

The following points will clearly separate the San Jose Scale from the Oyster-shell Bark-louse and the Scurfy Scale:

First: The arrangement or grouping of San Jose Scales on the bark is generally characteristic, and is often sufficient to at once identify them. They seldom have a tendency to cluster, if there be few in number, but, instead, are scattered somewhat evenly on the bark.

On badly-infested trees the presence of the scale on new growths and the fruit produces a deep-red coloration on the tissues of the bark.

It leaves no conspicuous, ventral, whitish scale on the bark after the removal of the insect, as does the Scurfy Bark-louse.

The reason for considerably more damage being done by the San Jose Scale than by the Oyster-shell Bark-louse is on account of the San Jose Scale producing many broods in one season, and also bringing forth its young alive, whereas the Oyster-shell Bark-louse is one-brooded and winters over in the egg stage.

The treatment to be adopted for nearly all the scales is practically the same. On deciduous trees, where the scales remain during the winter upon trunks and branches, and where the trees become dormant, the scales are best treated during the winter. At that time there is no foliage to interfere, and much stronger washes can be used than would be possible during the summer, or when the tree is active. It is extremely difficult to penetrate insect tissues with ordinary liquids, and it has been found impossible in practice to obtain good results in the destruction of scale insects, except by means of caustics. The common soaps are all caustic, and, when applied in strong solutions, the scale is shrivelled, lifted, and partially corroded, so that the oily mixture works its way beneath into absolute contact with the insect. Or it is raised at the edges and washed off by the rains, carrying with it either eggs or young, as the case may be. In fact, where the eggs hibernate, winter applications act only by exposing them, so that they are easily washed away by rains and scattered.

In the case of plants which do not lose their foliage at any period, or in conservatories, or where winter treatment for any reason is not feasible, we must attack the insects when the larvae are crawling about, and before they are fixed. At that time, whilst not protected by a scale, they may be easily killed, almost any of the contact insecticides being effective.

Remedies.—Owing to the large number of applicants who were desirous of obtaining information of the best methods of combating the Oyster-shell Bark-louse, it was decided to carry on a number of experiments here, to test the efficiency of the various insecticides commonly used against scale insects.

Of all the spray mixtures tried, the well-known lime, salt and sulphur wash gave the best results.

The lime, sulphur and caustic soda, and the lime, sulphur and sal soda were also tried, but without quite such good results. The lime, sulphur and caustic soda proved to be a little superior to the lime, sulphur and sal soda, owing to its apparent power of better penetration.

Soaps.—Various soaps were also tried, and of these the Whale-oil Soap Emulsion gave the best results, many of the scales being killed.

The Whale-oil Soap gave good results also, but not equal to the Emulsion.

Sunlight and Life-buoy soaps, and also a mixture of both, proved to be of very little value, inasmuch as they did not prevent the eggs from hatching. These soaps are claimed by the makers to be most effective against the San Jose and other scale insects, but applied as a winter wash against the Bark-louse they have little value. Undoubtedly they should be applied after the young lice hatch, and not as a winter application, and then would most likely prove effective against the tender lice.

Kerosene Emulsion.—Kerosene Emulsion was also tried, and this proved of more value than the Whale-oil Soap Emulsion, but not so effective as the lime, salt and sulphur wash.

Lime.—Quick-slaked lime, 1½ lbs. to 1 gallon of water, proved very effective applied as a winter wash, and equals the results obtained by the lime, salt and sulphur.

Kerosene-Lime.—This was also tried, but did not prove superior to the Kerosene Emulsion, and therefore is not to be preferred to it.

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An experiment made by the Victorian (Australasian) Government in using motor 'busses as feeders for the suburban railways, has not proved successful. The trial extended over six months, and the motor service has been discontinued, owing to frequent breakdowns and the 'busses not being a productive source of revenue. On the other hand, large motor cars—of a different type to those built by the Government—are being successfully maintained in the public service by private enterprise in other parts of this State.

### Maine Pomologists Meet.

The annual meeting of the Maine State Pomological Society was held on the campus of the University, at Orono, Tuesday, August 21, when a good delegation of pomologists and their friends were present from all sections of the State. Under the leadership of Prof. Munson, the visitors made a tour of the horticultural department, beginning with the orchards, and ending with small fruits. Some of the practical points brought out will interest "Farmer's Advocate" readers.

Approaching the orchards, attention was called to the various cover crops, spring and winter vetch, winter rye and Mammoth clover. "We practice clean cultivation early in the season," said Prof. Munson, "and sow the cover crops the latter part of July, which gives them six weeks or more of growth. They keep the ground from washing, and when plowed in early in the spring, furnish to the soil the nitrogen they have gathered from the air."

The contrast between clean culture and sod land was pointed out in another plot, and it was noted that a few trees situated where the upper layer of soil had been used in grading the grounds of a fraternity house, were not doing so well as others of the same age and variety that had not been thus robbed. A small row of trees had been painted, as a preventive for mice and borers, part with white lead, part with white zinc, and the rest with double tanglefoot. No appreciable result had been noted from the experiment.

Crossing to another section of the campus, a plot of dwarf pear trees, which had been set seven years, was seen. The ground had a cover crop of vetch. Prof. Munson remarked that he had seen a tree of this variety fifty years old, from which one could gather the fruit from the highest branches with a stepladder. He cuts back the growth of each year one-half.

In the afternoon meeting, Prof. Munson was called upon several times for remarks. He spoke first of the fruit interests, of the importance of the pomologists of Maine banishing jealousy and standing together. Fruit was going to be better graded, and there would be better facilities for storage. These were lines along which the Society was working.

Another point was spraying, which, he affirmed, had got to come, for Providence would not destroy the insect pests.

Touching upon the decorative, he advocated the use of many of the native shrubs and trees, those of the former that were high-colored, either in foliage or fruit; among the latter, he named hemlock, juniper, mountain ash, cedar and birches. Said he: "There is a certain principle governing the planting of them. Simply plant in groups or clumps, rather than singly. Make solid border; irregular outlines, rather than straight. Get shrubs that bloom in different seasons of the year; plants rich in high-colored foliage or fruit are preferable. Have the house as a picture, with framework of shrubs. Keep a good clean, smooth lawn in front of the house. Don't mow hay in the front yard when lawn mowers are so cheap. Don't attempt too much; don't crowd. Some lawns look like crazy patchwork. Let every member of the Pomological Society, every friend of the development of rural interests, work for the improvement of schoolyards, churchyards, carry the same idea to their homes, and make the children feel that there is no place quite so beautiful as the little old place where they were born."

M. B. AIKEN.

### APIARY.

#### Feeding in Fall Rather than Spring.

Replying to a question, Dr. C. C. Miller, of Illinois, gives the following advice on feeding bees, in the American Bee Journal:

In the limitations of this department it is not always easy to avoid misunderstanding. It is true that I have advised a novice against feeding; and it is true that I have advised feeding in the strongest terms. One of the worst things you can do is to leave your bees short of stores in the spring, and I never have advised against feeding when such a thing occurs. I feel well satisfied to feed a colony in spring if it needs food, but I feel better satisfied if every colony is so heavy with stores that it needs no feeding in the spring. From now on is the best time to feed, not in the spring. See that there is so much honey in the hive that there will be no possible need of feeding in the spring. The kind of feeding I advise in spring is to give a little each day in bad weather in the spring, and I never advise against feeding to bees when they are supplied on hand.

### POULTRY.

Fresh air is the best medicine for poultry.

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Get free from the boarder, the hen that only adds to feed bills. Old hens are dead stock; they should be decapitated.

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If the poultry house has not yet had a good inside coat of whitewash, see that it gets it before the beginning of winter is on; it means only a few hours' work.

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The time to buy good cockerels is in early fall, when the breeders have the largest selection from which to pick, and the birds they offer you are the early-hatched ones.

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Mr. A. W. Foley, of West Durham, Ont., reports that this year's pullets have already commenced to lay. "They simply have to do it," says Mr. Foley. "An egg is nothing more than the product of the surplus food a hen eats; therefore, a young chick, well fed and in good condition, should begin to lay just as soon as she is fully matured."

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An exchange says: "Badly ventilated, damp or drafty houses, too much or too rich food, in-and-in-breeding, the use of immature stock, tainted ground and infection are the main causes of diseases in poultry flocks." The farmer who has ample range need worry little about "tainted ground." He need not keep his flocks in last year's feeding ground.

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Pliny says: "It is a maxim universally agreed upon in agriculture that nothing must be done too late, and, again, that everything must be done at its proper season, while there is a third precept which reminds us that opportunities lost can never be recovered." These precepts apply just as truly to poultry-raising as to agriculture. It is ancient philosophy with a modern application.

#### Soft-shelled Eggs.

At certain seasons of the year a considerable loss is occasioned on many farms through a large proportion of the eggs failing to be properly coated with lime, commonly termed soft-shelled eggs. Perhaps the commonest cause of this complaint, especially when the birds are kept in confinement, is that the hens are receiving an insufficient supply of shell-forming material, with the result that they have to produce eggs with either such thin shells that they crack with the slightest touch, or else with no shells at all. The shell of an egg is largely composed of lime, and it has been estimated that a flock of one hundred hens produce considerably over a hundredweight of chalk annually. The materials for the manufacture of the shells are found in grit, sand, pieces of bone, etc., and unless the hens are able to procure such, soft eggs will speedily result. Broken oyster-shells are very valuable for the purpose, supplying an abundance of calcareous matter. Sudden fright has also the effect of producing shellless eggs; a dog chasing a hen, for instance, may frequently cause the egg to be ejected before it has received its coating of lime. The remedy for this is, of course, quite evident.

If soft eggs are due to neither of the above causes, then it is a rather more serious matter, as it means that the egg organs are out of order. As a general rule, improper feeding is the exciting cause, which has perhaps stimulated the egg organs so that they are unable to retain the egg until coated with the shell. All food of a stimulating nature should be immediately stopped in order to check laying, as, until this is accomplished it is exceedingly difficult to prevent the complaint continuing. Boiled rice and cooked potatoes, dried off with middlings, are about the best mixture that can be employed, and should be supplied to the birds twice a day. A pill composed of one grain of calomel and one-twelfth grain of tartar emetic, once a day, has a good effect. Quietness is essential, and the birds should be placed where they are not likely to be disturbed.

#### EGG-BOUND.

A more serious complaint than the above is egg-bound, frequently resulting in the death of the bird. There are two causes of this complaint, namely, contraction of the passage down which the egg passes, or the abnormal size of the egg. If due to the presence of a very large egg, it is not so serious a matter, save that it is likely to be oft repeated. A little sweet oil should be inserted in the vent, and gentle pressure exerted on the egg, which usually has the desired effect. The greatest care must be taken, however, not to break the egg, as in this case inflammation is almost certain to be set up, which generally proves