

The Ontario Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep, and Swine Breeders' Associations, and of the Farmers' Institute System of the Province of Ontario.

THE DOMINION CATTLE, SHEEP, AND SWINE BREEDERS' ASSOCIATIONS.

Annual Membership Fees:—Cattle Breeders' \$1; Sheep Breeders', \$1; Swine Breeders', \$2.

BENEFITS OF MEMBERSHIP.

Each member receives a free copy of each publication issued by the Association to which he belongs, during the year in which he is a member. In the case of the Swine Breeders' Association this includes a copy of the Swine Record.

A member of the Swine Breeders' Association is allowed to register pigs at 50c. per head; non-members are charged \$1.00 per head.

A member of the Sheep Breeders' Association is allowed to register sheep at 50c. per head, while non-members are charged \$1.00.

The name and address of each member, and the stock he has for sale, are published once a month. Over 4,000 copies of this directory are mailed monthly. Copies are sent to each Agricultural College and each Experiment Station in Canada and the United States, also to prominent breeders and probable buyers resident in Canada, the United States and elsewhere.

A member of an Association will only be allowed to advertise stock corresponding to the Association to which he belongs; that is, to advertise cattle he must be a member of the Dominion Cattle Breeders' Association, to advertise sheep he must be a member of the Dominion Sheep Breeders' Association, and to advertise swine he must be a member of the Dominion Swine Breeders' Association.

The list of cattle, sheep, and swine for sale will be published in the third issue of each month. Members having stock for sale, in order that they may be included in the Gazette, are required to notify the undersigned by letter on or before the 9th of each month, of the number, breed, age, and sex of the animals. Should a member fail to do this his name will not appear in that issue. The data will be published in the most condensed form.

F. W. Hodson, Secretary.
Parliament Buildings, Toronto, Ont.

STOCK FOR SALE.

The next list of stock for sale will be published on February 21st. Members of the associations wishing to have their stock advertised should forward their lists to the secretary, F. W. Hodson, Parliament Buildings, Toronto, not later than February 9th.

The following is a list of the members received since the last issue.

Bruce, South	22
Bruce, West	3
Dundas	80
Durham, East	118
Elgin, West	77
Grey, Centre	91
Grey, South	119
Hastings, East	37
Huron, West	42
Kent, East	35
Leeds, North, and Grenville, North	90
Leeds, South	127
Lincoln	65
Monck	56
Norfolk, South	93
Northumberland, West	7
Oxford, South	94
Peterboro', East	143
Prescott	1
Renfrew, South	49
Simcoe, South	61
St. Joseph Island	78
Waterloo, North	92
Waterloo, South	10
Welland	88
Wellington, East	40
Wellington, South	162
Wentworth, South	112
York, East	97
York, North	60

The following is the average attendance at meetings, reports of which have been received since the last list was published:

Bruce, South	380
Carleton	119
Durham, East	88
Dundas	186
Elgin, West	63
Grenville, South	66
Grey, Centre	87
Grey, South	238

Huron, East	216
Huron, West	75
Kent, East	75
Leeds	120
Lincoln	115
Monck	86
Norfolk, South	118
Ontario, South	34
Oxford, South	240
Renfrew, South	100
St. Joseph Island	49
Waterloo, North	125
Welland	76
Wellington, East	116
Wentworth, South	151
York, East	71
York, North	70
York, West	150

AN ABRIDGED REPORT OF AMERICAN EXPERIMENTS WHICH ARE OF VALUE TO CANADIAN FARMERS.

(Continued from last issue.)

FLAT PEAS AND SACCHALINE.

A number of experiment stations have made tests of flat peas and sacchaline, in every instance with poor success. Prof. Fletcher, of Ottawa, calls the latter "a gigantic humbug." We shall probably not hear much more about these two crops.

LIME AS A FERTILIZER.

The beneficial effect of lime has heretofore been ascribed mainly to its action in improving the texture and drainage of the soil, in hastening the decomposition of organic matter in the soil, in rendering the inert nitrogen of the soil humus more available to plants, and in assisting in setting free the potash and other inert fertilizing constituents of the soil. Recent investigations, however, have shown that it performs other equally important functions in the soil, and that its abundance or deficiency there is a matter of greater importance than it

was formerly supposed to be.

It has been generally assumed that there is sufficient lime in most soils to meet the demands of ordinary crops. The Minnesota, Rhode Island, and other stations, however, have shown that, except in limestone regions, it is as likely to be deficient as potash or phosphoric acid. Especially is this true of soils derived from decomposition of granite. In testing the fertilizer requirements of soils it becomes as important, therefore, to determine whether lime is deficient as whether potash and phosphoric acid are lacking. A deficiency of lime may be due to continuous cropping without liming, or to leaching out of lime, a process which is continually going on, and which is greatly hastened by the use of certain fertilizers, especially muriate of potash. The use of this and similar fertilizers on a soil not abundantly supplied with lime should be accompanied by periodical applications of lime.

A deficiency of lime in the soil is accompanied by a state of acidity or sourness fatal to the vigorous growth of many crops. The Rhode Island Station shows that this condition may be present even in upland soils which are well drained, as well as in low, wet soils. It was found that sulphate of ammonia was actually poisonous to plants on such soils when it was not used in connection with lime. This beneficial effect of lime was probably largely due to the fact that the lime restored the alkaline condition of the soil necessary to the transformation (by nitrification) of the sulphate of ammonia into the nitrates so necessary to many crops.

In experiments conducted by the Rhode Island Station with 150 varieties of plants on these acid soils before and after liming it was found that most of the plants were greatly benefited by the use of lime. The chief exceptions were watermelons, blue lupines, red-top, serradella and the common sorrel. The use of lime had a marked effect not only on the yield but also on the quality of certain root crops. It was found, however, at the Rhode Island, New Jersey and North Dakota Stations that applications of lime increased the amount of scab in potatoes. On the other hand, lime at the rate of 75 bushels per acre proved a very effective preventive of club root of cabbage and turnips, and reduced the soil rot of sweet potatoes at the New Jersey Station, and, further, lime tended to make sweet potatoes round.

(To be continued.)