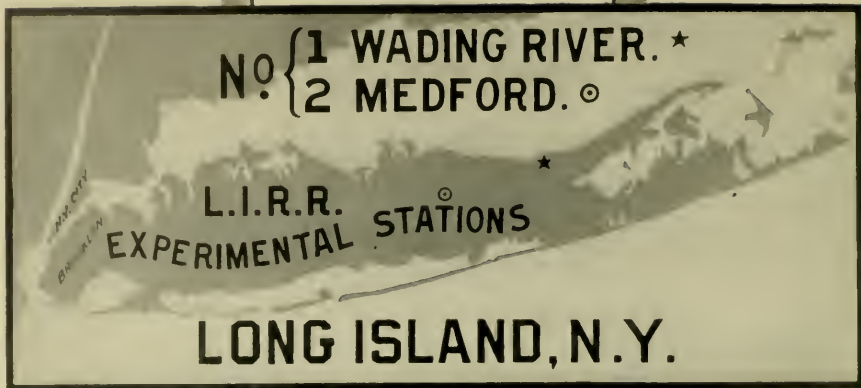
The merry, merry days are here,
Most joyous of the year,
For the bins are full of fodder,
And the farm is mortgage clear.

A little later will come the never failing chorus from Long Island savings banks, setting forth the big annual increase in soil tillers' deposits.

This year they will soar higher than ever, for the Long Island Railroad's 1909 tonnage for September shows 22,873 tons of potatoes, cauliflower and cucumbers by freight alone, against 10,824 tons handled in September, 1905; and train loads of potatoes and cauliflower are still awaiting gathering; further, express shipments are not included in above figures. A great portion of this increase is known to be directly due to the practical demonstrations of the Railroad's Experimental Stations of spray value, deeper plowing, thorough cultivation, the substitution of barn-yard manure, legumes and cover crops for chemical fertilizers, which once threatened to lure our Island neighbors into that "Fool's Paradise" which invariably results in "Abandoned Farms." This shows also that Long Island is coming into her own with startling rapidity. Foreigners brought here by the successful showing of the Experimental Stations, are by their own success, attracting their relatives and neighbors to a newly discovered golconda where nature has brought together all the factors most favorable to an immense range of plant growth that it might feed the many millions populating New York City, destined to be the largest in the world.

The Long Island Agronomist will be sent on request to anyone, anywhere, without fear, favor or finance

FEB 17 1912



No. { 1 WADING RIVER. ★
2 MEDFORD. ⊙

L.I.R.R. EXPERIMENTAL STATIONS

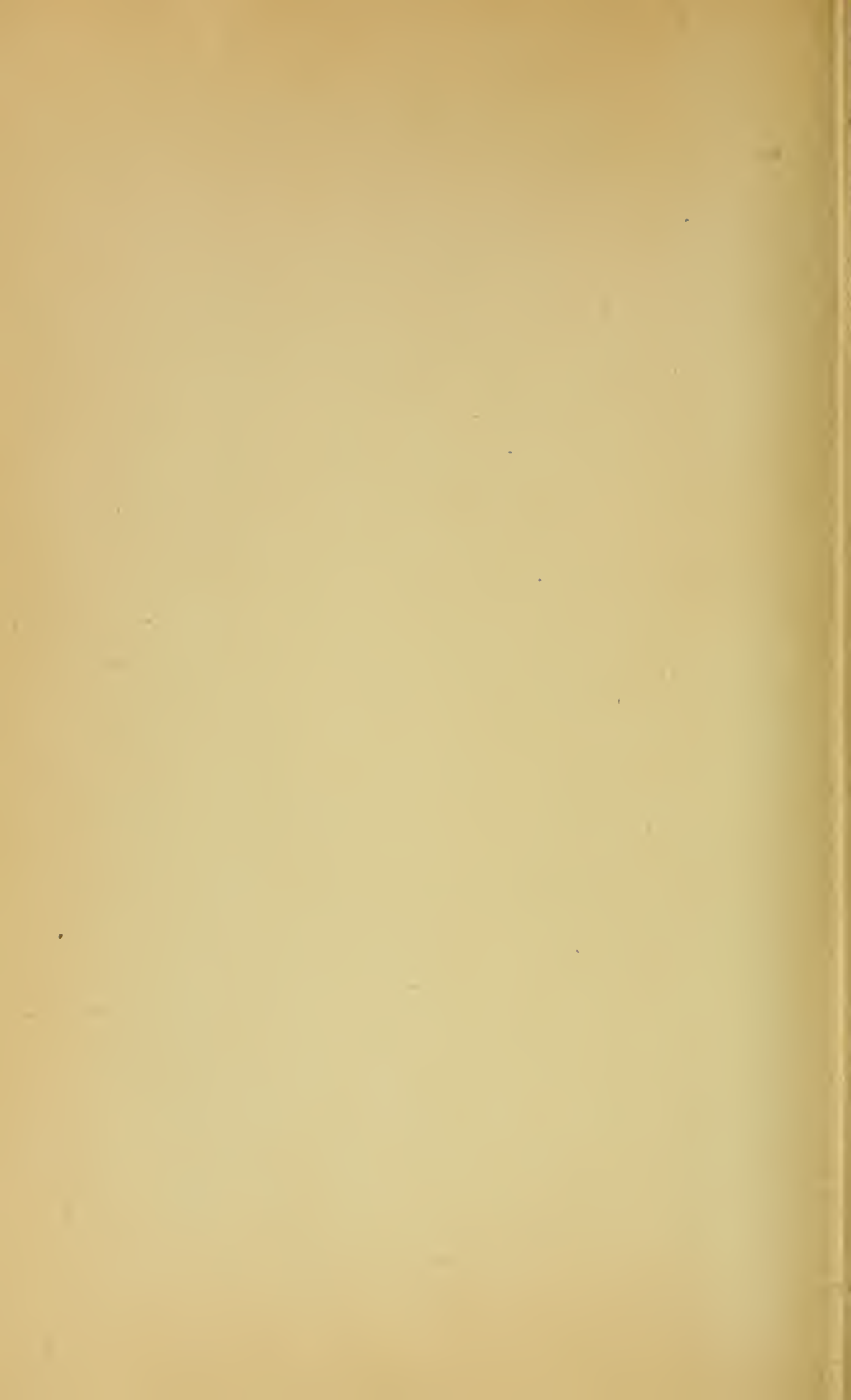
LONG ISLAND, N.Y.

A map of Long Island is shown with two experimental stations marked. Station 1 is at Wading River, marked with a star (★). Station 2 is at Medford, marked with a circle containing a dot (⊙). The text 'L.I.R.R. EXPERIMENTAL STATIONS' is written across the map. The map also shows the coastline and some internal lines. The text 'WADING RIVER' and 'MEDFORD' are visible on the left side of the map.

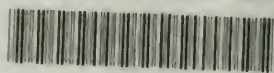




"A little land well tilled,
A little house well filled,
A little wife well willed,
Are great riches."



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