

branch of the farm which pays well under proper care and direction, and with the large markets, which are opening up to this country at present and still greater after the war, it will certainly prove highly profitable to those who stay with the business and hatch and rear more and better birds to help supply the demand.

HORTICULTURE.

Concise Answers to Questions Re Fruit.

At the recent convention of the Ontario Fruit Growers' Association, held in Toronto, a number of questions regarding tender fruits and apples were placed on the program. These were answered by individuals who had had experience in the field of work regarding which each question was asked. We are reproducing here a number of these questions, also the answers, and the names of the individuals who answered them.

Would barrelled apples sell for more money if they were machine graded?—"Restaurants and such want large apples, for they can be peeled speedily. Many want smaller apples suitable for dessert purposes. All No. 1 apples in the same barrel would vary in size from 2½ to 3½ inches. The small apples in a barrel would, with large ones, look like culls. However, the small apples are quite as suitable for certain purposes as the large ones, and would sell for as much if barrelled by themselves. One of the largest dealers in Toronto said he could sell apples for more money if they were graded, probably in three sizes. It is now possible to purchase first-class grading machines that will cost little money and bruise no apples."—W. F. Kydd.

What prospects have the tender fruit growers for disposing of more of their low-grade fruit in the form of by-products?—"Owing to the falling off in wine making, which absorbed many varieties of grapes, and the increase in grape juice manufacture, which consumes only the best Concord, the prospects are: Red varieties, Wordens, some Concord and other varieties, will be sold fresh on the market. The best Concord will be used in the manufacture of grape juice. Culls consisting of small and unevenly ripened bunches of all varieties, may be used for jelly making. With regard to peaches, the low grades consist of under-sized specimens, over-ripe fruit of all sizes, split peaches, gum spots and scabby peaches. Under-sized, gummy and scabby peaches of fair texture may be used for canning, being sliced and put up in water for pie-making purposes. Over-ripe fruit may be used best for jam purposes. There are possibilities for this quality of jam for war purposes. The prospects for evaporating peaches are promising but untried."—P. E. Culverhouse.

Of what value are later sprayings in seasons like 1915?—"One application put on about the middle of July would increase the percentage of clean apples 40 per cent. in a season like 1915. If many growers, during the past season, had put an application of spray material about the middle of July, they would have had 40 per cent. more apples clean. During a season such as 1915, it was possible to grow clean apples."—W. F. Kydd.

Is it necessary to cultivate the entire surface of the ground under the trees in an apple orchard?—"A few of the most successful apple growers are not cultivating the ground underneath the trees. It is considered unnecessary to cultivate closer than four or five feet from the trunk of the tree. There are no feeding roots so close to the tree, so there would be no benefit accrued from cultivating that ground. These remarks apply, of course, to bearing orchards. Young trees should be started by cultivation."—W. F. Kydd.

What have been the results to date from the irrigation system at the Vineland Experiment Station?—"In strawberries, there was an increase in returns from the irrigated land over the non-irrigated land amounting to \$103.00 per acre. The cost of operating the system, interest on investment, depreciation, etc., amounted to \$37.00 per acre, leaving a profit of \$66.00 per acre from the irrigated field more than from the non-irrigated. Ten and three-tenths inches of water were applied during the months of May, June and July. Considerable loss resulted from irrigating raspberries, but asparagus, celery, beets and carrots, gave profitable returns for the water applied."—O. J. Robb.

Are we cultivating our orchards too late in the summer?—"Growers must judge for themselves at picking time whether they have made a practice of cultivating too late in the summer or not. Some soils will stand more cultivation than others. In Eastern Ontario, for instance, east of Trenton the climate warrants only a short period of cultivation in the spring. The land should be well worked up in the orchard, and a cover crop sown. East of Toronto, the middle of June would probably be the proper time to

cease cultivation in orchards. There are few places in the province where it is wise to cultivate any later than the first of July. The season, however, has very much to do with cultivating orchards. During a season with abundant rain, such as in 1915, it is not necessary to cultivate as much as in a dry season."—L. Caesar.

Should the grower be compelled to put his name on open as well as closed packages?—"Nine violations out of ten are found where packages are stamped with the packer's number, instead of his name. All men, however, who use numbers are not bad packers. The name is a guarantee of quality and a safeguard to the consumer."—P. J. Carey.

FARM BULLETIN.

Nova Scotia Farmers Hold a Good Meeting.

Back again in Windsor, the place where we always get a hearty welcome. The meetings of the Nova Scotia Farmers' Association, opened in the opera house, on Tuesday evening, Jan. 27. The evening was spent very pleasantly, by short congratulatory and welcoming addresses, interspersed with music by local artists.

G. C. Cunningham, Plant Pathologist for New Brunswick, gave a very practical talk on potato growing. It is becoming more difficult each year to grow a good crop of fine, smooth tubers. The average of New Brunswick was 117 bushels per acre, while three hundred and fifty was only a good yield. The farmer who wants heavy yields must be very careful in the selection of his seed, which must come from record crops. There are two methods of selection of seed—that of a uniform, medium-sized potato from the bin after they have been stored, and what is better, selection from the field. Mark the most vigorous hills, and keep the potatoes from these hills separate when digging. In this manner we get parent seed of great vitality and strong growth. Experiments had shown that seed from strong hills had given from 150 to 200 bushels per acre increase over seed from weak plants; also seed from different parts of the country varied greatly in yield. Late Blight could be pretty well controlled by the use of Bordeaux mixture—4 lbs. bluestone to 40 gallons of water. An experiment in which one part of a field was thoroughly sprayed with Bordeaux, and an adjoining part left unsprayed, showed an increase of 220 bushels per acre in favor of the sprayed part. The disease called Mosaic was shown by a light, yellow, mottled and puckered state of the leaves. This disease, under ordinary conditions, will decrease the yield from 8 to 10 per cent. Blackleg is a disease that rots and discolors the stalk of the growing plant, wilting and turning the leaves light color. The stalk often becomes decayed and putrid with mould. The tubers stop growing, and the hill should be removed and burned. Treatment consists in soaking seed which is thought to be infected, with formaldehyde 1 pint to 30 gallons water. Also, a long rotation is recommended. Scab spreads by the presence of fungus in the soil, and is increased by the addition of lime, barnyard manure or ashes, and is a difficult disease to cope with on account of the above means of spread. Treat seed thoroughly with formaldehyde, as in the case of blackleg, soaking the potatoes about two days before cutting and planting. The discussion of this paper brought out the facts that slightly immature seed was often best for planting; if whole seed is used, the larger the better; and if seed is cut very long before planting it is well to coat it with lime or earth to keep it from drying out.

Two half days were devoted almost entirely to business. In fact, there was more business and less educational work done than at any previous convention.

The Director's Report showed increased activity in almost all lines or departments of agriculture. The call for greater production had met with a splendid response, and in spite of many drawbacks, due to the war and weather, the production of farms showed up well as compared with other years. The New Science Building erected at a cost of one hundred thousand dollars is a costly monument. The Women's Institutes, under the energetic superintendence of having raised seven thousand dollars for patriotic purposes. Agricultural Societies and County Associations are holding their own and improving stock and farming methods.

In a popular talk on horses, Dr. Sinclair recommended great care in breeding, that brood mares be the best available, and that stallions be free from transmissible weaknesses or diseases. The conformation of horses, in many cases, predisposed them to the different diseases, such as a contracted jaw to roaring, a bent hock to curb, or an upright pastern to navicular disease. These conformations were to be shunned in choosing a sire. When the mare is safe in foal care-

ful work is rather beneficial than otherwise. The young foal should not be allowed to run in the field when the mare is working, but kept in a box stall and taught to stand tied as early as possible. The foal should be weaned at about five months of age, and at this time the colt should be fed carefully and well, as this is the most critical period of his life. The colt's feet should constantly be cared for, and by paring kept in good shape. The prices of horses, while now rather unsatisfactory, will undoubtedly be better inside of a year. Prices are very high now in the warring countries, and buying will probably soon begin in Canada.

In the discussion which followed several showed splendid results from the use of skim-milk for weanlings.

Professor Trueman, of the Agricultural College, gave results on a college farm of the use of ground limestone on different crops and soils. While the difference between the limed and unlimed plots, where oats was the crop grown, was not especially marked; the clover catch and the following crop of clover hay showed very plainly in favor of the application of lime, there being an increase of over a ton per acre on the limed plots. Some parts of the field under experiment, however, did not show any appreciable difference, the reason being that these parts were already in good fertility and were not affected by the treatment. The best results from the use of limestone are found to be on reasonably poor and acid soils when a dressing of manure or fertilizer is used with the lime. The question of whether or not its use is profitable depends largely on the price and the cost of delivering it to the farm. In many cases it may be profitable to use even when costing from four to five dollars a ton delivered. In some sections of the United States where large quantities are used in small districts, and the railways haul it at specially low freight rates, the farmers get it delivered for (\$2) two dollars per ton and less. An application of four tons per acre is supposed to be effective for four or five years.

Professor Cunningham said that club root was a disease peculiar to turnips and cabbage, and in fact, all plants of the mustard family. It is caused by organisms in the soil, and is difficult of eradication, being spread by affected seed, by removal of the soil to different places through harrowing and cultivation, through the use of manure from cattle which have been fed plants with club roots, and also from seedling plants taken from affected soil. When the soil has once become infected it is better not to raise any cabbage or turnips on it for a few years, and in the meantime to treat it with limestone, and practice a rotation of crops, clear the soil of all weeds belonging to the mustard family, and make an application of five tons of limestone per acre. With this treatment club root germs should entirely disappear from the soil inside of three years.

A discussion of some three hours took place on the benefits that might be derived from co-operative associations for farmers throughout the Province, made up of different units, or local societies, governed and operated by a central union, which would be able to buy all necessities of the farm in large quantities and at greatly reduced prices, or sell the farmer's produce in the best markets to the best advantage. Some favored the amalgamation and incorporation of the County Farmers' Associations, and Agricultural Societies in each county. Others thought it better to form units altogether independent of these. A. E. McMann, Manager of the United Fruit Companies, and A. E. Adams, Secretary of the same, gave figures to show the saving to the farmers which had been effected through that organization.

Prof. Trueman gave a very practical talk on feeding the dairy cow, and distributed a chart showing the comparative value of feeds grown on the average farm in the Province. To improve the ordinary farm he recommended a short rotation with the growth of clover hay and silage crops consisting of oats, peas and vetches.

Officers elected: President, R. J. Messenger, Lawrencetown, N. S.; First Vice-Pres., William Murray, Pictou, N. S.; Second Vice-Pres., S. A. Freeman, Amherst; Commissioners to the exhibition at Halifax, F. W. Foster, Kingston; H. S. Kennedy, Pictou.

Resolutions: That we earnestly recommend the elimination of the so-called fakir row in connection with the exhibition at Halifax.

That steps be taken to form co-operative societies for the buying and selling of farm produce and other necessities.

That legislation be enacted to prevent the use for public service of grade or mongrel bulls within certain limits where pure-bred bulls are kept for service.

That transportation companies be approached with a view of obtaining greatly reduced freight rates on ground limestone.

That the government be asked to remove the duty on all fertilizers.

That we ask for more stringent temperance legislation.

R. J. M.