

ABERDEEN-ANGUS.—Grand champion honors in the bull classes at Calgary and Edmonton went to the aged bull Prince Idyll of Maismore from the Carpenter & Ross herd. C. H. Richardson, Bowden, Alta., won the junior champion at Calgary with Eric, of Willow Park 2nd, that was also first junior yearling at Edmonton. Pride of Meadowlawn also won the two-year-old class as well as senior and grand championships for Carpenter & Ross at both shows, while Elsa Erica of Glenrose, owned by S. C. Pritchard, of Camrose, was made junior champion female at Edmonton.

DAIRY CATTLE.

HOLSTEINS.—Four herds of Holsteins were represented at Calgary, including the herd of A. E. Hulet, Norwich, Ont. The showing at Edmonton was scarcely as strong as at Calgary. At Calgary Jos. Laycock won the aged-bull class with Korndyke Posch Pontiac, and at Edmonton A. E. Hulet won senior and grand championship honors with Ladoga Prince Abbekerk. Hulet also won first and second in aged cows, Lady Tensen Abbekerk getting first. Abbekerk Pauline Posch also was first junior yearling heifer for Hulet. At Calgary Hulet won first in the yearling and junior calf classes.

AYRSHIRES.—There were three Ayrshire exhibitors at Calgary and two at Edmonton. Rowland Ness won the aged-bull class at Calgary, and Jas. Baden, Lacombe, won this class and the grand championship at Edmonton with Prince Orange of Fairmont. Baden also had the first four places in aged cows at Edmonton.

JERSEYS.—There were no Jerseys at Calgary and only one herd at Edmonton. Neither show brought out Guernseys or Brown Swiss.

SHEEP.

Sheep appeared much the same at both exhibitions. Peter Arkell & Sons, Teeswater, Ont., and Archie McEwen, Brantford, Ont., showed Oxfords and Shropshires respectively, the former breed making the best showing of any breed. Arkell & Sons had the champion

mosaic stock is planted in some seasons, no mosaic is observed in the resulting crop. In Northern Ontario there appears to be no such suppression of mosaic; it apparently appears in infected stock year after year. Mosaic evidently spreads in the one year from diseased to healthy plants, and one of the chief agents in its transmission appears to be the leaf hopper (*Empoasca mali* Le Baron).

Leaf roll and mosaic are characterized as "running-out" diseases in a small pamphlet recently published by the Manitoba Department of Agriculture, and are briefly described as follows:

"Leaf roll may be recognized by the upward rolling of the leaves. The lower leaves are affected first and most seriously. The diseased plants are smaller than normal and the leaves are crisp, rigid and brittle, so that they rattle when brushed. The whole plant has an erect, stiff and slightly yellowish appearance. Few potatoes are formed, and these are set close to the stem. Mosaic is distinguished by a mottling of lighter green with the darker, normal green of the potato leaves. This mottling is not always found, but the leaves may show instead a crinkled, corrugated appearance. In more severe cases the whole plant becomes unthrifty and dwarfed, and the term mosaic dwarf or curly dwarf is applied. The affected plants set fewer potatoes than normal plants, and these potatoes are sure to carry the disease when they are planted the next year. The lower leaves may die and drop off sometimes on plants affected by a dwarf disease similar to mosaic.

"These 'running out' diseases mentioned are carried over from year to year by planting potatoes that were produced by affected plants. It has also been recently shown that insects such as plant lice may spread the diseases from plant to plant in the field, or the roots of diseased plants may come in contact with healthy roots and thus spread the disease. The diseases are rather slow in making their appearance on affected plants, so that one cannot be sure that the plants are healthy

small and irregular, and set close to the stem, or may even occur in the axils of the leaves. In the fall the fungus gathers as little black specks that look like dirt, but which will not wash off, on the surface of the potatoes. This is called black scurf. If the potatoes are not treated, the dry stem rot may be expected when such seed is used."

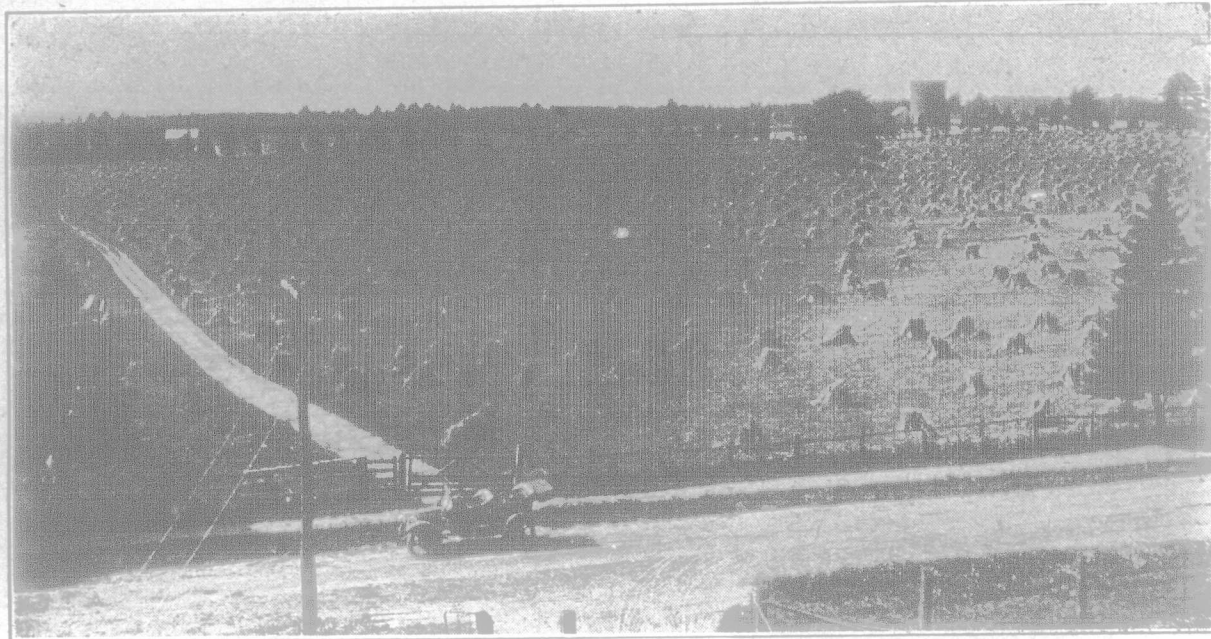
Some experiments in connection with dry stem rot, or rhizoctonia as it is called, were conducted at the O. A. C. Botanical Department, Guelph, to see if the amount of rhizoctonia could be reduced by selecting seed tubers free from the characteristic little black lumps or sclerotia, and what strength of corrosive sublimate and what times of immersion gives the best results in the control of this disease. Selecting tubers free from sclerotia and planting them without any treatment was found to reduce the amount of badly disfigured tubers from 31.1 per cent. to 13 per cent. Seed with sclerotia planted without any treatment with corrosive sublimate yielded a crop of which 31.1 per cent. of the tubers were markedly disfigured by this disease. Immersing seed potatoes in corrosive sublimate, one part by weight to 1,000 of water for two hours reduced the disfigured tubers to 5.2 per cent. Immersing similar seed in corrosive sublimate, strength one to 2,000 for two hours reduced the disfigured tubers 14.1 per cent. Corrosive sublimate one to 2,000 for three hours reduced the disfigured tubers to 7.2 per cent., and corrosive sublimate one to 1,200 reduced the disfigured tubers to 8.5 per cent. The results of these experiments show that the amount of this disease can be very materially reduced both by selecting seed potatoes showing no signs of little black lumps or sclerotia and by disinfecting the seed with corrosive sublimate. For the most satisfactory results, both election and treatment should be practiced.

Various Disinfectants for Farm Use.

Disinfection is very commonly employed to destroy disease germs so as to prevent the spread of infectious diseases about the farm. Such diseases as tuberculosis, anthrax, Black Leg, contagious abortion, foot-and-mouth disease, hog cholera and others, can be partially controlled by thorough disinfection which will prevent the contamination of stables and healthy stock. Many different kinds of disinfectants are in use, some of which such as carbolic acid, milk of lime, chloride of lime, etc., are simple materials which can be purchased at any drug store, or home mixed. Others, such as the various coal-tar disinfectants, are commercial preparations, and are used with varying degrees of success. One should always remember that before applying disinfectants, the walls, floors, and fittings of the building should be cleaned as thoroughly as possible, the refuse being saturated with disinfectant and removed or burned as quickly as possible.

Milk of lime is one of the cheapest and most useful of farm disinfectants according to the Department of Bacteriology, Ontario Agricultural College, Guelph. Quicklime must be used, and this is first slaked by adding a pint and a half of water per quart of lime, or sixty parts of water by weight to each one hundred parts of lime. The result of the slaking is hydrate of lime, a dry powder, to one quart of which four quarts of water are added to make the milk of lime. It is necessary to freshly prepare and apply the milk of lime if it is to be an effective disinfectant. It soon loses its value if exposed to the air, but it may be kept a day or two if tightly corked up. Air-slaked lime is of no value in the preparation of this material. Milk of lime may be applied with a sprayer or a whitewash brush, the former being the best. In this case, however, the material must be strained through a fine sieve in order to prevent clogging of the nozzle. Quicklime is sometimes used in the disposal of carcasses of animals dead from infectious diseases. An amount equal to twice the weight of the body should surround the carcass in a deep hole.

Chloride of lime is a widely used disinfectant and deodorizer. It quickly loses its strength if exposed to the air, and should, therefore, be preferably kept in glass sealers. The powder should contain 33 to 35 per cent. of available chlorine, and very frequently those products put up in cardboard or tin packages contain only 20 per cent., and once in a while as low as 5 per cent. available chlorine. It may be used either in liquid or powdered form, the former being prepared by adding six ounces of the powder to one gallon of water, first mixing with a little of the water to break up the lumps. Made in this way, however, the powder must be full strength to be effective. Because of its rather uncertain strength and because it is somewhat destructive to metal, with a permeating odor, this material cannot be considered as most desirable for stable use, except for disinfecting non-metallic milking machine tubes and teat cups, or for disinfecting drinking water. A stock solution for the latter purpose may be prepared as follows: according to Prof. D. H. Jones, O. A. C., Guelph; Mix one-half pound full strength Chloride of lime with one pint of water, stir fifteen minutes with a wooden spoon, and add water to make one gallon. Dissolve thirteen ounces of washing soda in two quarts of luke warm water, and dilute to one gallon. Then mix the two solutions in a barrel or crock and filter or allow to settle over night. Pour off the clear solution and fill into well-stoppered bottles, keeping in a cool, dark place. This solution will contain approximately 1 per cent. available chlorine, and 3 per cent. chloride of lime. One ounce can be added to five gallons of drinking water and after stirring, the water should stand for half an



Twenty-five Acres of Abundance Oats Yielding 65 Bushels per Acre.
Grown on the farm of J. B. Snowball Company, Northumberland County, New Brunswick.

ewe at both shows, and gathered in a good share of the money in other classes. McEwen won all but one first at Edmonton and nearly every prize of importance at Calgary as well, including the open championships. Arkell & Sons showed Southdowns as well, and McEwen showed Hampshires.

SWINE.

Berkshires and Poland China classes were fairly well filled at Calgary, but Tamworths, Yorkshires, Hampshires and Duroc Jerseys were light. At Edmonton the swine exhibit was the strongest ever held. There were no Eastern exhibitors.

THE FARM.

Potato Top Diseases.

During the months of July and August potato top diseases such as leaf roll, mosaic, blackleg, and dry stem rot are most noticeable. Immense losses are suffered each year from these diseases, and unless the grower is careful to note their first appearance and to take such care of the crop as investigation and experience has shown to be effective in control of them, the most favorable results cannot be secured. A summary of experiments regarding potato diseases conducted from the Ontario Agricultural College during the last few years shows that seed potatoes grown in Northern Ontario are freer from leaf roll and mosaic and give larger yields per acre than those grown in Southern Ontario and New Brunswick. Leaf roll is especially prevalent and severe in the southern and south-western portions of Southern Ontario. In most sections of Southern Ontario, leaf roll appears to spread and cause more loss each year than the same seed is used. In Northern Ontario, leaf roll does not seem to spread, nor to increase appreciably in amount from year to year in the same stock. Under climatic conditions such as we have in Southern Ontario, mosaic appears to be suppressed some years. That is, when seed from

unless there are no affected plants nearby. It is, therefore, important to select seed from fields which show uniform, healthy, vigorous plants."

Describing blackleg, wilt and dry stem rot, the pamphlet says: "Blackleg, as the name indicates, is a blackening of the lower stem of the plant. The stem is rotted with a soft, inky-black, slimy rot, beginning usually at the seed-piece, and extending often considerably above the ground. The rotted stem may, later, dry out and appear brown. The whole plant becomes yellow, then wilts, and usually dies. The young potatoes of affected plants are often rotted, beginning at the stem end, with a soft, foul-smelling, slimy rot. Such affected potatoes should not be put in the bin with healthy potatoes, for the rot will spread in storage, and the disease may be produced again if such potatoes are used for seed. All varieties are affected, and the disease is worst in cool, moist seasons. Besides removing plants showing blackleg from the part of the field from which seed is to be saved, it is a good plan to treat the potatoes before planting with a solution of formaldehyde or corrosive sublimate.

"Wilt occurs as a result of the stoppage of the water tubes in the lower stem. When the stem is cut across, a brown ring will be seen. In severe cases, the stem below the ground may become brown throughout. Affected plants droop, wilt, turn yellowish and often die. Wilt attacks all varieties, but does not usually occur until rather late in the season, so that a fair crop of potatoes may be produced. These potatoes may, however, also show a brown ring in the stem end, and should not be used for seed. The provision of good growing conditions will enable the plants to resist the disease.

"Dry stem rot, caused by the fungus rhizoctonia, is recognized by the dry, brown, sunken spots on the underground stem. The tender tip of the sprout may also be attacked. This dry stem rot often kills the sprouts before they reach the surface of the ground, and results in misses in the field. Later in the season, the girdling of the plant may result in overgrowth of the tops at the expense of the potatoes, which are often