

THE FARM

Corn Breeding

The work of corn breeding in Canada, though limited chiefly to Southern Ontario, has made material advance during the past year. Not only has the number of growers largely increased, but the general public is beginning to realize more than ever before something of the nature and importance of this particular branch of work, and as a result the demand for specially grown seed corn has increased. Keeping in touch with the individual growers, we have been able to notice a substantial growth of intelligent interest on their part, until we now feel assured of the success of the work and what it will mean to the Province. Moreover, the actual information that has come back to us from the work carried on by the different growers, has added very materially to our present knowledge of the problems of corn breeding, and we are thus enabled to work to much better purpose.

The system of corn breeding which has been adopted by the Association and which may be found in the second Annual Report, page 59, under the section entitled "The Row System," has for its basis the ear-row test. Each row of fifty or more hills in the plot is planted with corn from a separate ear, which arrangement gives each ear an opportunity to show the breeding which is behind it and to which it owes its excellence. The amazing variation in the productive capacity and vigor of each ear, as revealed by this system when carefully carried out, has gone far to promote a greater interest in the work. In all the plots operated with according to this system, a decided variation was found to exist between the different rows in respect to vigor of growth, yield, etc. By this arrangement, the best rows may be located, and the best plants within these best rows chosen as mother plants from which to select the seed ears for the plot of the following year.

Since the Dent varieties cannot be matured to good advantage in the more northern dairy districts, it is necessary to send south for the seed, and during the past year there has been an increased demand for seed which is of known origin and which has received special care according to the regulations of

our Association. Where corn is grown for grain in the cooler regions of the north, the early maturing Flint varieties are grown. Of this class of corn we now have several varieties represented, although the King Philip, Longfellow, Compton's Early, and Salzer's North Dakota, are most popular. While earlier strains of the Dent varieties might be developed for the shorter seasons, yet this practice has not been recommended, since early corn is believed to be antagonistic to large yields. This in the single-earred Dent varieties is particularly noticeable. Flint corn, on the other hand, may easily produce two and three ears per stalk; and, as a result, a hill of three stalks of Flint corn may be made to closely approach in actual yield of grain a hill of three stalks of the single-ear-bearing Dent types, according to the Connecticut Agricultural Experiment Station, furthermore, the feeding value of Flint corn was found to be higher than that of the Dents. While we have not advised that the Flint varieties supplant the Dent varieties, yet we have endeavored to point out that each has its own particular place and that each is capable of being improved very materially. Our Flint corn may be classified into three types. These are the long-eight-rowed type, the short eight-rowed type, and the twelve-rowed type. There are many variations within each of these types as regards shape and color of ear and number of rows of kernels.

A careful study of the corn crop in Canada seems to demonstrate that wherever corn is to be improved it is always advisable to adopt a type which can be relied upon to mature thoroughly in the district. Otherwise the seed will have to be often changed as a result of non-maturity of the crop, which fact leaves no chance to improve the variety by means of selection.

L. H. Newnan.

Results of the Field Crop Competition

Realizing the importance of keeping the grain crops of Ontario up to the highest possible standard, both as regards quality and excellence in grain and in respect of freedom from weed seeds, the Honorable Nelson

Monteith, Minister of Agriculture, set aside \$1,000 to be awarded as prizes to the first ten Agricultural Societies in the Province of Ontario, who made application to enter into a Field crop competition, four prizes being allotted to each society for the crop entered.

The conditions attending this competition were that each entry must consist of not less than five acres. Competition was limited to members of Agricultural Societies whose annual fees had been paid, and they could only enter in the competition of one society and not make more than one entry for each kind of crop.

Where societies limited their competition to one kind of crop the prizes were as follows: conditional on their being not less than ten entries: 1st, \$25; 2nd, \$20; 3rd, \$15; and 4th, \$10. Where two kinds of crop were entered and competitors number at least ten, the prize money for each kind of crop was: 1st, \$20; 2nd, \$15; 3rd, \$10; and 4th, \$5.

While the competition was held under the supervision of the Fairs & Exhibitions' Branch of the Ontario Department of Agriculture, the expert judges were selected by the Seed Division of the Department of Agriculture, Ottawa, and were Messrs. T. G. Raynor, Simpson Rennie and A. Elliott.

Wheat fields were scored on the following basis: 10 points for suitability of variety; 25 for freedom from weeds; 20 for freedom from other varieties and other kinds of grain; 15 for freedom from smut, rust or insects; and 30 for apparent yield, considering vigor of growth and uniformity, size of head, stiffness of straw, thickness of stand and state of maturity.

For oats and barley, 30 points was the maximum for freedom from weeds; 20 for freedom from other varieties and other kinds of grain; 15 for freedom from smut, rust or insects; and 35 for apparent yield, considering vigor of growth and uniformity, size of head, stiffness of straw, thickness of stand and state of maturity.

The following shows the standing of the prize winners in each society in the various crops judged. In comparing the scores of the competitors in the society with those of another where these were not scored by the same judge, it must be borne in mind that such a comparison might not, apparently, mark accurately the standing in

some
might
in all
judged,
scoring
affect
the com
cause,
crops o
a single
the sam

ORFORD

Ju
Geo. E. I
Wm. Spee
Jno. Wad
Guyette I

Alex. Clai
Thos. Lee
Jno. Wade
Jas. Attri

PENINSULA

Jud,
J. W. Cart
J. H. Erb,
Moses Heis
Frank Ming

SOUTH

Jud
Simon Cha
Syl. Charli
Sam'l. Daw
Jas. Smith,

MOUNT FO

Judg
C. S. Nicho
Jos. William
W. J. Wallac
Davidson Bro

CALEDON

Judge
Ed. Gringer
Alex. Cowie,
J. B. Calder,
H. McMarran,

Jas. Douglas,
David Smith,
Isaac Wylie,
Leonard Park,

MARKHAM

Judge-
Geo. Robb, M
J. W. Cowie, A
Alfred Mason,
W. A. Roberts

MOUNT FORT

Judge-S
Daniel Murphy
Jno. Goodyear,
Alfred Hutchis
A. E. Canfield