

The Bean County of Ontario.

Possibly no other county in the Province of Ontario is more adapted for the growing of beans than that portion of Kent County on Lake Erie, which extends clear across the County and is from five to ten miles in width. Beans are grown nearly all over the County, but the southern portion is the best adapted. The soil is a rich loam, with a clay bottom, and although suitable for any other farm crop, beans is the crop depended on for a large yield and quick returns, for they are harvested in about ninety days from the time of planting. The white bean is the principal kind, but other varieties are grown in small quantities. After the soil is thoroughly prepared in spring and surface pulverized very finely, we sow between May 25th and June 15th, in drills twenty-eight inches apart, requiring about forty-five pounds of beans per acre. Once harrowing with a weeder before the plants appear, and twice between the time the plants are two days old and high enough to cultivate is sufficient. Then the cultivator is put into use. The first cultivating is the most important, for the operator should keep the teeth very close to the row on each side. This stirs the ground, and at the same time rolls the light loose earth around the plants and between each hill, entirely covering any very small weeds that might have been missed in harrowing the ground. At the second and third cultivating the large cultivator teeth are used for cutting Canada thistles and grass not removed the first time. If this system is followed closely very little hoeing is necessary, unless for cutting out thistles and ragweed that might have been missed.

As soon as the blossoms appear—about 35 days after planting—cultivating must cease, and beans not disturbed any more till ripe. Disturbing the plants while in bloom has a tendency to break off the blossoms, hence lightening the crop. On a single stalk I have counted nearly 100 pods, which, when well filled, average from five to seven beans in a pod.

Bean-harvesting begins about the 25th of August, and a farmer with a good two-horse bean-puller can cut from ten to twelve acres per day, and a lad with a two-horse side-delivery rake can put the same in winrows in same time. Dry weather is very essential in bean harvest, as it not only lessens the labor, but gives a bright, glossy appearance to beans, with but few damaged ones.

The yield is from fifteen to thirty bushels, and in some instances, when circumstances are favorable, forty bushels per acre has been grown.

From fifteen to eighty acres is the amount grown by each farmer; the large acreage is grown by the farmers of South Harwich, but fifty acres is common, and with an average of twenty-five bushels gives a farmer good returns. The largest amount of beans grown by one farmer in South Harwich last year was 2,000 bushels, and as the highest price paid was \$1.60 per bushel, those farmers with large yields and top prices receive good returns for their summer's labor. The estimated yield of beans in Kent Co. in 1904 was nearly three million bushels.

Kent Co., Ont. DOUGLAS CAMPBELL.

Germinating Condition of Various Weed Seeds.

Whoever is disposed to marvel at the apparently spontaneous manner in which weeds spring up in what were supposed to be clean-cultivated fields, will understand the phenomenon more easily when he knows the conditions under which various seeds germinate, and the length of time some of them may remain in the ground without being spoiled. In this connection a summary of the conclusions arrived at by the North Dakota Experiment Station, and published in Bulletin 62, may shed some light:

"First—Shepherd's purse, tumbling mustard and peppergrass will not ordinarily come up through two inches of soil. That is, they will not germinate that year, if buried deeper than two inches in soil such as that of the experiment station, which is described as black alluvial loam.

"Second—Stinkweed comes up abundantly through one inch, unwillingly through two, and not at all through three.

"Third—Green and yellow foxtail germinate about May 1st in the latitude of North Dakota, but do not germinate in the fall from seed gathered that season.

"Fourth—Wild mustard seed buried five inches deep will not grow, but will grow through three, two, and best through one inch of soil.

"Fifth—Wild mustard and stinkweed will not be preserved in the soil for a period of years unless buried deeper than three inches.

"Sixth—Great ragweed germinates better when planted two or three inches deep than one inch, but it will not grow through five inches of soil.

"Seventh—Wild buckwheat comes up readily through one, two, or three inches of soil, but was found to be entirely dead when buried twenty months.

"Eighth—Wild oats will come up through five inches of soil, were practically dead when buried twenty months, and entirely dead when buried fifty-six months.

"Ninth—Shepherd's purse, green foxtail and horse-

weed were practically dead when buried six months, while wild mustard and stinkweed germinated well when buried that period.

"Tenth—The deeper-buried seeds were better preserved up to a depth of ten inches."

The seeds for these experiments were sown October 17th, 1899, and under as nearly as possible normal soil conditions; but few of them germinated the same year they were grown; in fact, none except wild mustard.

The following interesting particulars were given about stinkweed: "Stinkweed seeds remaining in the pod out of doors are usually dead by spring, but if plowed under with green pods, it will ripen its seeds much sooner than when left above ground. It ripens its seed in seventy-seven days from sowing, and in thirty-four days from the time of blooming. A well-prepared seed-bed in the spring is the greatest foe to stinkweed and other winter annuals."

It appears from the above that deep covering of a number of these seeds, such as shepherd's purse, green foxtail, horseweed, and wild oats, would practically destroy them in a three-year rotation.

DAIRY.

Uniform Marked Weights of Butter.

Sir,—A number of communications have been received from representative bodies and leading butter merchants in Great Britain, concerning the matter of a uniform weight of butter in what is intended to be the 56-pound box. It is stated that boxes are frequently marked 57, 58 and even 60 pounds. It is not claimed that these boxes contain less than the marked weights any more than those which are marked 56 pounds; the objection is against having any more or less than 56 pounds in each package. The butter-makers of New Zealand, Australia and Argentina are very careful on this point, and the uniformity in their weights is much appreciated by the trade. The 56-pound package was adopted because it represents half an English cwt. If any other weight is marked, and invoiced, the advantages of having such a standard are lost. The butter merchants in Great Britain are as much influenced by a matter of this kind as they are by the quality of the butter itself. New Zealand butter is receiving a premium over Canadian to-day more on account of its uniformity in all respects, the excellent packages and heavy parchment paper which is used, and the careful attention which is given to weighing and branding, than because the quality is superior. It is a penal offence in New Zealand to place any other than the true net weight on a package of butter or cheese.

Every butter-box should be weighed after the parchment lining is placed therein, the tare marked on it, and then filled with the proper amount of butter to ensure it turning out 56 pounds.

J. A. RUDDICK, Dairy Com.

Thirty-day Cow Test.

(Ottawa correspondence.)

Following up the work of last year, the Dairy Division of the Department of Agriculture is preparing to conduct tests of the milk production of individual cows at eight different centers in Canada. It will be remembered that the tests at Cowansville, Que., last year were made regarding milk production and richness of milk, and the returns made to the farmers showed the exact value each cow was yielding, and, consequently, whether the animal was a profitable one in the herd. Mr. J. A. Ruddick, Dominion Dairy Commissioner, has arranged for the tests this year at the following places:

Ontario.—Black Creek cheese factory, Perth; North Oxford factory, near Ingersoll; Mountain View, Prince Edward County; Mallorytown factory.

Quebec.—Huntingdon, and two other places yet to be selected.

New Brunswick.—Jacksonville.

Nova Scotia.—Scottdown, Pictou Co.

Prince Edward Island.—Kensington.

These tests, as last year, will extend over thirty days, and will be in charge of Mr. C. F. Whitley, of the Dairy Division. In order to facilitate the sending of samples to the testing station, the Department supplies the farmers with proper bottles, which are labelled and ruled for the number of the animal and the name of the farm. The tests conducted last year were very successful and greatly appreciated by the farmers in the vicinity of Cowansville. They enabled the farmers to tell which of their cows were paying and which were not. It is intended that the series of circuits arranged for this year shall have an educative value, and induce the farmers to take up the work on their own account.

By an order-in-council recently passed, the importation of the straight spring scales into Canada is no longer prohibited, provided they are not used for trade purposes. The straight spring scale is used extensively by dairymen, who keep an individual record of the milk production of their cows, but in the past they have been very difficult to obtain, owing to the fact that they were prohibited from being imported into the country. The circular spring scales is also very convenient for weighing milk, but their cost puts them beyond the reach of the ordinary farmer. The order-in-

council recently passed was the result of vigorous agitation by Dairy Commissioner Ruddick, whose work in this connection will be duly appreciated by the dairymen of Canada.

Dairy Season Prospects.

So far as can be seen at the present time, everything points to a very favorable season for the dairyman in 1905. Old stocks of butter and cheese were possibly never so low in the dairy markets of the world, and production up to the present, for various causes, has been very small. The pastures are now in excellent condition, though they have been somewhat backward, and everything points to a year of good returns for the dairy farmer.

The various organizations for promoting dairying were never so completely systematized nor so well manned as at present. We are looking for good results from the systematic campaign of instruction and help now in full swing. Everywhere we find renewed interest and hope in dairying. Factorymen are improving their factories; dairy boards of trade are starting out with amended rules; the buyers of dairy products are wearing a satisfied smile as the result of large demand, good prices and fair profits. It now remains for the dairy farmer to keep up with the procession. Individual effort is needed as well as organized effort.

It would seem that the chief weaknesses of the dairy industry from the farmer's viewpoint are: 1.—Not enough return in some seasons for labor and capital expended. During a great part of the season of 1904 the money received for butter and cheese did not pay the man who milked the cows, and he grew discouraged. It would seem as if there should be some way to prevent these discouraging seasons. The chief cause is doubtless speculation. How to prevent this is a subject well worth the attention of political economists. 2.—Lack of paying cows. When one considers how difficult it is to obtain and maintain a herd of first-class cows, some allowance must be made for the man who milks some poor cows. But one of the greatest hindrances to the securing of better cows is the lack of systematic breeding for a definite purpose. There is altogether too much "hit and miss" in the methods adopted in breeding dairy stock. The use of pure-bred sires and the sticking to one breed, rather than mixing the breeds, are the two main requisites for success in establishing and maintaining a dairy herd. 3.—Lack of proper reward for improved efforts is another weakness from the viewpoint of the dairy farmer. We will find the same price being paid for all kinds of milk and cream, regardless of its true value. As a result of this, many of the best and most progressive patrons of our factories are leaving the factory and making the milk up at home, or are selling milk and cream to the city. In consequence, we find markets like Toronto flooded with dairy butter, which often sells for a price that can leave little or no profit for the farmer; yet he considers this better than the injustice meted out at many factories. Grading of cream at creameries, and payment for milk according to its cheese or butter value, are steps that should be taken by factory owners, in order to give justice to all and to retain the patronage of the best farmers.

The farmer who takes good care of his milk and cream by cooling it and delivering it to the creamery or cheese factory, in good physical condition, receives no pay for his extra care and labor. He then argues that it does not pay him to do this, as he receives no more for his share of the finished product than does his neighbor who takes little or no care of his raw material. All share alike, according to quantity and regardless of quality. This is manifestly unfair, and retards improvement in Canadian dairy products. Grading and testing would seem to be the remedy for this.

Incidentally, the patrons of cream-collecting creameries can produce a better quality of cream by using the hand separator, and cooling the cream after separating. The present would seem to be a favorable time to purchase separators, as the various companies have a "rate war" on, and prices are reduced about one-third.

The labor problem is also a difficult one for dairy farmers. Especially is the milking of cows a serious question. We had hoped to have a milking machine installed in the dairy stables at the College before the excursions began in June, but it looks now as though we should be disappointed. The firm from whom we expected to get the machine is making some improvements in the apparatus, which they do not expect to have completed for some time yet. We feel confident, however, that a practical milking machine will be placed on the market in the near future. In the meantime dairy farmers should not grow discouraged, as dairying is and will continue to be the best paying branch of agriculture throughout a term of years.

H. H. DEAN.

O. A. C., Guelph.