

A Word of Warning to Maritime Farmers.

That farmers will do well to make preparations this fall for an increased acreage of hoed crop in Nova Scotia for 1917 is the advice being given by Prof. M. Cumming, Principal of the Nova Scotia Agricultural College. Fear is expressed that the dryness of the early fall season may militate against next year's yield of hay, and roots or silage crops should be produced in larger quantities than usual to provide a liberal amount of roughage. During the fall seasons of 1914 and 1915 there was a heavy precipitation and the hay crops which resulted in the two following summers were good indeed. This season, up to the

time of writing, the rainfall has been very light, and if these conditions prevail it is to be feared that the hay crop for 1917 will not become well established. Farmers, who can, will do well to make provisions for a larger acreage of hoed crops such as turnips, mangels, etc., and silage crops such as corn or the oats-pea-vetch mixture. Such a move is not made any easier by the fact that, at time of writing, the land is so dry that sod plowing is almost impossible. Fortunately, however, all other kinds of farm work can be brought up to the mark. So there should be more time for plowing when the land becomes moist enough to make plowing possible. Those who produce plenty of these succulent feeds will not be obliged to make such heavy inroads into their mows of hay next fall which, if the dry weather prevails, threaten to be smaller than has been the case this year and last.

Generally throughout the Maritime Provinces the weather at seeding time was favorable. Abundant rains fell up to about the middle of July when haying began. Since then relatively little rain has fallen. Conditions were ideal for storing the hay and grain crops, which were good, but the late fall crops such as roots, etc., will be light and the fall pastures have been poor.

On Prince Edward Island the catch of seed was showing up splendidly when seen during the week ending September 30. However, dry weather had prevailed as in Nova Scotia and the lack of moisture may be seen in next season's crop unless there is considerable precipitation during the late fall and winter. Practically the same conditions were observed in New Brunswick, and farmers in the Maritime Provinces can certainly make no mistake by increasing their acreage of hoed crop for 1917.

Thick-Sown and Hill-Planted Corn at Weldwood in 1916.

In 1915 an experiment was carried on at Weldwood largely to ascertain the feeding value of corn sown so thickly that it would scarcely cob at all compared with corn planted in hills. From previous experience we were led to believe that the thick-sown corn, in drills, grew a little heavier yield per acre than the hill-planted corn at Weldwood. We had previously read of an experiment carried on in one of the colleges in the Western States, results of which showed the thick-sown corn to be as good feed as that which produced cobs, provided it had sufficient time to mature. Last year we were careful that our thick-sown corn matured. It had the same number of days as the hill-planted, tried alongside it, both being in the glazed stage when cut on September 28. The analysis of the corn, as taken from the field and a later analysis made of the silage, showed that the thick-sown contained almost equal feeding value with that of the hill-planted, and we did our best to take a fair sample of each, in fact, with the thick-sown sample which was taken from the field, we were careful to get it from a place in the row where the corn was so thick that no cobs or nubbins appeared on the stalks. Weights from equal measurements of corn from the two methods of planting showed the drill-sown to be a much heavier crop per acre than the hill-planted. Last year, the drill-sown was put in in rows three feet apart at the rate of fifty pounds per acre, and the hill-planted according to the check-row system, in hills three feet six inches by three feet two inches. The usual number of stalks, three to four, being the average of the hill-planted.

The year 1915 was an unusual season; so was 1916. Last year was one of the wettest on record during the period of corn growth. It seems only natural that the thick-sown corn should do well in such a year of extreme moisture. In giving results we were careful to mention the peculiarities of the soil and season and also to emphasize maturity in the thick-sown as well as in the hill-planted, because we were afraid that some readers might jump at conclusions and sow their corn, very thick regardless of soil, climate, and of length of season to mature. In short, we were afraid that some would ensile immature corn, which experiments carried on at the Ontario Agriculture College have shown to be bad practice.

We were ready to grant that the season of 1915 perhaps favored the thick-sown corn. It certainly did well at any rate. When the corn was cut, September 28, it had not been frosted, and, while in the glazed stage, it was fresh and green and contained, no doubt, a very high percentage of moisture. (The record of moisture content was lost in the analysis.) This was true of both the hill-planted and the drill-sown corn and was responsible for the heavy weights recorded on each last year. We had another experiment in the same field in the form of a variety test, in which the weights were also very high. The same test with the same varieties was run through this year, and, while the crop to all appearances was as good as that of last year, the weights were not nearly so high.

As we said before, the season of 1916 was also a peculiar season. The corn this year was planted on June 3 and from the last week of June to date of cutting, September 20, it had practically no rain. A few passing showers, for the most part very light, was about all the rain the crop had while growing. Previous to planting, rains were all too frequent and the corn did not go in in the best possible condition. The growing season this year was as dry as that of 1915 was wet, so that those who claimed that the thick-sown corn would not compare favorably with the other in a dry year have had a season to test their belief. This year, the corn got a severe frost three days before it was cut. It was in the glazed stage, quite well matured, and owing to the frosting, to the drier season, and to perhaps a little more advanced maturity, it was much drier when cut.

It might be well to give the readers an outline of the planting, general care of the crop, and the method of cutting, weighing and arriving at the figures which we give here. The corn was planted on a sod field which was pasture in 1915. The land for both the hill-planted and drill-sown was spring plowed; it was rolled after plowing and worked down with disk and drag harrow to a suitable seed-bed. The corn on the particular part of the field in which the test was made was planted on June 3, the drill-sown at fifty pounds per acre, in rows three feet apart, and the hill-planted put in much thicker than last year, in rows three feet apart and forty-two inches apart in the row; but, as will be seen from the table showing the number of stalks to the hill, a thicker seeding was made. Nearly

half of a sixteen-acre field was drill or thick-sown, the remainder being hill-planted, so that the test was carried out on a fairly large scale. We may say here that we had six acres more corn in another field, planted later, and while actual weights were not taken in this last piece a strip of thick-sown, to all appearances, out-yielded the bulk of the field, which was hill-planted.

To get back to the big field. Neither the hill-planted nor the drill-sown corn was hoed, but it was thoroughly cultivated with a two-horse cultivator very frequently throughout the summer. The field was kept clean and the soil mellow. It is not likely that the thick-sown corn would stand poor cultivation as well as would hill-planted, particularly in a year like this has been. Cultivation saved the crop of both the hill-planted and the drill-sown, but we would emphasize thorough cultivation where anyone tries thick sowing. The land, as previously stated, is a rather heavy clay-loam with a hard sub-soil. Apparently it is fairly good corn land. It was manured during the winter at the rate of about twelve good loads per acre.

The variety of corn used to make the test was Bailey, and we may say that this variety is proving a good cropper on the land described. We hold no brief for either method; it is a matter of the best way to get feed enough for a large herd of cattle. The corn growing under both methods got, in so far as possible, the same treatment.

When it came time to measure and weigh we decided to go more thoroughly into it than had been done in 1915. The corn binder had been started and a road was cut between the thick-sown and hill-planted. We decided that six weighings should be made from each, these to be taken at intervals across the forty-rod field. The length of each strip cut from a row for a weighing was 10½ feet. This took in exactly three hills of the hill-planted and made it easier to balance one up against the other. Besides weighing, the number of stalks were counted in each of the six weighings taken from each method, so that we were able to get a comparison of the number of stalks growing on an acre. We went one further and made twenty-four measurements of height and averaged them, in order to get the average height of the corn growing under each method. From the figures obtained we were able to show the average yield of each per acre, as well as other interesting data in regard to the two crops, which are prominently brought out in the accompanying table.

Table Showing Comparison of Hill-Planted and Drill-Sown Corn.

Hill-Planted Corn—(Rows 3 ft. apart—Hills 42 ins. apart in the row).

No. of measurements	Distance	Average height (13 measurements)	Average No. of stalks (10½ ft.)	Average stalks to a hill	Average stalks per acre	Average weight (10½ ft.)	Average weight per acre
6	10½ ft.	7 ft. 7 ins.	17.16	5.72	23,729	13.87 lbs.	9.58 tons

Drill-Sown Corn—(Rows 3 ft. apart—sown 50 lbs. per acre).

No. of measurements	Distance	Average height (11 measurements)	Average No. of stalks (10½ ft.)	Average distance between stalks	Average stalks per acre	Average weight (10½ ft.)	Average weight per acre
6	10½ ft.	7 ft. 1 in.	27.16	4.63 ins.	37,558	16.26 lbs.	11.24 tons

The foregoing table shows, at a glance, a comparison of the two crops. The average height of the hill-planted corn from thirteen measurements, in which the short, the tall and the medium were taken in, was 7 feet 7 inches. The average height of the drill-sown corn from eleven measurements, taking in short, tall and medium, was 7 feet 1 inch. In length, then, taking an average of the field, the hill-planted corn beat the drill-sown by about six inches.

It was interesting to compare the average number of stalks on 10½ feet of row. In the hill-planted, the average of six measurements gave 17.16 stalks. The same number of measurements in the drill-sown gave

an average of 27.16 stalks, or exactly ten more stalks in 10½ feet, or nearly one to the foot. Carried to the extent of an acre this would show the average number of stalks on an acre of the hill-planted to be 23,729, and on an acre of the drill-sown, 37,558. These figures show the relative number of stalks per acre. It is interesting, too, to calculate the average number of stalks to a hill, which was 5.72 in the hill-planted corn, a much thicker seeding than the hill-planted was in 1915. To compare with this the thick-sown corn averaged a stalk every 4.63 inches.

The greatest value, of course, attaches to the weight per acre. The average of six weights of 10½-foot strips of the hill-planted corn was 13.87 pounds. Six similar measurements in the drill-sown averaged 16.26 pounds. This, carried to the acre basis, figures out to an average weight per acre of 9.58 tons in the hill-planted corn and 11.24 tons in the thick-sown corn. This is a difference in favor of the thick-sown of exactly 3,320 pounds, or 1.66 tons per acre.

We were particularly anxious to make these weights fair and representative of the field. Two of the editors of this paper, accompanied by a representative of the Ontario Department of Agriculture, made the weights and measurements. That they were very close to being correct for the field we know by the silos. At the number of tons per acre which we estimated we figured that we would have just a few tons more than enough to fill the two silos, one of which is 14 feet by 40 feet, and the other 10 feet by 35 feet. We knew the cubical contents of these, and when the corn was figured out according to the estimates here given, it showed that we would have just a trifle more than the quantity required to fill both. The large silo was partially filled on a Saturday and completed the beginning of the next week. The small silo was started one day and completed the next so that they had some chance to settle. When filled there was just one large load of corn left. This proves another check to show the accuracy of the estimate.

We made note of the comparative percentage of leaf on the corn growing from the two methods, and those who saw it decided that the thick-sown had the largest percentage. However, we did not bring this down to actual figures. Some readers may think the yield per acre as figured out rather light, but it must be remembered that this corn was comparatively dry when weighed, the frost, the dry year, and the stage of maturity counting in this regard. It was one of

the best fields of corn seen in Western Ontario this year. Representatives of the Agricultural College, the Dominion Experimental Farms, and the Dominion Seed Branch, all pronounced the crop a good one for any year, and particularly good for a season such as this has been. Professor E. S. Archibald, of the Central Experimental Farm, in looking it over was not convinced that fifty pounds per acre was the happy medium between the old system of hill-planting and a system of drill sowing. At Ottawa the corn is sown in drills, but only at the rate of about thirty pounds per acre, and Professor Archibald still thought that that rate of seeding might produce a heavier crop than the fifty-pound