

For the second spray use lime sulphur, summer strength, about 1.009 specific gravity, or slightly weaker, after the winter buds have burst and sent forth the blossom *unopened*, but before the petals have expanded. (The winter pear bud contains several blossoms which grow out to some length, each on a single petiole before the blossom opens). Add to this spray  $2\frac{1}{2}$  lbs. of lead arsenate paste for each forty gallons of mixture. This spray is for both scab and worm control.

The third spray must be applied as soon as the petals of the blossoms have fallen, and before the calyces have closed. Use the same mixture, with the same addition of arsenate of lead as for the second spray. The lime-sulphur may, however, be made a little weaker, as low as 1.007 to 1.008 specific gravity.

A fourth spray, a duplicate of the third spray, may be used from ten to fourteen days later if considered advisable for the more complete control of worms and scab.

For special sprays for special outbreaks of any pest, see under the head of Insects and Diseases.

### POLLINATION.

Each pear bud produces from five to eight blossoms. When bloom is heavy, or medium heavy, it is not necessary for more than one or two blossoms, usually, only one, to set fruit on each spur in order to produce a heavy crop of medium to large size fruit of good quality.

A few varieties of pears, including the Duchess of Angouleme and Bose, two of the leading varieties, are believed to be as nearly as can be judged from the small amount of work done on them, largely self-fertile. At the same time, more fruit is apparently set when intercrossed, or crossed with some other variety. It is a fairly safe rule to say that crosses are more likely to set and remain on the tree than fruit produced by self-fertilization, or pollen from another tree of the same variety.

Experiments also indicate that of the remaining best known varieties, including Anjou, Bartlett, Boussock, Clairgeau, Clapp, Lawrence and Winter Nelis, that self-sterility is the rule. Seckel and Kieffer are apparently partly self-fertile. Also in the face of experimental evidence that seems to point to the contrary, many large blocks of varieties, principally of Bartletts, set heavy crops of fruit fairly regularly. How much better they would do if interplanted with Anjou or Duchess can only be supposed or guessed, but it is reasonable to expect that the quantity would be materially increased.

Another factor that apparently must not be lost sight of in securing a heavy set of fruit is the general health and vigor of the tree. Experimental testing and observation both point to the fact that a vigorously growing tree sets a larger percentage of blossoms than the tree lacking in vitality.

Other points such as weather conditions and dates of blooming are also important factors in determining the set of fruit. These, however, need not be discussed here as the statements are general, and have been used very often in connection with other fruits.

One other point that might be emphasized is the value of the insects and the bees. Experiments again point to the fact that very often blossoms are pollinated by the wind, and that the major portion that are not automatically self-pollinated are pollinated by insects. The insects also distribute the blight infection, and