

to that of the Rosemarine apple that is brought from South Tirol into Petersburg and Moscow and which is bought at a high price. It ripens in September and keeps till January in a good cellar, and even longer. The fruit is easily knocked off by the wind before it is ripe, and so find their place on the markets early in the season, since they color before they are ripe and have a good flavor and soon become in good condition for eating.

While young the tree grows rapidly, but does not live to a great age. It is an early fruit bearer. The leaf is of a grizzly green color and so characteristic that it is easily recognized by this and by the form of the tree. I consider the Lithuanian Pippin the best Russian apple in flavor and very valuable for the amateur's garden, but as a shipping sort is less suitable on account of its tender skin that demands very careful packing for transportation.

INSECTS INJURIOUS TO FRUIT DURING THE SUMMER OF 1892.

BY JAMES FLETCHER, DOMINION ENTOMOLOGIST, OTTAWA.

Although there have been no outbreaks of injurious insects during the past summer, which demand special mention, still there are a few items which it seems to me are of sufficient interest to fruit-growers to be brought before the members of the Association on the present occasion.

Spraying with Paris Green. The experience of the past season have proved again the extreme value of this insecticide, and the safety with which it can be used when ordinary precautions are taken. With the assistance of the Editor of the *Canadian Horticulturist* and Mr. F. T. Shutt, who analyzed carefully some fruit which had been sprayed in the manner and with the mixture of the strength recommended by entomologists, it was proved that the statement made in some of the newspapers that sprayed apples were dangerous for use, was quite untrue. Not only was it proved scientifically by chemical analysis, but common sense shows that these statements are absurd, and the fact that the English market has in no way been affected, demonstrates that this view is also taken in England, whence these false reports emanated. I will now draw attention to the following facts. One pound of Paris green to 200 gallons of water is the strongest mixture which needs ever to be used. This quantity of water is sufficient to spray a great many trees—a tree of the ordinary size takes from one to three gallons—and these trees bear many hundreds of apples and thousands of leaves, so that there would be only a very minute quantity of poison on each fruit. Even supposing soluble arsenic were used and every apple were covered with it, none could get into the apples. At the time apple trees are sprayed, the fruit is very small, indeed, hardly formed, and is then protected from anything falling on it by a thick covering of down and the spreading lobes of the calyx. In spraying, the liquid is applied as a very fine mist; most of this falls on the foliage; but some—a minute quantity—falls into the open calyx, where the eggs of the codling moth are laid. It is an infinitesimal quantity, yet it is sufficient to destroy the insect if it be there, as frequent experiments have shown us. As to the time of spraying—this need never be done while the trees are in flower. The proper time is after the petals have fallen.

Spraying with Paris green is a useful remedy against all insects which attack the foliage, and it has been lately proved that a small quantity of milk of lime added to the mixture materially reduces its corrosive effects upon vegetation.

The Canker-worms. These are the caterpillars of two small moths which have been complained of in some localities. Last spring they were very abundant about Ottawa, but were not so injurious in orchards as in the surrounding woods, where they attacked particularly ashes and basswoods. The best remedy is undoubtedly spraying with Paris green.

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