

12. Concentrated lye, 1lb. ; water, 2 gallons.—Same as above, except that the scale was worse ; shows little new wood, but that healthy.

13. Concentrated lye, 1lb. ; water 3 gallons.—Washed tree with spray. 1st April, 1881 : Proved too weak to destroy the scale. 23rd July : Young scale-insects covered the tree ; left to itself. 25th April, 1882 : Scale killing tree. 14th October : Tree dead.

14. Concentrated lye, 1lb. ; water, 5 gallons.—Applied to two trees ; one slightly one badly infected with scales, on the 23rd June, 1881 ; only on the trunks was the wash used. 2nd July : No effect produced on the scale where not reached by the lye. 14th October, 1882 : The tree covered with scale, but far less where washed with the lye ; the bark, where washed, was healthy.

Use of Kerosene.

15. 1st June, 1881 : Low grade, 110° test.—Showered over the entire trees ; foliage killed, trees affected ; scale killed. 2nd July : New leaves budding out. 23rd July : New foliage all over trees, shoots 6in. long, no scale, bark healthy. 2nd August : Foliage increasing, trees gaining in health. On the 25th April, 1882, these trees were dead.

16. Kerosene, high grade, 150° test.—1st June, 1881 : Applied spray on two pear-trees ; found on the 27th that foliage had not been killed, but the scaled destroyed. 2nd July : New-leaf buds coming out. 2nd August : Trees appear healthy, no scale showing. 25th April, 1882 : Trees dead.

17. Kerosene, high grade, diamond brand, 150° test.—27th July, 1881 : Applied heavy spray over entire trees (pear) badly infested. 2nd August : Scale destroyed ; trees and foliage appear healthy. 25th April : One tree dead, the other nearly so. 14th October, 1882 : Trees dead.

18. Kerosene, same brand.—27th July, 1881 : Applied by spray atomizer. 2nd August : Same effects produced as in No. 17 ; scale appears to have been entirely destroyed. 25th April, 1882 : Tree not dead, but with many scales upon it. 14th October, 1882 : Old wood dead, but new wood from near the ground.

19. Gasoline, applied upon pear-tree by heavy syringe-spray thoroughly over the tree and foliage on the 27th July, 1881.—2nd August : Not effectual in destroying scale—too volatile ; many insects killed, large portion unaffected ; no apparent effect on tree or foliage. 25th April, 1882 : The tree has been almost killed by the scale. 14th October, 1882 : Tree still alive ; scale.

20. 27th July : Applied gasoline by spray atomizer to pear-tree. 2nd August : Result same as preceding. 14th October, 1882 : Did not suffer from application ; no scale ; clean and healthy.

Whale-oil Soap and Sulphur.

21. Mixture, 1lb. ; water, 1 gallon.—23rd June, 1881 : Applied spray over pear-tree, covering foliage and fruit. 23rd July : Scale killed, tree gaining health, bark restored, fruit improved. 2nd August, 1881 : Tree and fruit improving. 28th April, 1882 : Tree healthy, appears free from scale ; bark fully restored, fine top, new growth. 14th October, 1882 : Tree healthy, but some scale, however ; orchard badly infested, hence their return ; wash weaker than this described is ineffectual.

Soft Soap and Sulphur.

22. Soft-soap, 1lb. ; sulphur, 1lb. ; tobacco, 1lb. ; water, 3 gallons.—5th July, 1881 : Applied spray to two trees. 23rd July : Seemed effectual, many scale destroyed ; trees not affected by wash ; fruit improved. Subsequent observations showed little done towards destroying the scale. 14th October, 1882 : Shows abundance of scale. This wash was used with good effect in another orchard (1st June, 1881) on a Fellenburg prune ; scale not returned.

23. Soft soap, 1lb. ; sulphur, 1lb. ; water, 3 gallons.

24. Soft soap, 1lb. ; water, 3 gallons.—The two washes named above were applied, 23rd June, 1881, with no effect, neither has it shown any result this season.

Whale-oil Mixture.

25. Whale oil, 1 pint ; kerosene, 1 pint ; borax, 1 oz. ; water, 1 gallon.—23rd June, 1881 : Applied spray to pear-tree different times in 1881 ; showed oil injurious to tree, therefore not recommended. Applied to another tree one-fifth the strength indicated ; no effect on scale or tree. 25th April, 1882 : First tree treated nearly dead ; having cut top off, new wood coming ; scale appears to be destroyed. 14th October, 1882 : Old wood dead, new wood springing out lower portion of tree ; shows some scale.

Carbolic Acid.

26. Carbolic acid, 3oz. ; water, 2 gallons.—23rd June, 1881 : Applied by spray, pear-tree badly infested with scale. 27th June : Failed entirely ; showed insects both male and female. 23rd July : Tree covered with young female insects, commencing to be covered with their scale. 25th July : Bark scraped clean on this date, was in two days covered with young scale. 2nd August : Tree entirely covered with scale ; two or three winged males were found. 25th April, 1882 : Tree almost dead from scale. 14th October, 1882 : Shoots have grown from the trunk of the tree, but the whole so seriously infested as to be worthless. The entire orchard in which these trees are situated other than the ones experimented upon—from eight to twenty-six—were washed last winter with a low grade of coal-oil called "tree-wash ;" result not satisfactory. The owner tells me (14th October, 1882) that he is satisfied the oil has injured the trees.

Applying the Lye.

The strength of the lye 1lb. to one gallon of water where trees are infested with scale. Where it is only desired to cleanse the tree from moss, 1lb. to three or four-gallons of water is sufficient. The best method of applying the concentrated lye is by dissolving in boiling water and throwing