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United States Department of Agriculture Bureau of Markets

SEED REPORTER

Published by Authority of the Secretary of Agriculture

Washington, D. C.

MAY 10, 1919

Vol. 2, No. 11

ANNOUNCEMENT.

In accordance with the provisions contained in section 2, of an Act of Congress (Public No. 40, 65th Congress), approved August 10, 1917, the Chief of the Bureau of Markets of the United States Department of Agriculture, has been authorized and instructed as an agent of the Secretary of Agriculture, to take such steps as may be necessary to obtain authoritative information regarding the matters authorized to be investigated under that section.

The Seed Reporting Service has been established pursuant to sections 2 and 8, of the Act, to obtain such information concerning seeds, as may seem necessary or desirable.

The Seed Reporter is printed at, and mailed from, Chicago. The regular monthly issue is mailed usually on the first Saturday after the fourth of the month. Persons or concerns wishing to receive it regularly as issued should send name and address to the Seed Reporting Service, Bureau of Markets, U. S. Department of Agriculture, Washington, D. C. A copy of the current issue will be furnished on application to the field office of the Seed Reporting Service, 59 Board of Trade Building, Chicago, Ill., to anyone after, but not before, nine o'clock of the morning of the first business day following date of mailing.

CHARLES J. BRAND, Chief, Bureau of Markets.
W. A. WHEELER, in Charge, Seed Reporting Service.

MISSOURI VALLEY MARKET NOTES.

The spring demand for field seeds in the Missouri Valley is about over except for the forage varieties, and most dealers think that the demand for millet and cane seed will be larger than in any recent year. The shortage of hay and rough forage has resulted in current prices of \$39 to \$41 per ton for choice prairie hay and \$37 to \$41 for standard to choice alfalfa hay. Many farmers have had to purchase hay at these prices, and it is the opinion of the larger seedsmen that this will have a tendency towards inducing farmers to increase their acreage of forage crops this year. Consequently these seedsmen believe that the present large demand for seeds of forage crops will continue for a month or two longer, as, with favorable weather, it is possible to produce considerable forage on the wheat stubble.

Red Clover.—The brisk demand during the seeding season practically exhausted the small stocks of red clover seed held in this division.

Alsike Clover.—The stocks of alsike clover seed on hand are very small. The demand in this territory was larger than usual.

Sweet Clover.—The trade in sweet clover seed has been especially good this year. The stocks on hand are fair to small, and the movement now is at \$24 to \$26 per 100 pounds.

Alfalfa.—The demand for alfalfa seed this spring has been large. The better grades are practically exhausted, and orders for these grades are being filled by selecting the most desirable of the poorer lots and re-cleaning them. The fancy seed is quoted at \$24 to \$25 per 100 pounds. The poorer grades which were passed up earlier in the season are practically the only ones that are being offered from the country. As the fall demand begins in August, provision is usually made by the large seedsmen to be prepared to care for it from the stock on hand at this time of the year, rather than to rely on the new crop. Some of the seedsmen believe there is still considerable alfalfa seed in some parts of the country.

Timothy.—The stocks of timothy seed are only fair, probably not much more than will be required for the early fall demand. The market in this section is now rather dull, fancy grades being quoted at \$11 to \$11.50 per 100 pounds.

Kentucky Bluegrass.—The demand for Kentucky bluegrass has been good but is now practically over and has left only very small stocks in the hands of the dealers. The prevailing prices per 100 pounds range from \$24 for 19-pound seed to \$26 for 21-pound seed.

Millet.—The demand for millet seed has been good, and in view of the backward season it is probable that it will continue for some little time. As a whole, the stocks are not large; in fact, good golden millet is reported to be scarce. Golden millet is now quoted at \$5.50 to \$6; common millet at \$3.50 to \$3.75; Siberian millet at \$4.50 to \$4.75; and Japanese millet at \$4.75 to \$5, all per 100 pounds.

Sudan Grass.—The demand for Sudan grass seed has been large and shows no sign of diminishing. The quotations under date of April 29 are at \$20 per 100 pounds, with the market very sensitive because of the small stocks that are being carried by the seedsmen.

Sorgo or Cane.—The demand for sorgo seed has been fairly good. The stocks on hand are not large considering that the demand for this commodity usually continues a month or so longer. Good quality orange cane is rather scarce, while amber is a little more plentiful. The demand for sumac usually comes from Oklahoma and Texas and at this time of the year is practically over. Amber prices are from \$2.85 to \$3.25; orange from \$3.50 to \$4; and sumac from \$4 to \$5, all per 100 pounds.

Kafir.—The demand for white kafir is good and the stocks on the whole are reported to be of fair size.

Seed Corn.—Corn planting has been rather generally delayed because of the continued heavy precipitation. The larger seedsmen apparently have ample stocks of good quality. Prices range from \$2.50 to \$3 per bushel.

NORTH ATLANTIC DIVISION MARKET NOTES.

The good demand for most of the field seeds that was noted in the North Atlantic Division a month ago has continued during the past few weeks. Stocks of alsike clover are exhausted and those of red clover are extremely small. The demand for these two kinds of clover is not over and is expected to continue until the middle of May. The sales of timothy seed have been somewhat backward but rallied toward the close of April, when prices advanced 10 to 25 cents per 100 pounds. It is thought by the larger dealers that the export demand for timothy seed, which is expected within a few months, and the fall demand, will reduce greatly the stocks of this seed. The summaries of reports received from this Division concerning seeds of late-sown crops are given herewith.

Alfalfa.—The stocks of alfalfa seed held by the larger dealers are reported to be one-third to one-half those of last year. The quality is below the average. An unusually good demand earlier than usual has been enjoyed, and is expected to continue for a month or two. The better grades are being quoted at \$25 to \$26 per 100 pounds.

Sweet Clover.—Ordinarily not much attention is paid to sweet clover seed in the North Atlantic Division, but this spring an excellent demand has been reported by several dealers, which has depleted their stocks to less than they usually carry at this time of the year. Prices of \$24 to \$26 per 100 pounds are being received for good white flower seed.

Rape.—Stocks of rape seed are said by dealers in this Division to be 10 to 25 per cent below those of last year, but unless a better demand develops soon, they will be ample to take care of requirements. Good-quality seed is being offered at \$7.75 to \$9.00 per 100 pounds.

Millet.—Somewhat larger stocks of golden and smaller stocks of Japanese millet than were held at a corresponding time last year are now in the hands of jobbers. The demand for both of these varieties has been considerably better than that of last year. Golden millet is being sold at \$5.70 to \$6.75 per 100 pounds and Japanese millet at \$6 to \$7.75 per 100 pounds.

Seed Corn.—Much smaller stocks of seed corn of good germination and appearance are being held by dealers than were held last year. A fair demand at prices ranging from \$2.25 to \$3.50 per bushel is reported.

ANNOUNCEMENT OF GENERAL SEED SURVEY JUNE 30, 1919.

A general survey of commercial stocks, receipts, and exports of field and vegetable seeds will be made by the Seed Reporting Service of the Bureau of Markets on June 30, 1919. The inquiry will cover practically the same items and questions as the survey of June 30, 1918 (Form SRS-40).

A separate inquiry will be made of all commercial vegetable seed growers on June 30, 1919, to ascertain the total number of acres planted to each kind of vegetable seed crop, location of acreage by States and counties, and condition of each crop on June 30.

IMPORTS OF FORAGE PLANT SEEDS PERMITTED ENTRY INTO THE UNITED STATES.

Under the Seed Importation Act

Compiled by the Seed Laboratory of the Bureau of Plant Industry, United States Department of Agriculture.

Kind of Seed.	Month of April,		4 Mos. ending Apr. 30,	
	1919.	1918.	1919.	1918.
	Pounds.	Pounds.	Pounds.	Pounds.
Alfalfa	700	19,500	34,200	19,600
Bluegrass:				
Canada	105,400	324,000	259,400	963,600
Kentucky		800		800
Clover:				
Alsike	651,100	257,700	3,266,000	2,214,900
Crimson			44,000	234,800
Red	341,900	135,300	754,900	150,800
White				1,700
Clover mixtures:				
White and Alsike			16,800	
Alsike and Timothy	7,500	29,400	360,500	50,600
Millet:				
Broom-corn				531,500
Hungarian			124,800	
Mixtures:				
Grass		5,600	100	5,600
Orchard Grass	77,500		77,500	
Rape		351,700	404,100	2,560,100
Redtop	700		800	
Ryegrass:				
English		211,100	380,700	1,048,000
Italian		11,100	133,500	349,700
Timothy	200	3,400	22,900	22,300
Vetch:				
Hairy			49,600	27,000
Spring	56,300		250,900	55,500

OBSERVATIONS ON EUROPEAN SEED CONDITIONS

Under the title "Observations on European Seed Conditions" the issue of the Seed Reporter for April 5th gave data obtained by Dr. A. J. Pieters, in charge of Clover Investigations of the Bureau of Plant Industry, and Mr. W. A. Wheeler, in charge of Seed Marketing Investigations and the Seed Reporting Service of the Bureau of Markets, during January and February in Great Britain, France, and Italy. Some of the information obtained by Dr. Pieters in Holland, Belgium, and northern Italy during March, after the return of Mr. Wheeler to this country, is given here with some general notes on European seed conditions. The data from Denmark were taken from an address by Director Sorensen of the Danish Seed Growers' Association, a copy of which was received by the Seed Reporting Service.

Holland. Holland has a well-known and long-established industry in the growing of vegetable and flower seeds. Many kinds and varieties are produced, but more especially cabbage, cauliflower, beet, turnip, radish, kale, kohlrabi, onion, parsnip, and spinach. Enkhuizen in north Holland and Scheemda in Groningen are two important centers of the industry. At the present time all of the leading growers have considerable surpluses of cabbage, cauliflower, beet, and large quantities of spinach and carrot. Peas are produced in sufficient quantity for domestic trade. The reported acreage of three of the vegetable seed crops in Holland for 1915 is as follows: Onion, 217 acres; spinach, 1,815 acres; and radish, 534 acres.

All of the growers look forward to a resumption of normal business, but believe it may be two years before conditions are quite normal. In some lines the acreage planted will be less than usual. Carrot, beet, and spinach are in such large supply that a reduced output for 1919 is expected. Prices probably will remain high for some time as labor and most other expenses have increased 100 per cent or more.

From the table of exports and imports furnished by Mr. Edwards, Commercial Attaché to the American Legation at The Hague, it was noted that in 1913, a prewar year vegetable and flower seeds were imported from thirteen countries, the largest quantities coming from the Black Sea Region and from Prussia, while exports were made to fifteen countries, the largest being to Prussia and the United States. The total excess of exports in 1913 (2,857,998 pounds) give some measure of the production in Holland. In 1914, the excess of exports was increased to 5,235,523 pounds, the United States and Prussia being again the largest customers while by far the largest part of the imports came from Prussia and the Black Sea Region. In 1915, the first full year of the war-period, the imports fell to less than one-half of those of 1914, but the exports increased to an excess of 6,756,607 pounds, and two-thirds of all exports went to Prussia.

Dutch consumers are said to use American red clover seed only when the crop is wanted exclusively for green manuring. The hairy character of the plant makes it unpopular for hay. For the latter purpose, seed of domestic production is preferred, after that English seed, seed from north France, or Bohemian seed. The annual requirements are said by the Wageningen Station to be about 1,100,000 to 1,300,000 pounds, and the home production is estimated at about 264,000 pounds, making it necessary to import about a million pounds annually. The figures furnished by Mr. Edwards show that the average annual excess of imports over exports of red clover for the years 1913-1915 was approximately 1,450,000 pounds.

For 1913, 1914, and 1915 the imports of clover seed came largely from France, Great Britain, and Germany, while the exports went chiefly to the United States and Prussia, though in 1915 much more went to Great Britain than to the United States and a considerable business was done in the three years with Belgium in both imports and exports. In all these years the largest total volume of business was with Germany and it is said that most of the clover seed imports merely represent seeds in transit.

The domestic consumption of grass seed of American origin is extremely limited. Timothy and orchard grass are used only to a limited extent. The grass most used is rye grass. The Westerwoldsche variety is highly regarded and most of the seed is produced in Groningen. Both exports and imports of grass seed reach a considerable volume but apparently these are largely seeds in transit. In the three-year period, 1913 to 1915, considerably more than half the imports came from Great Britain and Ireland and some of these may have been grown in the United States. More than half of the exports went to Prussia.

The Netherlands lie on the natural trade route to Germany and to the Rhine country. So far as the domestic

consumption of field seeds is concerned, there probably never will be any great demand for seeds of American production, both because of the small size of the country and because other than American grasses and clovers are preferred by the farmers. As an avenue for the trade with Germany, however, the Netherlands are important and the dealers there realize fully the opportunities that lie open to them. The dealers in the Netherlands, who presumably have had the best means for keeping informed regarding the seed supplies of Germany, are of the opinion that stocks are very low and they are looking forward to doing a large business as soon as trade is thrown open. This is also the opinion of the dealers in France and Italy.

SEED IMPORTS AND EXPORTS OF HOLLAND*

Compiled from figures furnished by Mr. Paul Edwards, Commercial Attaché to the American Legation at The Hague.

Countries.	1913.	1914.	1915.
Vegetable and Flower Seed			
	Pounds.	Pounds.	Pounds.
Imported from			
United States	80,404	8,314	31,662
Prussia	743,715	1,443,961	506,458
Belgium	352,548	190,518	13,900
Black Sea	1,369,225	880,132	.....
Roumania	313,764	11,000	.....
Other Countries.....	268,220	273,299	643,792
Total	3,127,876	2,807,224	1,195,812
Exported to			
United States	1,630,803	3,733,112	1,518,629
Prussia	3,000,606	3,108,391	4,867,524
Belgium	808,550	308,264	435,334
Other Countries.....	545,915	892,980	1,130,932
Total	5,985,874	8,042,747	7,952,419
Clover Seed			
	Pounds.	Pounds.	Pounds.
Imported from			
France	1,288,760	1,953,332	849,094
Prussia	960,027	1,126,996	1,402,592
Hamburg	866,983	344,159	.....
Great Britain	577,366	1,755,943	1,341,470
Belgium	539,616	528,889	3,344
Other Countries.....	272,582	154,689	46,341
Total	4,505,334	5,864,008	3,642,841
Exported to			
United States	1,786,030	1,792,507	137,056
Prussia	1,179,099	1,547,135	1,154,085
Belgium	151,571	262,808	312,376
Great Britain	97,717	49,768	840,686
Other Countries.....	109,125	180,941	57,547
Total	3,323,542	3,833,159	2,501,750
Grass Seed			
	Pounds.	Pounds.	Pounds.
Imported from			
United States	953,066	730,627	220,290
Great Britain	2,860,365	4,750,836	2,151,246
Ireland	1,781,320	1,070,036	562,760
Prussia	2,225,971	1,895,885	460,425
Hamburg	587,651	811,635	.....
Other Countries.....	617,681	371,958	73,704
Total	9,026,054	9,630,977	3,468,425
Exported to			
United States	1,405,633	798,261	249,557
Prussia	5,295,338	6,105,209	1,674,849
Great Britain	1,103,208	716,817	357,722
Belgium	547,294	427,161	95,704
Other Countries.....	456,709	316,162	42,931
Total	8,808,182	8,363,610	2,420,763

*It is reported that there were no imports or exports of seeds during 1916, 1917, and 1918.

Belgium. The supply of seed oats, red clover seed, and grass seed is short in Belgium this spring. Some of these seeds could have been supplied from America if a request for such supplies had been made last fall. It is, of course, too late to export any American seed to Belgium for the current season. Belgium live stock, however, will not suffer because it has decreased to such an extent that there is plenty of old pasture for the remaining animals for the next year at least. Efforts are being made to establish an organized vegetable seed-growing industry in Belgium. The Director of Horticulture for Belgium expressed the hope that his country would be made self-supporting in the matter of seed supplies. The supplies of vegetable seed available at present are said to be ample in most cases for the use of Belgium this year. If any scarcity occurs the seed probably can be supplied from the large stocks in France and Holland.

The following table gives some estimates made by Mr.

Van Orshoven, Director of Horticulture in the Department of Agriculture for Belgium, from prewar data on total acreage grown to each crop in Belgium, and normal seeding per acre:

ESTIMATED TOTAL NORMAL SEED REQUIREMENTS OF BELGIUM.

Farm Seeds.		Vegetable Seeds.	
Kind	Pounds	Kind	Pounds
Wheat	55,000,000	Garden peas.....	3,400,000
Rye	83,000,000	French beans.....	2,200,000
Oats	100,000,000	Broad beans	220,000
Barley (winter).....	11,000,000	Carrots	45,000
Barley (spring).....	4,500,000	Parsnip	9,000
Potatoes	500,000,000	Scorzoneria	22,000
Flax	9,000,000	Onion	67,000
Sugar beet.....	2,000,000	Leeks	9,000
Mangel	1,100,000	Celery	1,000
Clover	4,000,000	Cabbage (all kinds)..	16,000
Lucerne	110,000	Lettuce	6,500
Grasses	340,000	Endivcs	2,200
Chicory	90,000	Spinach	45,000
Beans (field).....	2,700,000	Radish	34,000
Spelt	9,000,000	Chervil	6,500
Buckwheat	225,000	Corn salad.....	2,200
Field peas.....	2,250,000		
Sainfoin	90,000		
Carrots (field).....	225,000		
Turnips (field)	550,000		

Denmark. The present large supplies and the apparent over-production of many items have been brought about by war conditions, which made necessary an increased production of seeds. At present there are large supplies of several items. There is a large stock of mangel seed on hand which may be kept for some time if necessary, because of its good quality and strong germination. The acreage of mangels for seed has increased from about 3,200 acres in 1912 to 4,900 acres for the present season. Mr. Sorensen advises that a reduction of 25 per cent in present acreage be made until the surplus has been disposed of. Because of the surplus the prices have dropped, and it is feared by Mr. Sorensen that they may become too low to make production profitable. In the cultivation of rutabaga seed before the war about 1,600 acres were used; in 1918 this number was increased to about 5,500 acres, while this year over 11,300 acres are being grown. To supply the Danish consumption of rutabaga seed requires approximately only 1,500 acres. Before the war the small surplus that was produced was exported principally to Sweden.

The acreage devoted to growing turnip seed has increased from about 2,200 acres in 1912 to 7,000 acres last year, and 24,000 acres this year. For Danish consumption only about 750 acres are required. The prewar acreage of turnips was devoted almost entirely to the yellow-flesh varieties, while this year some of the white-flesh varieties of English turnip which are in so much demand for export are being grown. The past season Denmark had a surplus of over 3,000,000 pounds of rutabaga, and about 5,500,000 pounds of turnip. Part of this has been sold to foreign countries, but there is still a very large surplus remaining with no prospect of selling during this season, as it is generally believed that Germany will not be able to use much. The Danish growers are advised by Director Sorensen to plow up fields which do not promise a good harvest, or which have been planted to the poorer kinds or strains.

Of carrot seed about 1,500 acres were grown in 1917, while for the current year nearly 6,000 acres have been reserved. There is also a large stock of field carrot on hand, but not much of garden carrot. It is thought that it will be difficult to dispose of the surplus, and reduction of the area to this crop is recommended. There are also surpluses of radish and spinach, but not a large surplus of white cabbage seed. Indications are that larger areas are planted to cabbage this season so that a surplus is anticipated.

Apparently there is not a great over-production of grass or clover seed. The area in clover for seed has increased from 1,650 to 3,500 acres, but as Denmark requires approximately 5,000 acres to produce the seed required for home consumption, there is no danger of over-production. The area of meadow fescue has been increased from 3,000 to nearly 5,000 acres, but as there is a large demand for all of this seed for export there is no danger of over-production. Not much rye grass was cultivated before the war, but this year there are approximately 5,900 acres of the English or common rye grass grown for seed, and 8,300 acres of Italian rye grass. The war has encouraged the production of rye grass seed and a lively demand is expected from Germany for the English rye grass. It is feared that there is danger of over-production of Italian rye grass, because only about one-third can be used locally, and there is a limited demand. There may be a demand for it in Germany when conditions become normal, but it is

advised that the area of Italian rye grass be reduced instead of increased.

Mr. Sorensen recommends to the Danish growers that the reduction of acreage of all crops where there is likely to be a great surplus this year be accomplished by plowing up the poorest stocks. He cautions growers against exporting seed that is not good, as it is a poor advertisement and will react on the market for Danish seed in the future.

Northern Italy. So far as the seed trade is concerned, the interest in northern Italy is centered on field seeds. Red clover seed and alfalfa seed are largely produced in the area south of the Po and north of Rome except on the west coast where olives and vineyards replace ordinary farm crops. Bologna is the principal marketing and exporting center in Italy for red clover and alfalfa seed.

In the absence of accurate statistics dependence must be placed on the estimates of dealers as to the quantities of seed produced. These estimates were approximately in agreement and indicate that from 10,000,000 to 14,000,000 pounds of red clover seed and double that of alfalfa seed is a fair annual production. A crop of 16,000,000 pounds of red clover seed would be considered a large one. In 1918 the production fell to about 6,000,000 pounds. Most of this seed is raised on small areas by small farmers and is very poorly cleaned. The fields are generally weedy and contain quantities of buckhorn as well as other weeds. The cleaning machinery used by some of the larger dealers is crude and inefficient, and there is some complaint by them that the United States Seed Importation Act fixes the standard of purity at too high a figure.

A great deal of the Italian red clover and practically all of the export surplus of alfalfa seed finds its way into France and Austria-Hungary, and before 1914 the German firms bought freely. Italian dealers are now looking forward to a brisk trade as soon as peace is concluded for they claim to have information that the Austro-Hungarian seed market is bare and they expect to supply a large part of this demand.

The high price of red clover seed in Italy this year combined with the high rate of freight would have made it impossible to export red clover seed to the United States during the past year even had there been no export prohibition. According to the records furnished by the American Consul in Florence, there were cleared through his office in 1916, 1,711,999 pounds red clover seed; in 1917, 172,842 pounds; and in 1918, 162,685.

Besides the seeds mentioned above, this section of Italy could export rye grass seed and hemp seed and possibly small quantities of *Lotus corniculatus*. Italian farmers make little use of cultivated grasses and there is no opening here for American trade. Most of the hay produced consists of wild grasses, rye grass, clover, or alfalfa, with sainfoin and sulla in south Italy.

Such grass seeds as are ordinarily imported, consisting of small quantities of *Poa*, *Agrostis*, *Avena elatior*, *Anthoxanthum*, timothy, *Holcus lanatus*, formerly were imported from Germany.

SUGAR BEET SEED SITUATION.

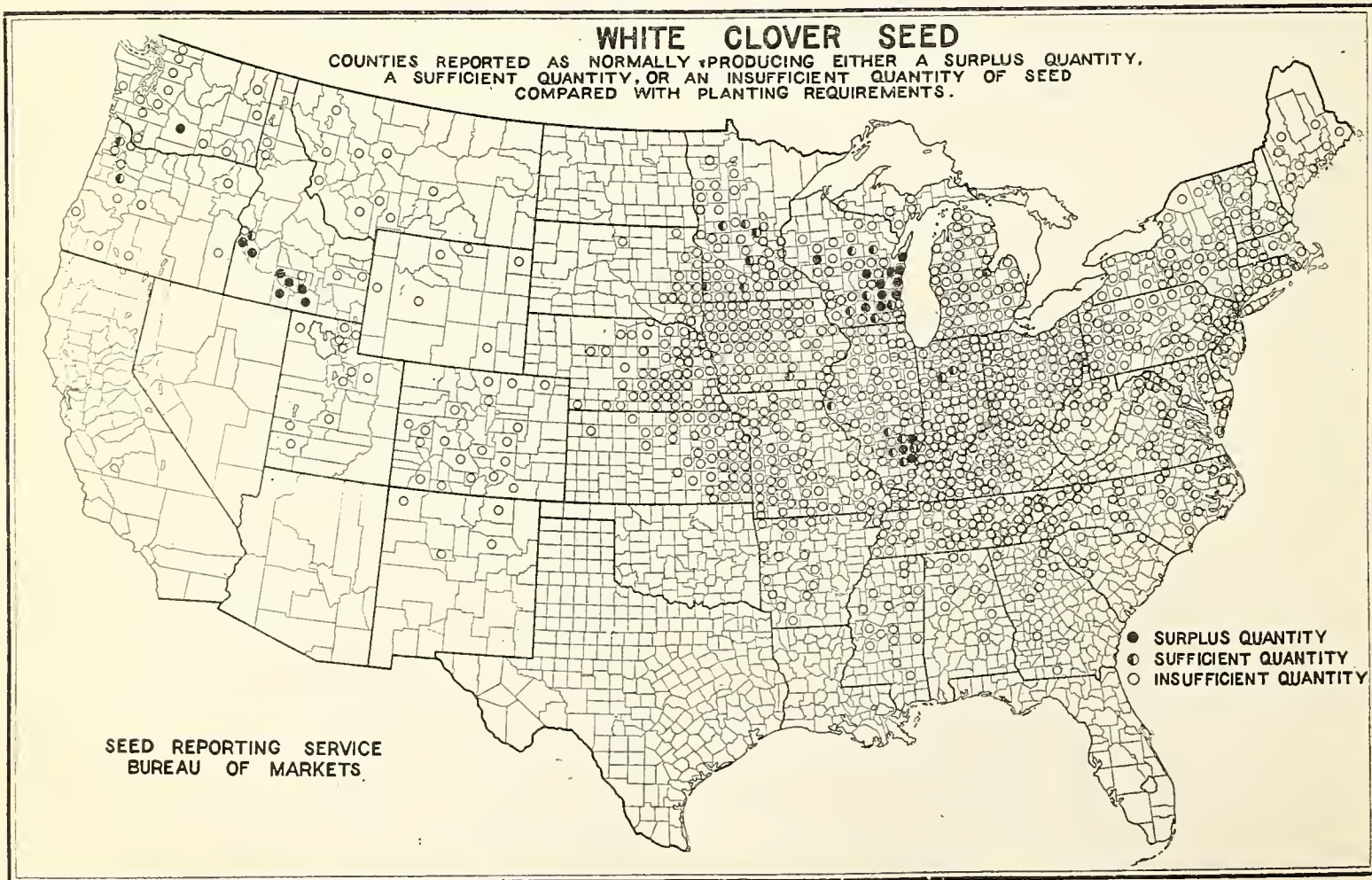
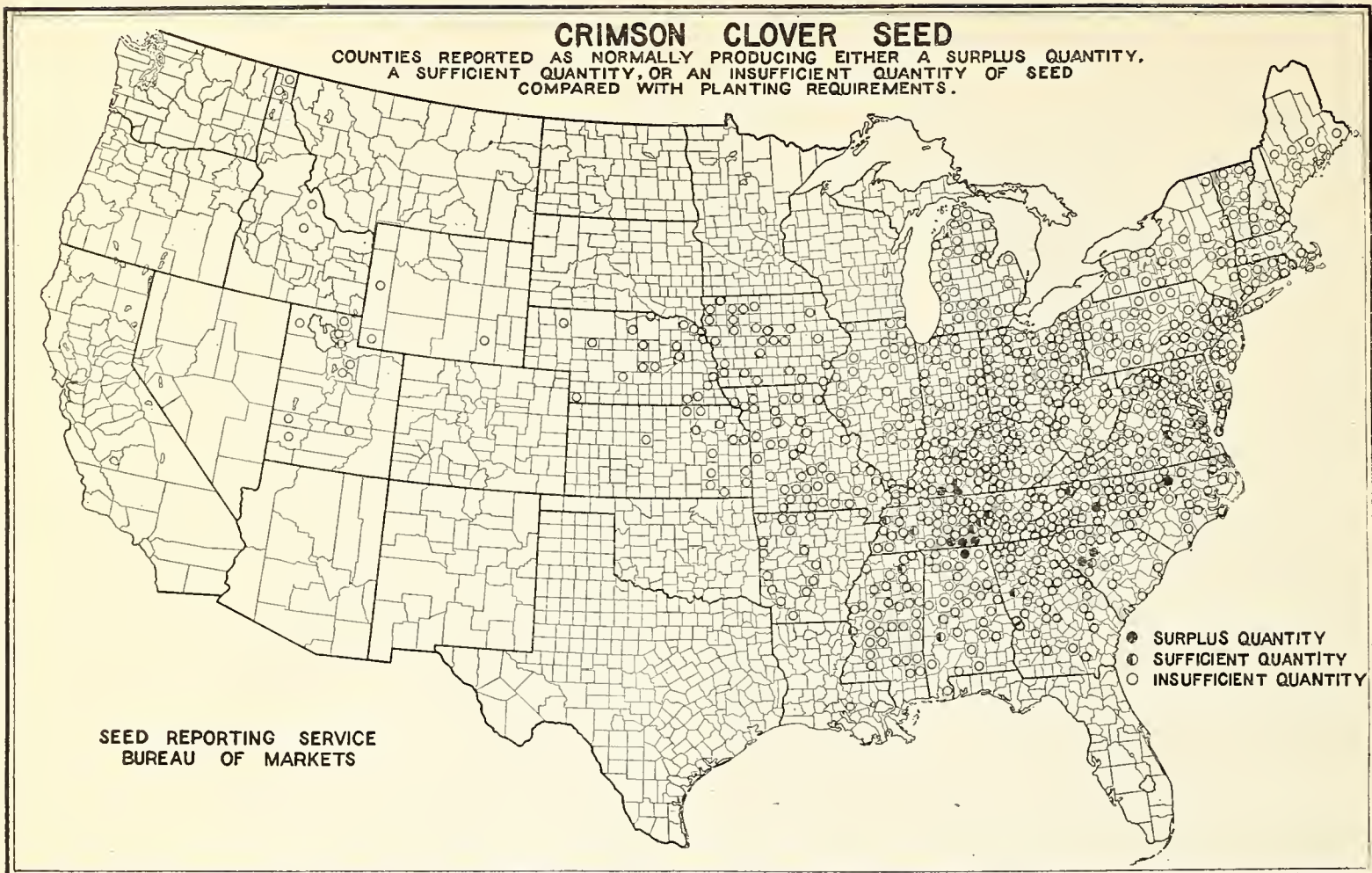
There is likely to be a considerable shortage of sugar-beet seed during the spring of 1921 unless arrangements are made immediately by beet sugar companies in the United States for their planting requirements in 1921. The situation for 1921 is serious because of the shortage of sugar-beet seed in Europe as compared with former years, and because of the increased activity in beet sugar production in European countries, which will probably require a large part of the European beet seed on hand and of the European production this year and next.

The present indications are that there is sufficient sugar-beet seed now in the hands of the beet sugar companies in the United States to take care of the entire acreage to be planted to sugar beets in 1919. The most recent information in regard to the sugar beet supply for 1920 indicates that there is at present a shortage of from 25,000 to 40,000 bags that must be met, and is being met, in order to provide sufficient seed for a normal planting next year.

The surplus of sugar-beet seed on hand in the Netherlands is estimated to be 400,000 to 500,000 pounds, which is the only important surplus known to exist at the present time. The prices being asked for this seed vary from 25 to 45 cents a pound. Through Dutch sources it has been learned that but little seed is to be expected from Germany until the harvest of 1921. In the past, German growers and dealers have been responsible for placing on the market most of the sugar-beet seed that was grown in their own country as well as that grown in Russia and Austria-Hungary. The Dutch growers are striving for much of the sugar-beet seed business that Germany had before the war and have increased their acreage considerably. However, they are unwilling to book further orders for 1919-crop seed as their supply of stechlinger is limited. The sugar factories in the Netherlands annually use 1,500,000 to 2,000,000 pounds of sugar-beet seed; Italy needs about 2,500,000 pounds; Belgium used prior to 1914 about 1,750,000 pounds annually; and France imported 6,630,000 pounds from Germany in 1912.

Dutch growers are willing to accept orders for 1920-crop seed at 12 to 25 cents a pound and it is estimated that they could produce about 11,000,000 pounds, but it will be necessary that orders be placed not later than May 15 in order that sufficient stechlinger may be raised from which seed can be produced in 1920.

In order to meet the situation, growers in this country are urged to increase the home production of sugar-beet seed up to the limit of the American requirements for 1921. In case it is found impracticable to do this, immediate steps should be taken by beet sugar factories through the American dealers or directly with dealers or producers in Europe to supply any possible deficit.



EAST CENTRAL DIVISION MARKET NOTES.

Stocks of most field seeds in this Division were reduced to probably a minimum quantity for this season of the year. Higher prices accompanied the rapid reduction in stocks during April. Because of the open winter the spring rush of orders came somewhat earlier than last year. Prior to this, business was reported dull principally because dealers in consuming sections were reluctant to place orders early with seedsmen and large shippers in this Division as well as in the West Central Division. When it was apparent that prices were going higher instead of lower, however, a greater interest was taken by seedsmen in obtaining sufficient seed to meet their requirements.

Red Clover.—The red clover seed sowing season in this Division is practically over at this time (May 1). Most seedsmen report that the domestic seed has been practically all sown, though a few dealers state that some stocks which were shipped to Europe, together with some European seed, are being returned. The carry-over may therefore not be quite so small as many have supposed it would be. In this connection it may be well to note that during the past month (April) 341,900 pounds of red clover were permitted entry into the United States as compared with only 135,300 pounds a year ago, and that the imports for March, 1919, were 411,400 pounds as compared with only 14,800 pounds for March, 1918.

Alsike Clover.—The stocks of alsike clover seed were exhausted before the sowing demands had been met. Fairly large quantities of this seed were imported, chiefly from Canada, during the last two months and the carry-over of domestic seed will be negligible.

Sweet Clover.—An unusually good demand for sweet clover seed is reported. At the present time it is difficult to obtain high-grade seed, and even inferior seed is getting scarce. The price is holding firm at \$25 per 100 pounds.

Alfalfa.—Only a few dealers seem to have fair to good quantities of alfalfa seed on hand. Most of the sales for the past few weeks have been of the poorer grades. Prices have advanced during the last 30 days fully \$3 per 100 pounds and the demand continues to be very good.

Timothy.—The trading in timothy seed was reported fair to good during the past two weeks, when prices advanced somewhat. Though rather large stocks for this season of the year are being carried, some of those who are the principal holders of this seed seem to think that there will be a good domestic demand in the fall and that European countries will sooner or later need to import timothy seed from this country.

Redtop.—While the demand for redtop has been nearly normal, the large surpluses which have accumulated during the last three years may result in another large carry-over this year. The price on redtop has held firm at about \$13.50 per 100 pounds.

Kentucky Bluegrass.—The demand for Kentucky bluegrass was fully normal with the result that the small crop of last season was depleted. The present price asked for 21-pound seed is around \$23.50 per 100 pounds.

Orchard Grass.—The stocks of orchard grass are light, but the spring demand is practically over. Some Danish and New Zealand seed has been offered at higher prices than those at which domestic seed has been selling. The early fall trade is expected to consume the small surplus of domestic seed.

Rape.—The stocks of rape seed on hand at this time are about equal to those of a normal year but are in the hands of comparatively few seedsmen, according to the reports received. Prices have made a few advances and declines during the sowing season. Good seed is quoted at this time at around \$9.25 per 100 pounds.

Seed Corn.—The demand for seed corn has been materially less this year than last principally because the 1918 crop of corn was of such excellent quality, making it unnecessary for dealers or growers to go any distance from their local territory to supply planting requirements.

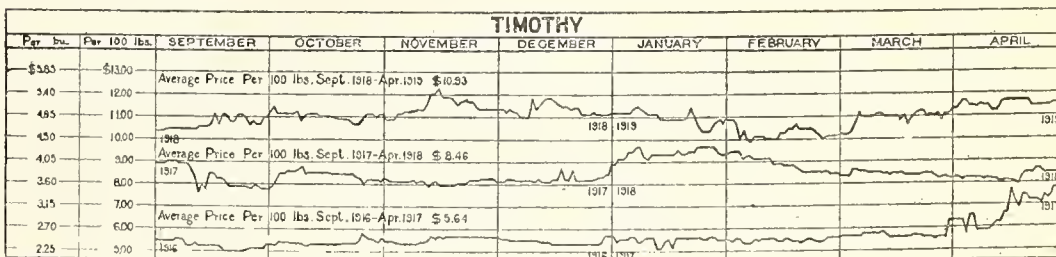
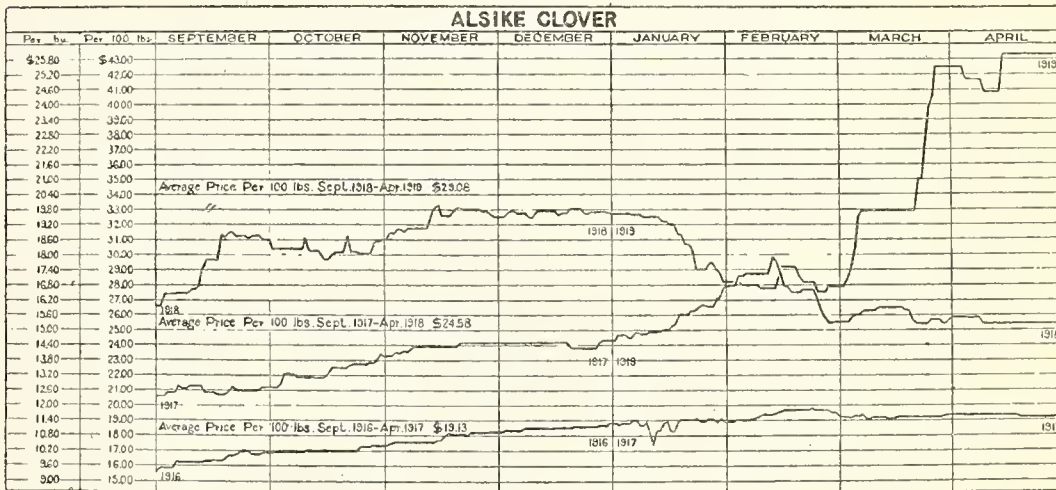
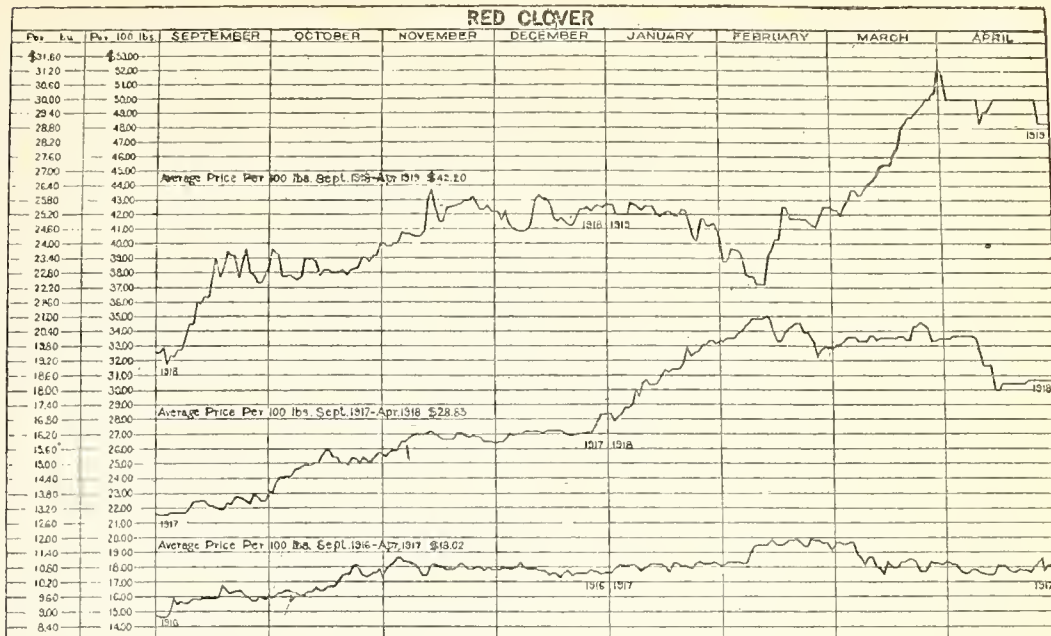
Seed Grains.—An unusually good demand for seed wheat was reported by the larger dealers, but the demand for seed oats and seed barley was considerably less than that of last year.

Canada Field Peas.—The market on Canada field peas is dull, being practically unchanged from that of last month. Unless an export demand takes place this summer similar to that which occurred a year ago, the large carry-over will not be absorbed by the time the new crop comes on the market. At present these peas are being quoted at \$4.75 to \$5.50 per 100 pounds.

NORTH PACIFIC DIVISION MARKET NOTES.

The demand for most kinds of field seeds handled by dealers in the North Pacific Division has been very brisk since the middle of March, and is reported as being quite active at the end of April, although the period of heaviest demand is over. Reports indicate that there will be no carry-over seed with the exception of timothy seed and field peas. In general, all seed stocks have been of good quality, but at the present

DIAGRAMS SHOWING DAILY CLOSING CASH PRICES OF "PRIME" SEED OF RED AND ALSIKE CLOVER AND TIMOTHY ON THE TOLEDO MARKET FROM SEPTEMBER TO APRIL, INCLUSIVE, FOR THREE SEASONS, 1916-17, 1917-8 AND 1918-19.



time poorer grades of seed wheat and alfalfa seed are being offered because the better grades have been exhausted.

Red Clover.—Stocks of good quality red clover seed are very low but reported sufficient in most districts to meet the demands which continue active. The total spring trade in the seed-producing districts has been heavier than for the same period last year, but lighter in other districts. Alfalfa seed is being substituted to a limited extent.

Alsike Clover.—The stocks of alsike clover seed, for the most part, are sufficient to meet further demands. The demand and stocks for the season have been lighter than last year.

Alfalfa.—The stocks of high-grade alfalfa seed in the irrigated sections appear to be about exhausted and insufficient to meet the demands which continue active. Other districts report sufficient supplies but no surplus. In general, the spring trade to date has exceeded that of last year.

Timothy.—Timothy seed stocks are unquestionably sufficient for trade demands with an appreciable carry-over. The total demand this season is considered about equal to that for the same period last year.

Seed Grains.—The spring wheat sections report a shortage of good-quality seed wheat, and, where available, seed oats and barley are being substituted. Seed oats, however, are very short in many districts. The present demand for seed grains continues active, and exceeds the demand for the same period last year.

Field Peas.—A slow demand for field peas has existed throughout the spring season. The seed stocks in the seed-producing districts are reported as being more than ample for the trade requirements.

Vegetable Seed Crop Conditions.

CALIFORNIA.

The several seed growing districts in California have been subjected to a variety of climatic conditions this season. In many parts of the Delta district and the Santa Clara Valley the seasonal rainfall has been above normal. Up to this time the season has been favorable for crops in general in these two districts.

The heaviest precipitation occurred along the coast in Monterey County, where a considerable acreage of garden peas is grown. Further south along the coast in San Luis Obispo County the total rainfall to date is slightly below normal and all seed crops are reported in good condition. In Santa Barbara and Ventura counties and in southern California the seasonal deficiency of moisture is more pronounced. Los Angeles County has received only half the normal rainfall.

Herewith is given a table compiled from data published by the Weather Bureau which shows the rainfall and variations from normal rainfall at several important California points adjacent to the seed-growing districts. The table gives the 1918, 1919, and the normal precipitation by months from October to April, inclusive, and the total of each for the seven-month period.

Results of all investigations and reports received concur in indicating that the production cost this year will be equal to and in many cases greater than that of any previous year. All bulb and root crops were grown last summer when labor was scarce and wages high. Many growing contracts with the seed farmers were made last fall when prices of all commodities were on the increase. There has been practically no decrease in operating cost since that time.

The acreage of many varieties has been reduced over that of last year, while there is a marked increase in the acreage of some others. The 1919 acreage as reported by California growers in the Vegetable Seed Production Survey of February 1, when compared with the 1918 acreage reported by them, shows the following increases: Mangel beet, 67 per cent; lettuce, 6 per cent; parsley, 59 per cent; parsnip, 19 per cent; radish, 47 per cent; and salsify, 33 per cent; and the following decreases: Garden beet, 15 per cent; carrot, 22 per cent; celery, 27 per cent; onion seed, 8 per cent; and spinach, 16 per cent. There is also a reduction in the acreage reported to be planted to dwarf snap beans, watermelon, pepper, and tomato. The 1918 acreage of vegetable seed crops by States was published in the issue of the Seed Reporter for November, 1918.

All reports agree that the condition of the seed crops in general is about normal and that it is much better than at this time last year. The damage caused by insect pests to date has been small. No marked tendency is evidenced to produce only standard varieties this season as the growers have endeavored to comply with the foreign and domestic demand regardless of variety.

Beet.—Beets are in good condition and the present prospects are that an average crop will be harvested. All reports, with one exception, indicate that a good crop will be obtained unless unusual weather conditions intervene between now and harvest time.

Beans.—Planting is just starting in southern California and will not begin in the central part of the State until some time later. It is the consensus of opinion among growers that the acreage planted for seed beans will be approximately two-thirds that of last year and about the same as a normal year prior to the war.

Carrot.—This is one of the seed crops in which there has been a considerable reduction of acreage this year, but while it is too early in the season to forecast the coming harvest all reports agree that the fields are in good condition at this time.

Lettuce and Radish.—These crops are in fair condition at the present time, although the season has not been altogether favorable in all growing sections and minor losses have been reported in the Delta and Santa Clara districts. A number of acres had to be planted two or three times because floods and cut-worms destroyed the crops, but the present crop outlook is better than at this time last year.

Onion Seed.—The climatic conditions have not been altogether favorable for this crop throughout the season. There was a scarcity of white bulbs at planting time last fall, and many cases of mildew are reported caused by the excess of moisture. The greatest damage from mildew is reported in the Santa Clara Valley. All reports agree, however, that the general outlook at this time is at least as good as, if not better than, that for the past two years.

Parsnip.—The acreage of parsnip is considerably larger than last year. The rainy weather retarded cultivation and produced an abundance of weeds. All fields that have been properly cared for, however, are looking well.

Garden Peas.—The acreage of garden peas will not be as large as last year because of the shortage of stock seed. The planting this season was done both early and late, because of the intervening rains. Many early-planted fields were washed out and could not be replaced. Aphids

was present in a number of fields for a short time and then disappeared. Present reports indicate that the fields are now in fair condition.

Salsify.—The salsify seed acreage is somewhat larger than last year. However, the growers were very conservative in allocating acreage for this vegetable. All fields are reported in excellent condition.

Spinach.—While it is difficult to make an authentic forecast at this early date, quite a number of the fields have been damaged by the rains and, with the decreased acreage, the growers now anticipate a production much less than that of last year.

Tomato.—The planting in the fields has just begun and will continue through the month of May. In case sufficient demand develops in the near future to warrant a larger acreage it could be easily arranged for. There has been practically no loss from damping-off and the young plants, which are now growing in open-air beds, are hardening in excellent condition. The larger part of California's tomato seed is produced in southern California in the territory surrounding Santa Ana where there is an abundance of Artesian water, and the lack of the usual amount of rainfall in that section will have no bearing on the tomato crop.

NORTH PACIFIC DIVISION.

Contract growers in the Puget Sound seed-producing sections report that present crop conditions are very promising. In general, the mild winter was favorable for the wintering over of all root stocks for seed. Weather conditions so far this spring have also been favorable for the growing crops. Although the spring has been cold and backward with considerable rain, the root crops were transplanted earlier than in 1918. Slightly higher prices are being paid to the growers for the growing of the seed crops, as the costs of labor and land values have not decreased.

It is thought that the production of all vegetable-seed crops grown in this division will be about the same as last year, more in some instances and decidedly less with spinach and radish. The 1920 production will possibly be reduced still more on many items as very few contracts have been placed with the growers to date. Prices for 1920 are much lower on cabbage but contracts are very slow.

With the present outlook for production and the added experience of the farmers in growing the seed, the contract growers feel rather confident of the outcome for this year.

Cabbage.—Prospects for a better crop of cabbage seed than has been obtained for some time are encouraging. It is reported that possibly there will be a surplus of a few varieties, but that other varieties will be short.

Turnip.—The condition of many of the turnip fields will not average over 50 per cent of normal, due to the dry fall of 1918. However, the acreage of turnip for seed is reported to be the largest ever grown, with special reference to the Sound Region.

Beet and Mangel.—Many of the mother beets rotted in the pits during the time of the heavy rains in February and March, and this will reduce the acreage for seed production. One grower estimates this reduction at 60 per cent for his own plantings. The beets and mangels have all been transplanted and while it is too early to tell much about them, they are growing nicely.

Spinach.—The spinach acreage is greatly reduced over that of 1918, ranging from 15 to 50 per cent with different growers.

Kale.—In some sections, the kale is practically a total failure. The acreage in the Sound district is larger than last year.

Garden Peas.—Reports from the seed-pea section of southern Idaho indicate that seeding has not yet started, but that the outlook is very favorable for 1919 production. Farm work is well under way, and the growers are well equipped to handle their spring work. Ample snow in the mountains insures sufficient water for irrigation. The acreage secured for the production of garden peas for seed in the Upper Snake River Valley this year is fully up to normal of approximately 30,000 acres.

Contract growers in eastern Washington report that while the seeding season is later than last year, the soil is in much better condition and that the seeding is progressing rapidly. The acreage in this section for this year is considered equal to that of last year. Contract prices to the grower range about one cent per pound higher than last year. Present prospects are most promising.

Reports from western Washington indicate that a larger acreage of garden peas will be planted for seed this year than last year. Seeding has been somewhat delayed by prevailing rains, but conditions are very favorable.

Sugar Beet.—It is reported that the loss of mother beets did not exceed 10 per cent of the stocks reserved for seed production. Transplanting of stocklings is well under way and will be completed about May 15. Present weather conditions are excellent but hand labor is reported as decidedly short. The estimated acreage planted for sugar-beet seed in Idaho this year shows an increase of about 43 per cent over that of 1918, totaling about 4,000 acres.

PRECIPITATION AT VARIOUS CALIFORNIA STATIONS.

Station.	October,		November,			December,			January,			February,			March,			April,		Total for 7 months.				
	1918.	1919.	Normal for Month.	1918.	1919.	Normal for Month.	1918.	1919.	Normal for Month.	1919.	1918.	Normal for Month.	1919.	1918.	Normal for Month.	1919.	1918.	Normal for Month.	Oct., 1918.	Apr., 1919.	Oct., 1917.	Apr., 1918.	Normal for 7 months.	
San Francisco...	.17	.00	1.04	5.60	.81	2.47	2.62	.72	4.24	2.57	.81	4.33	9.31	5.79	3.70	2.74	2.73	3.14	.10	.60	1.82	23.11	11.46	20.74
Sacramento .....	.40	T.	1.04	1.84	.25	2.15	1.70	.45	3.53	1.77	.97	3.69	6.29	3.36	3.14	1.50	4.00	3.01	.10	1.06	2.00	13.60	10.09	18.56
Stockton .....	.27	.00	.70	1.84	.65	1.56	2.09	.64	2.78	1.22	.67	2.86	4.91	2.88	2.35	1.88	2.90	2.26	T.	.88	1.11	12.21	8.62	13.62
San Jose .....	.15	.00	.90	2.26	.54	1.89	1.28	.55	3.05	1.06	.70	2.88	4.87	2.63	2.54	2.87	4.48	2.98	.06	.45	1.41	12.55	9.35	15.65
Hollister .....	.20	.00	.70	2.33	.71	1.49	1.92	.28	1.97	.64	.54	2.71	3.68	3.56	1.99	1.83	3.83	2.38	.06	.32	1.05	10.66	9.24	12.29
San Luis Obispo...	.81	.09	1.33	4.00	.47	1.70	1.92	.14	2.34	1.51	.55	4.72	5.48	9.63	3.58	3.35	7.12	3.98	.10	.04	1.48	17.17	18.04	19.13
Santa Barbara....	.02	T.	.86	3.64	.17	1.54	.83	.03	3.33	1.20	.51	4.06	1.95	10.47	3.46	2.62	10.37	2.79	.17	.05	1.18	10.43	21.60	17.22
Los Angeles.....	T.	.00	.77	1.85	.36	1.48	1.54	.07	2.90	.96	.50	2.84	1.02	6.14	2.91	2.18	6.21	3.00	.20	.15	1.13	7.75	13.43	15.03
Santa Ana.....	.10	.00	..	2.39	.26	..	.72	.60	..	.48	1.23	..	1.38	1.99	..	..	4.50	..	..	.10	..	..	8.08	..

Note: Normal or average rainfall has been computed by the Weather Bureau from data extending over a period of years.

NOTES ON THE BERMUDA ONION SEED CROP.

California.—Owing to the unsatisfactory yield of Bermuda onion seed obtained during the past two years in the Coachella Valley, only a small acreage was planted for the 1919 harvest. The reported acreage for 1917 was approximately 90 acres, and for 1918 one hundred and forty acres, while for 1919 the acreage reported is less than 10 per cent of the average for the past two years. No other acreage outside of the Coachella Valley has been reported in this State. The shortage of onion bulbs at planting time and the uncertainty of obtaining a good yield in untried sections, also the loss caused by thrips and burn during the past two years in the Valley, are largely responsible for the reduced acreage.

The small acreage now growing in the Coachella Valley is in good condition and present indications are that a fair yield will be obtained, but even though the yield on the few acres planted should be above normal the quantity produced will be small.

Canary Islands.—According to the American Consul at Tenerife, Canary Islands, in a report to the Department of State, dated March 6, 1919, fifty per cent of the onion-seed crop, nearly all of which had been contracted for by American buyers, has been destroyed by the most persistent drought within the last 50 years.

In 1917 and 1918 more than 90 per cent of the onion seed grown in the Canaries was exported to the United States. These exports were valued in 1917 at \$133,264 and in 1918 at \$99,036.

There have been a number of complaints from American buyers that Canary Island onion seed failed to give satisfaction when kept from one season to another. As reported by the Consul, actual experiment in the Canary Islands seems to have proved that the Canary Island onion seed, if carefully stored in dry, dark, moisture-proof containers, will retain its viability for at least 12 months.

COMMERCIAL VEGETABLE SEED ACREAGE AND PRODUCTION.

A preliminary report of commercial acreage of vegetable seed crops for 1918 and prospective acreage for 1919, as obtained in the vegetable seed production survey (FORM SRS-81) of February 1, was published in the issue of the Seed Reporter for March 8. This preliminary report was made before all schedules had been received, and before much time could be given to editing and studying the schedules. The table given herewith represents the final report after a careful study of all schedules received and all adjustments made to prevent duplication. Column 3 gives the total estimated acreage of vegetable crops planted for seed purposes for 1919, which includes the acreage actually planted prior to February 1, and also the estimated acreage to be planted after that date. In the main this represents only the estimate as of February 1, though in a few cases later estimates were received and wherever these were different from the former estimates, they have been incorporated in this report. Some variations will be observed between these figures and the estimates given in the preliminary report, because of readjustments necessary after careful study and receipt of further data.

It is still too early in the season to make an intelligent estimate of commercial seed production for 1919 based upon vegetable seed crop conditions. However, a computation of prospective commercial seed production for 1919, based upon the estimated acreage for the year and the average yield of seed produced per acre for the past three years is of some value and interest and is presented here in

column 5. The average yield of seed per acre for the past three years upon which this is based is given in column 4.

Column 6 gives the actual reported commercial seed production for 1918. Some variations will be noted between this and the November estimates for 1918, which were reported in the issue of the Seed Reporter for December 7, 1918. At the time the commercial production was estimated in November, many of the seed crops were not yet threshed and it was impossible to obtain exact figures. Therefore, some decreases and some increases from those published in December will be noted in this column. The November estimates were larger than the reported actual production of dwarf snap beans, mangel beet, carrot, celery, cucumber, muskmelon, watermelon, parsnip, garden peas, pepper, pumpkin, summer squash, winter squash, sweet corn, and English turnip. They were lower than the actual reported production of garden pole beans, kale, onion, parsley, spinach, and Swede turnip.

Columns 7 and 8 give for comparison the reported acreage planted for seed in 1918, and the reported acreage actually harvested for seed the same year, and column 9 gives the percentage of the acreage planted for seed that was not harvested for seed.

A survey of the total number of acres planted to each of the vegetable seed crops in 1919 and the location of such acreage will be made on June 30, and will be used in conjunction with information on crop conditions as a basis for making estimates during the season on the commercial seed production for 1919.

Kind of Seed.	Commercial acreage for seed, 1919.			*Average yield of seed per acre for 3 years, 1916-18.	Prospective commercial seed production, 1919.	Commercial seed production, 1918.	Commercial acreage for seed, 1918.		
	Planted up to Feb. 1, 1919.	Estimated to be planted after Feb. 1, 1919.	Total estimated acreage, 1919.				Planted for harvest in 1918.	Actually harvested for seed in 1918.	Percentage planted acreage not harvested for seed.
	Acres.	Acres.	Acres.				Acres.	Acres.	Per cent.
Beans—Dwarf snap	10	51,481	51,491	291	14,984,000	29,215,515	72,831	65,539	10
Beans—Garden pole (not including Lima)	30	6,809	6,839	416	2,845,000	5,166,159	7,482	6,908	8
Beet—Garden	2,221	646	2,867	682	1,955,000	2,509,391	2,801	2,752	2
Beet—Mangel	683	190	873	967	844,000	286,974	424	348	2
Cabbage	2,040	102	2,142	265	568,000	161,629	1,383	379	72
Carrot	2,627	1,088	3,715	527	1,958,000	2,125,060	4,894	4,692	4
Celery	125	13	138	391	54,000	40,201	176	171	3
Cucumber	0	4,052	4,052	200	810,000	548,044	3,177	2,783	12
Kale	85	10	95	377	36,000	16,744	49	23	53
Lettuce	1,868	642	2,510	470	1,180,000	746,993	2,291	1,790	22
Muskmelon	0	2,013	2,013	144	290,000	196,142	1,671	1,230	26
Watermelon	0	4,942	4,942	79	390,000	959,549	10,423	10,066	3
Onion seed	6,137	1,157	7,294	303	2,210,000	1,685,258	7,260	6,684	8
Onion sets	15	3,572	3,587	11,034	39,579,000	46,068,711	3,818	3,736	2
Parsley	228	45	273	640	175,000	72,553	155	123	20
Parsnip	265	83	348	624	217,000	167,199	267	236	12
Peas—Garden	6,926	91,375	98,301	578	56,818,000	58,127,258	102,095	92,436	9
Pepper	1	429	430	52	22,000	56,195	657	650	1
Pumpkin	0	1,247	1,247	87	108,000	132,612	1,380	980	29
Radish	3,585	6,855	10,440	224	2,339,000	1,935,047	8,760	7,856	10
Salsify	132	33	165	434	72,000	30,647	124	97	22
Spinach	1,185	723	1,908	324	618,000	1,650,008	4,259	3,059	28
Squash—Summer	0	1,070	1,070	133	142,000	99,404	1,004	636	37
Squash—Winter	0	2,258	2,258	66	149,000	128,385	2,534	1,541	39
Sweet corn	0	14,257	14,257	678	9,666,000	11,916,892	14,759	13,124	11
Tomato	0	3,002	3,002	83	249,000	307,815	3,832	3,748	2
Turnip—English	2,048	526	2,574	239	615,000	200,783	936	465	50
Turnip—Swede	638	129	767	300	230,000	27,312	279	69	75

*Inserted to show the yield basis on which the prospective commercial production, 1919, was computed.

CRIMSON CLOVER SEED OUTLOOK.

During the latter part of April an inquiry was made to ascertain the prospects for the crop of crimson clover seed this year. In view of the fact that very little crimson clover seed has been imported during the past six months and that the carry-over of seed in dealers' hands at the close of the sowing season last fall was less than that of a year ago, considerable interest is manifested in the domestic production of this seed this year.

Most of the reports from Franklin County, Tennessee, which probably produced more crimson clover seed last season than all the rest of the United States put together, indicate that more of the crop will be cut for seed this year than was cut last year because of the materially increased acreage that was sown last fall. All but a few correspondents report that the plants are thick on the ground, though one or two point out that the freeze during the latter part of April may reduce the yield per acre. Most of those reporting do not expect the yield per acre to exceed that of last year. It is thought that growers in Franklin County will begin to cut their crimson clover for seed about May 20th to 25th.

Conflicting reports have been received from other counties in Tennessee. Some state that a larger acreage than last season will be cut for seed because the seed is expected to bring an attractive price, whereas others say that a smaller acreage will be cut for seed this year because a greater portion of the acreage will be turned under or cut for hay than last year. Though the stand of clover plants in these counties of Tennessee is reported to be thick, the yield per acre is hardly expected to be so good as that of last year.

Difference of opinion prevails in Delaware as to whether the acreage to be cut for seed this season will be more than that of last season. More correspondents seem inclined to conclude that it will be somewhat less because (1) dry weather last fall at sowing time had a deleterious

effect, (2) feed is so scarce and hay so high in price, and (3) growers reduced their acreage last fall because the crop sown the year before was so badly winterkilled during the winter of 1917-18. Practically all of the reports stated that the plants are thick on the ground but considerable doubt prevails as to whether the yield of seed per acre this year will be better than that of last year, which appears to have been good wherever it was not diminished by winterkilling. Growers in Delaware are planning to cut the crop for seed between the first and tenth of June.

Indications in Maryland are that more crimson clover will be cut for seed and also for hay than last year on account of the larger acreage this spring. During the winter of 1917-18 a large percentage of the acreage was winterkilled whereas very little winterkilling during the past winter is reported in this State or other States. Excellent stands are reported, which will be ready to be cut for seed the latter part of May or the first of June.

The scattered reports from North and South Carolina indicate that less crimson clover will be cut for seed this year than last because of poorer stands. The readiness with which this seed was sold last fall may induce more of the growers than usual to strip or cut their crop for seed. It is thought that seed will be stripped the middle or latter part of May in North and South Carolina.

More crimson clover is expected to be cut for seed in Virginia than last year because of the increased acreage. A fair to good stand which will be ready to be harvested for seed the latter part of May or the first of June is reported. Usually in Virginia, as in other States except in portions of Tennessee and Delaware, most of the crimson clover is cut for hay or turned under as a green manure crop, therefore is very difficult to determine accurately a month in advance of the time of harvesting seed what percentage of the crop will be cut for seed.

NORTH CENTRAL DIVISION MARKET NOTES.

The demand for most field seeds throughout the North Central Division has been exceptionally good during the past month. The lateness of the season, which has been about two weeks behind the normal, has retarded the early plantings and caused a slower movement of millets and some of the other late-sown crops in most sections than is normally expected at this season. Late snows and rains have interfered with the seeding of wheat and other small grains in the Red River Valley of Minnesota and North Dakota and the eastern part of South Dakota. Reports from all sections of this Division indicate that clover and alfalfa came through the winter in good condition although it was very open. Wholesale prices for best grades about April 30 are given in the following summaries by crops.

Red Clover.—The stocks of red clover seed in the hands of all seedsmen in this Division are small; in fact the smaller dealers have been sold out for some time. The larger dealers are replenishing their stocks from Indiana and other eastern points, while some shipments are being received from western points. The prevailing high prices have not curtailed the demand materially, and dealers in most sections report active demands. Much red clover is being sown with the small grains. Red clover was being quoted at \$47 to \$49 per 100 pounds the latter part of April but declined about \$3 per 100 pounds the first few days of May.

Alsike Clover.—Practically all dealers report that they are sold out of alsike clover seed. The shortage of stocks in this commodity is attributed not only to the shortage and high price of red clover but also to the popularity of alsike in certain districts.

Alfalfa.—Generally speaking, the demand for alfalfa seed has been above normal. A few dealers report depleted stocks, but the supply in most dealers' hands is sufficient to take care of the demand. The demand for alfalfa is particularly heavy in South Dakota and adjoining territory. The best grades of common northern-grown alfalfa are being quoted at about \$26 per 100 pounds.

Sweet Clover.—The demand for sweet clover seed has been exceedingly strong, and stocks are reported as being light. Many dealers report a greater increase in trade in this commodity than in any other field seed. It is not thought that this increased planting has been at the expense of other forage crops. Scarified white flower sweet clover seed is being quoted at from \$25 to \$28 per 100 pounds.

Timothy.—The demand for timothy seed has been exceedingly good in most sections and depleted stocks are reported by most seedsmen in the Division outside of Minneapolis. The Minneapolis seedsmen expect to be able to take care of their demands but their stocks are not large. Timothy is showing an upward tendency and is being quoted at from \$11 to \$13.15 per 100 pounds.

Brome Grass.—The demand for brome grass seed has been such as to exhaust the dealers' stocks throughout the Division. An increased sale of western rye grass, also known as slender wheat grass, is reported from North Dakota as a result of the depleted stocks of brome grass.

Millets and Sorghums.—The early demand for millets has not been heavy but dealers anticipate a very heavy late demand. A number of dealers have noted a marked shortage of Siberian millet, but Minneapolis dealers apparently do not feel any shortage in this line.

Amber sorgo stocks are good and this commodity is in good demand. The demand for Sudan grass has been heavy, with the result that stocks are being depleted in most warehouses.

Seed Corn.—Stocks of seed corn are good throughout the Division, but the quality is not so uniformly good as was thought before corn began to move. Taken as a whole, the seed corn situation is good and seedsmen anticipate large plantings because of the late spring which has interfered with the sowing of small grains.

Soy Beans and Canada Field Peas.—There is an increasing demand for soy beans for silage purposes throughout Minnesota and parts of North and South Dakota. This crop is grown with corn and used as silage.

An increased demand for Canada field peas is reported by some dealers, but this does not appear to be general throughout this Division. Canada field peas are being quoted at from \$5.35 to \$6 per 100 pounds.

Flax.—Seedsmen handling flax anticipate a heavy run on this commodity. They report good stocks of good quality. Flax is being sold at \$4.25 to \$4.55 per bushel.

VELVET BEAN VARIETY INFORMATION.

The information given in the following tables relative to velvet beans was obtained and compiled along with similar information on soy beans and cowpeas which was published in the April 5 issue of the Seed Reporter. The same detailed explanations accompanying the tables published at that time will apply to those given below.

Average percentage of the total quantity normally handled by wholesale and retail seedsmen that is of each of the varieties indicated.

VELVET BEANS					
STATE	Florida (Late Speckled)	Georgia (Early Speckled)	Chinese	Osceola	All other varieties
	%	%	%	%	%
Alabama	5	90	1	3	1
Arkansas		99			1
Florida	12	80	5	2	1
Georgia	x	90	1	7	2
Louisiana		86	2	12	
Maryland		95		5	
Mississippi		60		40	
North Carolina	53	47			
South Carolina		89	2	9	
Tennessee		70	1	25	
Texas	10	78		12	
Virginia		88		12	
United States	3	87	1	9	

Average percentage of the total quantity normally shipped out from producing sections by local shippers that is of each of the varieties indicated.

VELVET BEANS					
State.	Florida (Late Speckled)	Georgia (Early Speckled)	Chinese	Osceola	All other varieties
	%	%	%	%	%
Alabama	6	75	2	16	1
Arkansas		100			
Florida	6	26	1	67	
Georgia	x	91	x	7	2
Louisiana	x	80		19	1
Mississippi		95		5	
North Carolina	4	96			
South Carolina		100			
Tennessee		90		10	
Texas		100			
United States	3	80	1	15.5	.5

x Indicates less than 1 per cent.

WHOLESALE AND RETAIL FIELD SEED SELLING PRICES, APRIL 30, 1919.

(All prices, except where noted, dollars per 100 pounds.)

In the table below are given the average wholesale and retail prices of field seeds for each of the divisions, as indicated. The same detailed explanations accompanying the table published in the April 5 issue of the Seed Reporter will apply to this table.

KIND OF SEED.	North and Middle Atlantic Divisions.		Southeastern Division.		East Central Division.		West Central Division.		North Central Division.		North Pacific Division.	
	Wholesale, Per 100 lbs.	Retail, Per 100 lbs.	Wholesale, Per 100 lbs.	Retail, Per 100 lbs.	Wholesale, Per 100 lbs.	Retail, Per 100 lbs.	Wholesale, Per 100 lbs.	Retail, Per 100 lbs.	Wholesale, Per 100 lbs.	Retail, Per 100 lbs.	Wholesale, Per 100 lbs.	Retail, Per 100 lbs.
Red clover	\$47.55	\$50.05	\$48.00	\$50.50	\$46.65	\$46.75	\$47.25	\$48.50	\$49.25	\$50.75	\$46.00	\$46.40
Alsike clover	45.30	45.80	40.00	40.20	39.50	39.75	39.00	41.25	41.00	43.50	38.00	38.65
Crimson clover	20.95	24.05	20.50	23.75	21.00	23.50	21.40	23.25				
Sweet clover	26.55	29.60	28.00	34.50	25.10	28.25	24.90	29.35	26.25	28.25	30.50	32.50
Alfalfa	26.05	29.05	26.00	27.00	24.60	27.10	23.85	24.05	25.75	27.55	24.85	26.25
Timothy	12.20	13.10		12.15	11.30	12.50	11.25	11.75	11.50	12.50	11.60	14.75
Redtop	15.35	18.40		15.75	13.80	17.40	14.00	18.75	15.85	18.85	18.60	23.50
Orchard grass	30.15	30.10		30.20	30.00	31.70	29.50	32.25	29.90	31.40	32.40	37.40
Kentucky bluegrass	25.15	28.90		27.15	23.30	27.45	25.00	30.00	26.40	28.50	26.75	33.75
Canada field peas	5.55	7.55			5.55	6.95	6.90	7.50	6.00	6.85	6.40	8.85
Cowpeas	6.55	6.75	5.50	5.25	6.20	6.55	6.15	6.90				
Soy beans	5.15	8.25	4.75	5.35	5.90	6.80	6.00	7.60	6.25	8.25		
Spring vetch	8.20	9.85			7.60	14.00			11.10	11.50	9.85	10.50
Winter vetch	20.25	22.35	20.50	21.85	18.70	20.00	21.50		19.50	21.25	23.15	25.00
Golden millet	6.15	6.75	6.80	7.00	5.95	6.85	5.50	5.75	5.55	6.25	8.40	12.85
Common millet		6.00		6.35	3.95		3.60	4.25	4.00	4.85	7.85	12.50
Japanese millet	5.90	7.55			5.20	7.50	5.00	5.65	6.00	6.55	8.40	12.00
Amber sorgo			4.60	6.65	4.45	5.80	3.25	4.60	4.15	5.85		
Orange sorgo			4.65	6.65	4.35	5.40	4.00	4.60				
Kafr					3.85	4.75	3.50	4.85	4.50	5.40		
Sudan grass					15.60	20.00	17.00	20.50	17.55	21.00	19.75	22.85
Rape	9.60	16.50	12.50	16.05	9.70	14.00	9.60	13.65	9.75	13.40	13.55	16.40
Cotton seed			6.20	6.70								
Seed potatoes	3.55	3.45	2.65	3.90	1.60	1.75	2.50	2.50	2.85	2.10	2.75	2.50
	Per bu.	Per bu.	Per bu.	Per bu.	Per bu.	Per bu.	Per bu.	Per bu.	Per bu.	Per bu.	Per bu.	Per bu.
Seed corn	\$2.75	\$3.50	\$2.95	\$3.85	\$2.90	\$3.40	\$2.75	\$3.50	\$3.50	\$4.50	\$4.40	\$5.00
Seed barley	1.75	2.05			1.40	1.65	1.55	1.40	1.25	1.25	2.50	1.85
Seed buckwheat	2.10	2.85			2.00	2.50	2.10		1.85	1.85		
Seed oats	1.00	1.25		1.25	.85	.90	.90	.90	.95	.95	1.40	1.25
Seed rye	2.45	2.75		3.20	2.10	1.90	1.75	1.85	2.10	2.10	2.75	2.75
Seed wheat	3.15	3.15		3.10	2.90	2.65		2.50		2.75	2.85	2.55

