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was necessary to have a house dition to hold the maximum and table-growers practiced deeps s. a.

resulted from the irrigation of many crops.

Reports from several Ontario enthusiasts who had practiced irrigation on a small scale showed some to have had most encouraging results. W. W. Weaver, of Chatham, had found a yield of potatoes on irrigated ground about three times that on similar soil unirrigated, while sugar beets had been increased 30 or 40 per cent.

HON. JAS. S. DUFF

The importance of vegetable-growing was dwelt on by Hon. Jas. S. Duff, Minister of Agriculture, who attended the afternoon session. ciation was characterized as representing the most important of the horticultural interests. It was possible to do without flowers, and also without fruits, but no man cared to do without vegetables. He approved of the enthusiastic work done by the Provincial Association in discussing the various problems that confront the gardener. Half the difficulties in vegetable production were said to be due to insect ravages. The market for garden and bush-fruit products was widening rapidly, and every possible precaution must be taken to insure the maximum returns. The hearty support of the Provincial Department, as far as it was possible, was promised the vegetable men in their good work.

The tariff question was touched on by W. O Sealey, M. P., of Hamilton, who considered that the producers of garden and farm products should he protected to as great an extent as the manu-

FERTILIZER EXPERIENCE.

The value of commercial fertilizers in the production of vegetables and small fruits, dealt with by A. McKenney, B. S. A., representing the Department of Agriculture in Essex High School, showed that the results of numerous experiments carried on this year were unsatisfactory. In many instances the results were contradictory, while in a few cases an experiment contradicted itself within itself. Of 23 tests, 17 gave positive and 6 negative results. Those who cared to use fertilizers must go slow, and a continued experiment on the same soil for a number of years was necessary before they could be sure whether or not the fertilizer was of real value. In 1907, among growers in Essex County, results, generally speaking, were excellent; this year they were uncertain. J. L. Hilborn, of Leamington, F. F. Reeves, of Humber Bay: Thos. Delworth, of Weston: J. W. Rush. of Humber Bay, and others, stated that the outcome of their experiences had been just as Mr. McKenney said. Mr. Delworth tested two sacks for a fertilizer firm, and found no difference in the crop produced, while Mr. Reeves said that five years' experience taught him to advise vegetable-growers to spend no money on commercial fertilizers. For a season or two, Mr. Rush had excellent results, but this year the fertilizer gave no returns.

TOMATO CULTURE.

aling with the tomato industry in Canada, A. G. Turney, of Guelph, stated that in 1891 there were 800 acres devoted to growing this crop for canning factories. In 1908 the area had in-The total value of the creased to 8,000 acres. crop in 1901 was \$190,000, while \$27,000 went to growers. In 1908 the value had increased to over \$1,500,000, and the growers got over \$400,-This year Ontario has 50 canning factories.

The difficulty with the grower was in not using stout, strong plants for setting out. Pot plants could be secured at \$7.00 per 1,000, while ordinary plants ranged from \$2 to \$3 per 1,000. Many growers used inferior plants on poor soil, and then neglected cultivation, and allowed the surface soil to become baked. The more progressive growers, however, used good strong plants, on rich soil, liberally treated with barnyard manure, and gave thorough cultivation throughout the sea-

Cutworms were a serious enemy. These could be combated by late fall and early spring plowing, and by the use of Paris green in bran mash, using 1 ounce Paris green to 31 pounds bran, and enough sugar in the water to sweeten a reasonably

Estimates as to the cost of producing tomathick mash. toes ranged from \$35 to \$75 an acre. In order to increase the net returns, it was necessary to increase the yield. In Ontario, the average yield was about 175 bushels per acre. It should go over 300 to leave a reasonable profit for the

W. C. McCalla, of St. Catharines, said the grower.

a depended on local conditions. ... for horses and men, and laying proprietor, a 400-bushel crop and were careful to give statute estatates as to conserve the moisture; but each with the one ditions there was no doubt but that a mose copious supply would give far greater returned.

Sources of supply of water, and not reads of distribution, were dealt with fully. In Cutario, it was considered that comparatively numerous supply in some state of manure, as a supply of water, and not reads of distribution, were dealt with fully. In Cutario, it was considered that comparatively numerous supply and a local state of manure, was put in cornit was considered that comparatively namerous ceived twelve loads of manure, was put in corn, floodings, and not too much at a trees would give then in postations, and then in wheat, and seeded better results than thorough and infrequent soak- to clover, which was plowed down before peach ings given in many parts. Figures given from trees were again set out the following year. To-tests in New Jersey showed that increased yields matoes were planted between the peach rows. actual land given to tomato crop, a four-acre field averaged 695 bushels to the acre, or, counting driveways and headlands, 600 bushels to the acre. Potash and phosphoric-acid fertilizers were found

to pay.

F. Fuller, of London, considered that it was impossible to have ground too rich for early tomatoes. For late crop, also, it was impossible, if the plants were well started before they were set out.

Jas. Guthrey, of Dixie, a pioneer gardener of Toronto district, applied manure the previous year for potato crop, in order to get a good yield of tomatoes. If he applied manure in the spring, he would get too much tops for all varieties except Dwarf Champion, a short-growing sort.

INSECTS AND FUNGI.

Insects and fungous diseases, of the usual species found in market-gardeners' crops, were dealt with by T. D. Jarvis, B. S. A., of O. A. C., Guelph, who urged all to become acquainted with the pests. Suitable text-books for reference Essentials in avoiding the pests were mentioned. included the keeping down of weeds, the cleaning up of rubbish, the destruction of crop-remnants, the rotations of crops, and the practice of forms



The Late Dr. James Fletcher.

of cultivation that would destroy the pest that was common. The use of fertilizers gave the plants a start, and equipped them to combat attacks. A new fungicide, which may also act as an insecticide, had been recommended. It consisted of resin 2 pounds, sal-soda cry This should be boiled pound, and water 1 gallon. until it is a clear brown color. Then, for salsify, asparagus, spinach and onions, 40 gallons of Bordeaux mixture should be added, and for other plants, 80 gallons. Aphides had been troublesome on many crops, but a parasite had been found attacking this pest, and promised to exterminate it.

MEMBERSHIP FEE REDUCED-OFFICAL OR-GAN DISCONTINUED.

A resolution, proposed by Thos. Delworth, suggested that it would be in the interests of the Association to change the constitution, making the membership fee 50 cents, instead of \$1.00, and that the sum of 10 cents be forwarded by the branch association to the Provincial organization. It was also stipulated that that part of the constitution referring to an official organ be changed, leaving it optional with the individual as to whether or not he subscribed for a paper, but advising all members to read suitable agricultural papers. Both clauses were carried unanimously.

Last season's tests in connection with the work of vegetable-growers had given good results. A resolution from W. W. Weaver, of Chatham, asked that the tests be carried on again in 1909, to take in more species, and to be started earlier in the season, in order to give experimenters an opportunity to test their seeds. This was carried.

The demand for home-grown seed for the vege-

table garden, and the facts that there were no data as to what varieties would ripen early and suit best for seed production, and that it was out of the question to depend on the average grower to go to the expense of investigating the problem, brought resolutions requesting Government aid. The Provincial Government will be asked to see what can be done in this regard at Ontario Agricultural College and at Jordan Harbor. The Dominion Government, also, will be requested to institute a series of experiments to ascertain what vegetable seeds can be produced in

ONTARIO FRUIT - GROWERS' CONVENTION.

The 49th annual meeting of the Fruit-growers' Association of Ontario was held in the British Welcome League Hall, Toronto, November 10th to 11th. A meaty two-day programme had been arranged, and the President, A. W. Peart, of Burlington, deserves special commendation for the punctuality and discretion with which it was carried out.

In his presidential address, Mr Peart congratulated the assoc ation upon an increase of over 200 in the membership during the year. During the past two or three years, he said, there had been deep and bitter complaints by apple-growers with regard to the ravages of the codling moth. At a meeting of the Executive last spring it was felt that something ought to be done in this direction. Accordingly, some hundreds of circulars were issued, embodying the methods and practices of three of the best sprayers in the Province, and the result of following out the suggestions thus broadcasted was a growing hope that the moth might be controlled. In the Burlington district this year the ravages were the worst he had ever seen, especially among Baldw ns, in some orchards of which the ground was literally covered with wormy apples.

Last year the Provincial Department of Agriculture had instituted a series of fruit institutes, consisting of one-, two- and three-day meetings, held in various parts of the Province. The programmes has been well arranged, embracing a logical development of the subjects from soil to market ing, and the institutes proved very successful and satisfactory.

The finances of the association were in good condition, there being a large balance on hand, which was well, seeing that the association expected next year to entertain the American Pomological Society.

Reference was made to the exhibits of fruit that had been made at such large exhibitions as the Winnipeg Industrial, the Franco-British, and Toronto Exhibition, the effect of which must be to advertise Canadian fruit-producing capabilities to good advantage.

In some respects the season's record of the fruit industry had been exceptional. part of the season the rainfall had been heavy, but in August a prolonged drouth set in, so that while the fruit attained a very fair size up to the middle or the end of August, from that time on its growth was not up to the mark, resulting in considerable undersized fruit, especially in uncaredfor orchards.

A GRAY FUNGUS ON APPLES.

An apparently new kind of fungus had been noticed on the Greening apples. It was a grayish fungus, and was observed adjacent to the stem, whereas the spot fungus is usually most in evidence at the blossom end. Some of the affected fruit had been shipped in boxes and barrels, but the fungus developed so badly as almost to wipe He understood out any profit from the sales. that an American authority had classed this whitfungus as a secondary development from the scab; however this might be, it appeared to be a new visitor.

PRICES AND CROPS.

The apple crop, upon the whole, had been light, especially of winter apples. Pears, plums and peaches had been average to good. Grapes aggregated a large yield, although the average per vine had not been heavy. Small fruits were fair. Prices for fruit did not rule high, but, on the whole, considering crop and prices, fruit-growers have done fairly well.

STEADY GROWTH.

Since 1891 the fruit-growing industry of Ontario has made steady growth. From 1891 to 1901 the output of fruit had been doubled, while from 1901 to 1908 the acreage had increased at the rate of 2 per cent. per annum. We have untold possibilities in the way of soil and climate for future expansion of the industry. As regards knowledge, we are still groping along, the industry being in an experimental stage, and it is not well to dogmatize conclusions. Many practical problems are still engaging our attention. The ideals of the association should be based on integrity, Upon these three facintelligence and industry. tors, moral, mental and physical, rest the future success of fruit-growing.

NEW SEEDLING FRUITS.

Under the order, "Report of Standing Committees," W. T. Macoun, C.E.F., Ottawa, was