

OUR PERPETUAL EXPERIENCE MEETING.

THE QUESTIONS ON SPRAYING.

We reproduce the questions given in this journal Dec. 4th, together with answers so far received. This does not by any means close the list of answers, nor finish the discussion. On the other hand, it is expected that even deeper interest will be aroused by keeping our columns open to this topic for a number of issues:

1. What fruit pests are found in our neighborhood?
2. What spraying solution do you use?
3. (a) How many times a year and at what periods do you spray? (b) Do you prune before spraying?
4. How do you prepare the different spraying solutions? Read over carefully the different solutions printed in this issue that are recommended by the Washington State Board of Horticulture and see if you follow directions given in making up your solutions. If not, tell in what respect and why. If you see any point in these solutions that you think is not right please say so.
5. What kind of spray apparatus do you use? Do you think the pump you use is the best and most economical?
6. If you are troubled with codlin moth what success have you had in exterminating same? Describe remedies tried.
7. What treatment have you applied for San Jose scale?
8. (a) If you have not succeeded in ridding your orchard of these pests see if any of your neighbors have. (b) If so describe the remedies used.
9. Do you find that any spraying compound that you or your neighbors have used injured the leaves, fruit, limbs or bodies of your trees?
10. It is claimed that lye scalds the trees. Have you noticed any evidences of this?
11. If you have learned anything of value by your own experience about fighting insect pests describe same fully.
12. There have been many patent spraying compounds placed on the market. Have you ever tried any of them?
13. Do you believe that spraying pays? Answer this question fully, stating why and in what ways.

THE ANSWERS.

1. San Jose scale, red spider, green aphid, bark louse, codlin moth, cherry and pear slugs.
2. For winter spraying I use the lime, sulphur, salt and lye solution. For summer, the Paris green solution.
3. (a) For winter sprays I think it better to spray twice, once in December and again in March. For summer, three times, once when the blooms are falling, again two weeks later, the third time about the 25th of July. (b) Yes.
4. I use and prepare them as given in RANCH AND RANGE.
5. A good double attachment force pump.
6. Yes. The three sprayings with the Paris green, and the bands about the trunks of the trees, I have found to be as good as anything.
7. The lime, sulphur, salt and lye solution has been found perfectly satisfactory.
10. No; not if properly used.
12. Yes. Most of them are no good.
13. Yes, it pays well to. I find that good, clean, sound fruit commands a better price in any market than a lot of scaly, moth-eaten fruit, that is not even good hog feed.

ORLANDO BECK,

Fruit Inspector for Yakima County, Wash.

1. The aphid is the only pest in my orchard.
2. Kerosene emulsion and the liquid left after blue-stoning wheat.
3. (a) Early in the spring, before the buds swell. (b) Spray before pruning.
4. I prepare the emulsion according to the directions.
5. I use the Myers hand pump. It is satisfactory for use in small orchards.
6. The altitude of the Kittitas valley is too great for the codlin moth. I have never seen a "wormy" apple in this valley.
7. Have never been troubled with San Jose scale in my orchard.
9. No.
11. Early spraying quite effectively combats the aphid pest. It is an almost hopeless task to attempt to exterminate them after the leaves appear.
12. I have had no experience with patent spraying compounds.
13. Spraying certainly pays. A tree free from pests makes larger growth, comes earlier to maturity and is thus enabled to bear heavier crops. The fruit from such trees commands higher prices because free from blemish.

JAS. M. MONTGOMERY,

Ellensburg, Wash.

1. Aphis, particularly in Western Washington.
2. Lime and sulphur for scale and moss. Tobacco and soap for aphid. Paris green for codlin moth. Copper solution for fungus growth.
3. The number of times depends on the necessities. Once is all that is required with lime and sulphur for scale.
4. Sulphur, lime and salt solution. I use the formula as given, except that I omit the salt and caustic potash and substitute crude sulphur for flowers of sulphur. Use wet sacking to cover lime barrel while slaking lime. Agitate constantly instead of frequently, by means of a foot clapper attached to pump handle. Filter solution through fine wire netting.
5. Bean pump is the best I have tried, and is perfectly satisfactory.
6. The Paris green solution for codlin moth, mixing as per formula, using 200 gallons of water to pound, and add one pound of dissolved fish glue. The glue holds the poison in place and forms an elastic protection coating for the fruit. This remedy I have found to be effectual on forty acres of yellow bellflowers, preventing worms from entering apples, when applied three times during season.
7. Lime and sulphur, as given in answer to No. 4.
8. Answer same as for No. 7. Have observed that strong fresh white-wash, strong salt water, kerosene oil, kerosene emulsion, caustic potash, one pounds to 100 gallons, have killed scale.
9. Yes. Caustic potash, when applied when tree and atmosphere were dry. Lime, sulphur and salt solution, when applied during growth. London purple and Paris green on tender leaves. Kerosene emulsion on leaves, followed by bright sunshine. Kerosene during growth, or when dormant tree was dry.
10. Yes. The injury or immunity depends on atmospheric conditions, which are very variable and not in our control. If there is enough moisture present to make it harmless by dilution, there is no injury. If a Chinook wind or dry atmosphere, with high temperature, the trees will suffer. Under these conditions it will injure the trees before it will kill the insects.
11. The one thing that I have observed not usually recognized is the fact that trees originating from a stock of good constitution and having sufficient suitable nourishment, with good cultivation, conducive to a normal, vigorous growth, that they are to considerable extent immune from insect pests, particularly such insects as live by absorbing the juices. Have observed that the weakest tree is troubled first and most with scale or aphid or vegetable growth, just as surely as a runt chicken, calf, hog, dog or colt is more subject to lice. A good dressing of much needed manure is often the best way to fight some insect pests.
12. Never tried patent medicine on trees.
13. Yes. By making the trees clean.

Tacoma, Wash.

A. B. LECKENBY.

1. San Jose scale, codlin moth, green aphid, red spider.
2. Lime, sulphur and salt and Paris green.
3. For San Jose scale we spray once a year, in February or March; in badly affected trees we spray twice. For codlin moth we spray not less than ten times, from the first of June to the middle of September. For summer apples not so late. We also use the band system around the trees for codlin moth.
4. Some of our fruit growers use steam for boiling the lime, sulphur and salt, and some use large wooden vats with sheet iron bottom, say, six feet long, two feet deep and two feet wide. They generally use two of these and some use three. They have one to make hot water, so as to fill in while it is boiling in the place of adding cold water. While they use one tankful the other one is boiling in preparation for use. They generally slake a whole barrel of lime in one of these vats, then they add one sack of sulphur of, say, 100 pounds; then they boil for two hours; then they add a sack of salt, 100 pounds; then they add enough water to make 300 gallons. Use warm while spraying and strain it through a fine wire sieve. It would be well for every one who uses this wash to have Beaume scale for acid hydrometer, and if it shows eight degrees strength it is strong enough then to kill San Jose scale. The great trouble is that some use this wash too strong and some not strong enough. If you use it too strong on the peach and cherry trees it is liable to injure them. You must also bear in mind the more lime you use the quicker the sulphur is dissolved. There is some sulphur that is a good deal stronger than others. The French sulphur is twice the strength of the Japanese sulphur.
- For codlin moth we use Paris green, in 200 gallons of water to one pound. We also use some air-slaked lime, about eight pounds: that keeps the Paris green from settling to the bottom of the tank, or whatever they use. You must also keep it stirred up continuously while you are spraying.
- For green aphid we use kerosene emulsion and soap suds.
5. For spraying we use either one of the kinds known as the Bean