

killed by shading in the interior of the tree, being replaced by younger ones farther from the trunk. In this way, during the early life of the orchard there is much waste land at a distance from the trees, while when the orchard gets older the waste land is near the tree. He believes that some method should be evolved whereby the fruit spurs may be renewed near the trunk, the top being kept thinned and headed in, so that more trees might be grown to the acre. This would, of course, mean that during almost the entire life of the orchard every square rod of it would be supporting its own share of bearing wood.

FREIGHT CLASSIFICATION.

Mr. Peter Innes, the Vice-President of the Association, presented some resolutions addressed to the Governor-in-Council, asking that the present classification of freight rates on apples be changed. As now classed, apples are carried third class in small lots or fifth class in carload lots; while wheat and its products are carried as eighth and eleventh class in small and carload lots, respectively. Mr. Innes believes that the classification should be changed so as to place apples on a par with wheat, since they are the great staple product of a large part of Canada, just as wheat is the staple product of another part. The resolutions were unanimously passed.

TO FIGHT INSECT PESTS.

Dr. Jas. Fletcher gave an interesting discussion of the insect enemies of the orchard, dealing largely with the San Jose scale, and at the close of his address a resolution was passed asking the Government to appoint an inspector to look after this most serious matter.

Mr. W. A. McKinnon and Mr. Geo. Vroom addressed the convention on the new Dominion Fruit Marks Act, and an object lesson in packing was given by Mr. S. H. Carson, and following the discussion, a committee recommended:

1st.—They would suggest that in section 4, clause 9, the word "packer" should be defined more clearly.

2nd.—That in section 6, below the words "extra good," and the word "quality," the words "or number one" be inserted, and the words "of one variety" be left out to conform with section 4, clause 6.

3rd.—That the grade No. 2 shall be defined as follows: That such fruit shall consist of sound specimens of normal shape and containing not less than 90 per cent. free from scab, worm holes, bruises, and other defects, and properly packed.

Adopted.

Prof. F. T. Shutt gave a most instructive address on cover crops for the orchard and their effect upon the soil. He showed that if planted at the proper time they withdrew soil moisture from the orchard trees at a time when this was desirable, so that the trees might ripen their wood, and when plowed in again in the spring, all plant food that had been taken in by the cover crop was returned to the soil and in a better condition than it was previously. He gave figures from analysis of the soil in the orchard of Mr. J. Elliott Smith, of Wolfville, showing that in four years by the use of crimson clover the nitrogen in the soil had been increased at the rate of 800 lbs. per acre.

Mr. A. McNeil, of Walkerville, Ont., was present at the meetings and gave much practical information, especially as to the San Jose scale and on the subject of spraying.

Another interesting and instructive feature of the meeting was a practical demonstration of apple-packing given by Mr. J. H. Carson, of Meaford, Ont., who has been buying apples largely in Nova Scotia. A packing-table and all appliances were brought to the platform, and Mr. Carson went through every step until the barrel was headed and then took out the head so that the result of the pressing might be seen. An especially interesting feature of this was the removal of all the stems from the apples used for facing the barrel. For this purpose a special pair of shears were used, which were so constructed that they could not injure the fruit.

Mr. A. S. McDonald, of Upper Dyke Village, gave a practical discussion on pruning of fruit trees, starting with the tree at setting time and ending with the bearing tree. He dealt with all such matters as season for pruning, care of wounds, root-pruning, etc., in such a way as to show he had given the matter long and intelligent study.

The treasurer's report showed a balance of \$193.40 on hand, while the School of Horticulture had a balance of \$740.14.

Officers were elected as follows: President, J. W. Bigelow; Vice-President, Peter Innes; Secretary, S. C. Parker; Assistant Secretary, R. W. Starr; Treasurer, G. W. Munroe. Vice-Presidents: For Annapolis—Col. Spurr, Kingston; King's—O. S. Bishop, Auburn; Hants—W. I. Sangster, Falmouth. Executive Board—J. Elliot Smith, R. S. Eaton, Dr. Chipman, A. C. Starr.

The Nova Scotia Government was congratulated upon its vote of \$50,000 for the establishment of a College of Agriculture and Horticulture.

THE FRUIT DISPLAY.

A very interesting feature of the meeting was the fruit exhibit, which Prof. Bailey pronounced the best winter exhibit he had ever seen for excellence and number of varieties. There were over 300 plates in all. The prizes awarded were as follows:

COUNTY EXHIBITS.—King's Co.—1st, A. C. Starr, Starr's Point; 2nd, A. C. Johnson, Greenwich. Yarmouth Co.—1st, F. C. Ryerson, Carleton; 2nd, Yarmouth Agricultural Society; 3rd, Jeremiah Porter, Deerfield. Antigonish Co.—1st, Geo. Vinton, Lower South River. Inverness Co.—1st, Walter McDonald, Glen Dyer, C. B.

Best 10 commercial varieties.—1st, A. C. Starr, who showed King, Baldwin, Golden Russet, Stark, Nonpareil, Ribston, Hubbardston, R. I. Greening, N. Spy, Fallawater; 2nd, A. C. Johnson, who showed Stark, King, Golden Russet, Baldwin, Spitzenburg, Talman Sweet, Banks, Nonpareil, Fallawater, Northern Spy.

Best 6 commercial varieties.—1st, A. C. Starr, for Baldwin, Spy, Golden Russet, Stark, Fallawater and Nonpareil; 2nd, Mrs. A. H. Johnson, for Baldwin, Gloria Mundi, Golden Russet, Ribston, Spy, Nonpareil.

Plate of Baldwins.—1st, C. S. Fitch, Wolfville; 2nd, A. C. Johnson, Greenwich. Plate of Banks.—1st, A. C. Johnson; 2nd, C. S. Fitch. Plate of Gravensteins.—1st, C. S. Fitch; 2nd, R. W. Starr, Wolfville. Plate of Benheims.—1st, Andrew Coldwell, Gaspeaux; 2nd, Geo. Thompson, Wolfville. Plate of Ben Davis.—1st, Senator Ferguson, P. E. I.; 2nd, T. H. Parker, Berwick. Plate of Fallawaters.—1st, J. D. Sherwood, Wolfville; 2nd, A. C. Starr. Plate of Golden Russets.—1st, C. S. Fitch; 2nd, R. J. Messenger, Bridgetown. Plate of Cox Oranges.—1st, A. C. Starr. Plate of Hubbards.—1st, A. C. Starr. Plate of King Pomps.—1st, R. W. Starr; 2nd, C. S. Fitch. Plate of Nonpareils.—1st, C. S. Fitch; 2nd, A. C. Starr. Plate of Ribstons.—1st, C. S. Fitch; 2nd, A. C. Starr. Plate of R. I. Greenings.—1st, A. C. Starr; 2nd, J. D. Sherwood. Plate of Northern Spies.—1st, J. D. Sherwood; 2nd, Andrew Coldwell. Plate of Starks.—1st, A. C. Starr; 2nd, A. C. Johnson. Plate of Wagners.—1st, A. C. Starr.

New and promising table apple.—1st to R. J. Messenger, for Hunt's Russet; 2nd to A. C. Starr, for Ohio Nonpareil.

New and promising commercial apple.—1st to T. H. Parker, Berwick, for Red Russet; 2nd to A. C. Starr, Starr's Point, for Rome Beauty.

Success with Bush Fruits.

The following are some of my methods in growing bush fruits, with which I have been very successful the past season. The part of my half-acre allotted to small fruit is about 30x100, from which berries were taken amounting to \$10, at market prices. The bushes—gooseberry, currant, blackberry and raspberry—were set out when only slips in the spring of '98, but during the past two seasons have grown good-sized bushes, averaging from seven to twelve quarts each. They were of no particular variety, except some Industry gooseberry and Cherry currant bushes. Each fall I go over them and cut all crooked limbs, dead wood and diseased parts, and in the case of the currants, shorten the new shoots about one-third, so that they will grow stocky, and put a forkful of manure around each one to protect the roots during the coming winter. The raspberries and blackberries I cut down one-fourth to one-third, leaving only four canes to the plant after the dead and spindly stalks are cut out, which and then tied to a stake or fence wire or anything they can gain support from. It seems sad to me, when passing many farm and city gardens, to see the raspberry patch look like a tangled thicket, as if grown for defence, when a little care and knowledge would work wonders in appearance, yield, and pleasure to the grower. Raspberries and blackberries will no more thrive and produce fruit by this careless way than an orchard set three feet apart or having five cows in a place hardly large enough for two. I find that raspberries, even of a common variety, will, when properly treated, yield and ripen fruit for three and five weeks, and there is no berry that demands such a price, which, in this locality, is double that of gooseberries and currants, and usually treble that of strawberries. From ten to eighteen cents per box is the usual rate.

Gooseberries were the most profitable berry up to a few years ago, when they began to be grown more extensively, and owing to the cheapness of plums were not as much in demand as formerly. The price used to be ten and twelve cents a quart, but now they go as low as four and five cents, and very large ones will bring seven, but still even at that low price they are quite profitable, as some four-year-old bushes yield seven to ten quart-boxes. In the spring, as soon as the leaves are unfolded, I take a tin kettle perforated in the bottom and fill it half full of dry, powdered lime or soot. Soon after a rain, or early in the morning when the dew is on, I shake a quantity of the powder over each bush. When the fly comes along, which she does very quickly, to deposit the eggs from which the currant worm is hatched, and sees the bushes sprinkled, she concludes to leave the vicinity. This preventive is much better than waiting till the leaves are full of worms and then dosing them with a lot of Paris green or hellebore, which often is applied too late. After picking the berries, there is nothing to do then till late in the fall. In growing currants, both red and white, I pursue the same course as with gooseberries, except in the matter of pruning. The only remedy for the currant borer seems to be to cut off and burn the affected wood and to keep the stems above the root coated with a mixture

of whitewash and kerosene. The account of bush fruits the past season is as follows:

Fall work—half day banking up	\$ 0 60
Two hours pruning	30
Manure, 1 load	25
Summer work—dusting soot and picking berries	1 25

Cost of producing..... \$ 2 40

50 qts. currants, at 6c	\$ 3 00
60 qts. gooseberries, at 7c	4 20
35 qts. raspberries and blackberries, at 12c	4 20

Market price..... \$11 40

Cost of producing..... 2 40

Profit over expenses..... \$ 9 00

I don't think that is a poor showing for a plot 20x100, and that a city lot. I would like to see some other amateur's experience in the "Advocate" on this line. E. M. Nova Scotia.

Better Transportation for Fruit.

To the Editor "Farmer's Advocate":

Sir,—Speaking generally, I may say that 1901 was a fairly prosperous year for the farmers and fruit-growers in this valley, and good prices have been realized for all produce, especially apples. The fruit exported to England and elsewhere as a rule carried well, and returns have been unusually good. Most of our farmers are beginning to understand that it pays, if for no other reason, to pack their fruit honestly and well, as John Bull does not mind paying well for a good article, but has no use for the trash which sometimes finds its way into the middle of barrels marked XXX No. 1. Our great bete noire at present is the problem of fruit transportation, especially with our early sorts—Gravensteins, for example. A case in point: A large steamer of the "tramp" species is lying at her dock, say in Halifax, "greedy" for freight and bound for the United Kingdom. Down the railway line come some 20, 30 or 40 carloads of our famous Gravensteins. Very good! Say her agents: "These apples have to go by this boat—we are sure of them, so roll the barrels out here on the wharf in this nice warm September sun, while we look around for something else to complete our cargo. O yes, these green deals will do nicely. We will put these in the bottom of the hold; now roll the apples down on top of them to steam them, and we will cast off and away to St. John (Nfld.) for fish and cod-oil to top out our cargo with, and then off we go for London or Liverpool." Verily, the last state of those magnificent Gravensteins is worse than the first, and is it any wonder that sometimes the returns are disappointing? Where is the solution of this ocean-transit problem? No use to try to reason with S. S. agents; they are a hard-hearted lot, and they must try for full paying cargoes and quick despatch. Fruit-growers, combine; charter your own boats (those fast boats that are used in the Mediterranean fruit trade to carry fruit and fruit alone might fill the bill), ship your own fruit and save the middleman's profit. We hear every day of steel combines, oil combines, and what not, but little or nothing of farmers' combines. It seems, to say the least, a crying shame that a comparatively new and paying industry, as our apple-export business is proving itself to be, should be so hampered and handicapped at its outset by the want of what should be assured—transport facilities.

King's Co., N. S.

F. W. ABBOTT.

Bug Death—A New Insecticide.

To the Editor "Farmer's Advocate":

Sir,—Having recently received numerous enquiries regarding the composition of "Bug Death"—a newly-introduced insecticide—for destroying the potato beetle, we submitted the material to analysis and obtained the following data:

Moisture	40 per cent.
Insoluble matter, sand, etc.	11.21
Oxide of iron and alumina	5.60
Lime	5.51
Potash	none
Zinc oxide	82.10
Lead and copper	faint traces
Phosphoric acid	traces
Chlorine	47
Nitrogen	.107

The results show that it is practically an impure or commercial zinc oxide—no doubt a by-product. As regards the essential elements of plant food, it is strikingly deficient, the only constituent present of any fertilizing value being nitrogen, of which there is only one-tenth of one per cent. It is, therefore, obvious that any claims made for it as supplying nourishment for crops are without foundation.

FRANK T. SHUTT, Chemist.

Dominion Exp. Farms.

Note.—The constituent in the above preparation which kills the insect is the zinc oxide, a white powder, which a local chemist states is about the same cost as Paris green, but he regarded the latter as preferable.—Editor.