

<i>Products.</i>		
34 of schelot containing	}	34 of saline substances.
790 of salt.		790
21 of scales.		21
51 of mother water.	}	20
		865. collected.
		185. lost.
		1050.

This loss is greater than in actual practice, the scales were calcined before they were weighed, and the mother water could not be accurately collected.

Each boiling produces in the rope shed, on a medium, 1750 myriagrammes (17 ton) of salt, viz. 1650 deposited on the ropes, and 100 in the boiler. But this salt is much purer than that made by boiling, and the mother water is more in quantity. the common fall of salt is 15,000 myriagrammes (150 ton) of salt.

The annual produce is from 4 to 5000 myriagr. (scores of lbs) of schelot, or the takings: from 2500 to 3000 of scales that stick to the boilers, 70,000 of salt collected in the boilers, and 30,000 from the rope sheds, and from 9 to 10,000 of sulphate of soda, or Glauber's salt, besides the mother water.

The faggots in the sheds No. 1 and 2 are changed every three years, as they become rotten in that time, and the sheds themselves are obliged to undergo a thorough repair every 5 or 6 years.

The faggots in No. 3 become so thickly coated in 3 or 4 years that they must be changed; but the woodwork becomes coated with sulphate of lime, which preserves it.

The faggots in No. 4 are useful for a longer period; it is said that they would last more than 18 years if the brine were constantly graduated up to 14°.

30,000 faggots are used annually, which cost 75 fr. per thousand.

To be Continued.

On the causes and prevention of the Curl in Potatoes, from papers by Mr William Hollins.

Trans Soc Arts, No. 8.

The first cause of the curl in po-

tatoes must be traced to the manner in which the seed was raised in the preceding year. If the potatoes be set late in the season, that is from the middle of May to the middle of June, in a rich soil well manured, having a southern aspect; and if the summer should be hot and dry, till (we will suppose) the beginning of August, when the blow of the plants has fallen off, then the seed will be exhausted in feeding the plant only, and very few potatoes will appear. Should the weather now become moist and genial, the plants especially if they should be earthed, will blow afresh, and a plentiful crop of very large potatoes may yet be produced.

These potatoes are perfectly fit for use as food; but as they were produced from the stalk of the plant after the seed itself was exhausted, they will be defective in moisture and vegetative power, and the plants which proceed from them the following year will be found to be curled.

The curl may be produced without manure or earthing provided the potatoes be sown (at the end of May) thick together, in a rich soil, and covered with fern, or other litter before the plants appear. The rain rot the fern or litter, and enables it to penetrate to the roots; and the plants are forced as in the preceding experiment, to a second growth, and blow. The seed thus raised produced plants that were curled.

The forcing potatoes by cultivation as above described, the author finds to be the cause of the curl, both from his own experiments, repeated for several years successively, and also from the observations he made on the practice and ill success of his neighbours.

Both healthy and curled plants may be raised from the same potatoe in the following manner.

Dig up, in the beginning of October, some potatoes raised as above described. Among the largest will be found some, that have in different parts, different degrees of moisture, the least at the butt, and the most at the crown end, the quantity of moisture gradually increasing from

the butt to the crown; take one set from the crown, and another from the butt; the former will produce a healthy, the latter a curled plant.—The curl producing potatoes are also observed to be drier both before and after boiling, and are boiled in a shorter time.

The mode of preventing the curl in Potatoes.

The following directions for cultivating potatoes, designed for seed (for which alone they are intended) duly observed, will effectually prevent the curl; as found by various and repeated experiments, made with great care and attention for seven years.

The best time of setting is from the beginning of April to the middle of May; make ridges a yard asunder, put the manure first into the trench, and with moderation; set the potatoes in a triangular form, five or six inches asunder; cover them with the soil to the thickness of five or six inches. There is but little danger of laying on too much of the soil: the deeper the sets are, the better will they be protected from the scorching heat of the sun, if the season should be dry. This distance of five or six inches is so small as to prevent the plants growing too rank, and yet sufficient for each of them to be exposed to the sun and the air.

Secondly, When they have grown to the height of six or seven inches above the ground, you must not earth them, as is the usual practice. You must take away the weeds, and may draw a little mould to them; but you must be careful to do this before the blossom bud appears, which is generally about the end of June. They will now require no farther care excepting that of weeding.

The author is of opinion that early setting is advantageous, on account of the greater chance of early rain, which will be very beneficial to the plants if the summer should be dry. By this process the plants will be healthy; the young potatoes will be formed in due season; they will grow gradually; the plant will ripen and die in due time, and will not be forced into a second growth by

the rain which may fall in September.

The sap being thus left in the potatoe, it becomes a *seed* endued with an unimpair'd perfect vegetative power; and the plants which are raised from them will be found to be entirely free from the curl. The potatoes may be dug as soon as they can be handled without crushing the peel, that is about the end of September.

Sound potatoes are produced with the greatest certainty from earth that has been pared and burned: the soil thus prepared is well suited to the growth of potatoes. In this they grow gradually, and are not forced beyond their natural size: in doubtful seed, it is safest to plant the smallest potatoes *whole*.

The soil the most likely to produce the curl, is that which is rich in itself, much manured, and which has a southern aspect. In other situations, where the soil is not rich, and the garden is cold, either from its being upon the side of a hill, or exposed to the north, the curl has not yet appeared. This is perfectly consonant to the theory recited; for where the soil is poor, and the situation cold, the plants cannot be forced into a second growth by earthing and manure.

The author does not mean to dissuade those who are anxious to raise large crops for immediate use, from earthing, and manuring to the utmost extent; he only cautions them against using potatoes so raised, for seed. By earthing and manuring, doubtless large crops of large potatoes will be raised, perfectly good, as food; but imperfect as seed; for the vegetative power will be impaired by this forcing cultivation. Hence it will be the interest of every prudent cultivator to allot a portion of his potatoe field to the raising of seed potatoes. And if the directions given, be followed, the author has not the least doubt of success; at least he is certain the curl will not make its appearance.

For the above communication the Society of Arts voted the author a premium of ten pounds, and in the following year they voted him ten guineas more, for a more enlarged paper

on the same subject, containing the particulars of the experiments from whence the foregoing inferences were drawn.

In this second paper Mr. Hollins controverts the opinion that planting frequently in the same ground produces the curl; he recommends again small potatoes for seed, and to confirm his directions for preventing the curl, states the management which will infallibly produce curly potatoes, which is to plant in June, not very thick in the rows, manure well; earth them at the usual time, and do it repeatedly once in fourteen days, two or three times; let nothing browse them till the end of October, and when dug, pick the largest and preserve for seed, and if the season permits, there will be a plentiful crop of curled potatoes, a process the reverse of this, such as that before directed, will of course be the best to prevent the curl.

A third premium of ten guineas was given to Mr. Hollins a year after the last mentioned, for a third communication relative to preventing the curl, which is inserted in the ninth vol. of the same work. The principal novelty which it contains is the following method for distinguishing potatoes proper for seed from those likely to produce a curled crop.

"In cutting potatoes for sets, care should be taken not to cut them entirely through; but when the knife has penetrated to about the half, the other half should be broken off. By this operation you may understand whether the potatoe has proper vegetative power or not; if the knife enters easily, and the potatoe breaks off soft, then it is fit for seed; but if on the contrary, the knife enters with some difficulty, and the potatoe breaks off harsh and rough, though it may not appear to want sap, yet it is void of proper vegetative power, and unfit for seed; for if planted, it will either remain whole in the ground till dug, or produce a complete curled crop. However if made use of as food, it will boil some minutes sooner, and eat drier and more mealy than a sound potatoe."

He also gives some account of his experience of the soil best for po-

tatoes; "wet heavy soil, he says, will starve and rot them, and a sharp soil, where there is not sufficient mould to protect them from the scorching heat of the sun, will dry up their vegetative power; care should also be taken not to plant them in unprepared ground, with fresh manure, for he has found by repeated experience, that fresh manure is a great detriment to the potatoe, and will in some soils even cause a sound plant to curl, and if the plants are the least unprepared will cause the whole crop to curl, because the heat of the manure dries up the vegetative power. The ground should be plowed up in the beginning of January, and in a month's time, or sooner if the weather permits, should be harrowed, and be manured well on the surface, then ploughed in, and let to lie till the middle of April, then ploughed and harrowed, ridged up, and planted."

Mr. Hollins concludes with stating the following three principal causes of the curl.

First, The curl arises, from potatoes being forced by cultivation to overgrow their power for vegetation.

Secondly, From their vegetative power being dried up in shallow soil by the scorching heat of the sun.

Thirdly, From their being exposed too long, after they are cut into sets, before they are planted.

Several certificates accompany Mr. Hollins' papers, of the invariable freedom of the seed potatoes sold by him, from the curl, and of the numerous instances in which they had been tried.

Observations. The knowledge of means for preventing a fatal disease in a vegetable that forms the prime article of food of the population of Ireland, is certainly of the first importance, and therefore the foregoing information on the subject has been compiled for this magazine from several papers published at different times by Mr. Hollins, who seems to have given the best account of this disease of any yet made public, and whose directions for preventing it are clear and simple, easy of execution; according to numerous testimonies, perfectly effectual; and though some,

time published, there is every reason to believe, few if any of the readers of this work are acquainted with them. The curl has been attributed by some to the same principle, which causes the decay of grafted fruit trees, and who therefore assert that potatoes require to be renewed from actual seed at certain intervals, as fruit trees do: but this opinion seems to be erroneous, because the most of those we now use have been propagated from the bulbs successively since the year 1586, when they were first introduced here, without any apparent deterioration, few having been raised: from the seed but for experiment, besides this there is nothing similar in the two cases; grafting is altogether an artificial process, and only concerns the stem of the plant; the propagation by the bulb is on the contrary the work of nature, and the plant produced seems in every respect of the same kind as that from the seed, the bulb appearing to be nothing more than a seed on a large scale, produced in a different manner, being furnished like the seed, with a farinaceous nidus for the nourishment

of the young plant, of which the rudiments are equally found in both.

It might seem to be rather premature to give directions about seed potatoes at this season of the year, but it is during the winter that the appropriation of the present crop must be made to its different uses, and those best for seed be selected: and by beginning to do this from the first, each sort will be applied most beneficially, the very large potatoes will be used as food, being totally unfit for sets, from the foregoing statement, the mealy potatoes will also be applied to the same use, and the smaller sort of a waxy and soft substance be alone reserved for seed. It is also of use to impress as soon as possible on the minds of cultivators, the advantage of preparing the ground in time for the early planting of those intended to be raised for seed next year in the manner above directed by Mr Hollins, as well as the beneficial effect so strongly shown by him of cultivating the potatoes intended for seed in that totally different manner from those intended for food, to communicate which is the design of this paper.

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A Sermon preached before the Society for Missions, to Africa, and the East, by the Rev. Claudius Buchanan, D D.

Two Sermons, occasioned by the death of the Rev. Richard Cecil; by Rev. Daniel Wilson, M.A.

The following works of Emanuel Swedenborg, Reprinted. The Doctrine of Life for the New Jerusalem, 1s. 6d.

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POLITICS.

Observations on the Address to his Majesty, proposed by Earl Grey, June 13th, 1810, by William Roscoe, esq. 2s.

MEDICINE, SURGERY.

Salvation Exploded,—a Practical Essay on the Venereal Disease, by Charles Switt, Surgeon, 2s.

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