

ing, will give satisfactory control if timed correctly and applied with care and thoroughness. To control the pest on pears, it must first of all be destroyed in the near-by apple trees, since much of the damage done to pears is from bugs flying from such trees. If the pear trees are infested by the immature bugs, one spray immediately before the blossoms fall is usually sufficient.

4. A very heavy, drenching, driving spray is necessary. Use a drive nozzle and a pressure of at least 200 pounds. Follow up each limb individually and spray it from every angle.

NOTE.—For a full description of this pest see Bulletin No. 7, Nova Scotia Department of Agriculture.

LIME SULPHUR INJURY.

During the season of 1915 many observations were made and a number of experiments conducted to determine the effect of the lime sulphur spray on the crop of fruit. Good evidence was obtained that in many cases serious reduction in the crop resulted from using lime and sulphur too strong, but where the danger point occurred and when the most injury was effected were not determined. In 1916 a series of experiments was conducted in the orchard of Mr. F. H. Johnson, Bridgetown, N.S., to determine the strength at which lime and sulphur caused burning and at what period it did the most damage.

These experiments, carried on carefully in a very even block of Wagner apple trees, gave the following information. Trees sprayed three times or with sprays Nos. 2, 3 and 4, as shown in this spray calendar, with lime and sulphur in the following different strengths: 1.004 sp. gr. (equivalent to 1 gallon of concentrated commercial lime and sulphur solution to 75 gallons of water); 1.005 sp. gr. (equivalent to 1 gallon of concentrated commercial lime and sulphur solution to 60 gallons of water); and 1.006 sp. gr. (equivalent to 1 gallon of concentrated commercial lime and sulphur solution to 50 gallons of water); in combination with ordinary paste arsenate of lead, 5 pounds to 100 gallons, showed very little, if any, injury so far as reduction of the crop was concerned. Trees sprayed three times or with sprays Nos. 2, 3 and 4 as shown in the spray calendar, using lime and sulphur in the following strengths: 1.007 sp. gr. (equivalent to 1 gallon of concentrated commercial lime and sulphur to 43 gallons of water), and 1.008 sp. gr. (equivalent to 1 gallon of concentrated commercial lime and sulphur to 37½ gallons of water), in combination with ordinary paste arsenate of lead, 5 pounds to 100 gallons, lost at least 85 per cent of the crop set, the drop taking place just after the application of the fourth spray. Trees sprayed three times with lime and sulphur in the strengths: 1.009 sp. gr. (equivalent to 1 gallon of concentrated commercial lime and sulphur to 33 gallons of water), and 1.010 sp. gr. (equivalent to 1 gallon of concentrated commercial lime and sulphur to 30 gallons of water), combined with ordinary paste arsenate of lead, 5 pounds to 100 gallons, lost practically the entire crop set, in one case one-half of one per cent and in the other two and one-half per cent of the crop set remained after the drop which followed the application of the fourth spray.

Powdered arsenate of lime, used in the strength of two pounds to 100 gallons with lime and sulphur in sprays 2, 3 and 4, proved in all cases much safer than the lead arsenate, lime sulphur combinations. Arsenate of lime in dilutions of from 1.004 to 1.007 sp. gr. (equivalent to 1 gallon of concentrated commercial lime and sulphur to 75 and 43 gallons of water respectively) of lime and sulphur gave no definite reduction in the crop of fruit, although the latter solution with arsenate of lead gave very definite reduction in the crop. Arsenate of lime, used in the strength of 2 pounds to 100 gallons of lime sulphur in the following