form, cannot be safely recommended until further experiments are conducted.

From what I have seen of the effects of pure kerosene upon fruit trees, my final advice to the peach and pear growers, especially, of Maryland, is this, *beware of mineral oils.* If you desire to use pure kerosene, first try it upon a few trees, and decide for yourself whether or not you think it safe to continue the practice.

Pure Kerosene:—The four following experiments were performed in the pear orchards of R. S. Emory, at Chestertown, Kent county.

No. 1. November 6th, 1896, a six year old standard, Bartlett pear tree, badly infested with San Jose scale; sprayed during the middle of the afternoon; sun shining; strong breeze. Tree 16 feet in height; 6 quarts kerosene, 175 degree test used. Tree sprayed from three sides. November 19th, a little less than 20 per cent. of the scales living. The wind carried a fine mist of kerosene, so that it covered one side of a dwarf Bartlett in an adjoining row. The entire side of this tree was killed and cut away. November 24th, tree sprayed with whale oil soap, 2 pounds to a gallon of water. April 16th, buds beginning to unfold. Some little dead wood on young twigs. May 23rd, full foliage, no fruit, dead wood all cut out. August 27th, a few old females, and many larvae seen crawling about the tree. October 14th, about the same number of living scales as on any neighboring tree.

No. 2. A six-year old dwarf Bartlett pear tree in good condition about 10 feet high, and moderately infested with San Jose scale, selected and sprayed with three quarts kerosene at 11 o'clock September 30th, 1897. Temperature, thermometer hanging in tree, 74 degrees F.; sun shining brightly; gentle breeze stirring. Sprayed by myself from three sides. October 14th, leaves a little more yellowish than on surrounding trees. Foliage apparently not seriously damaged. October 28th foliage all off. Leaves dropped several days before those on surrounding trees. March 29th, 1898, Capt. Emory writes that 99 per cent. of the fruit buds have been killed, while the leaf buds seem to be alive; but very much retarded. May 5th, I examined the orchard and found the tree in full foliage, but fully 99½ per cent. of the fruit buds killed. Only an occasional fruit bud on extreme tips in top of tree. Trees surrounding set full of fruit. Could not find any living scale.

No. 3. Tree similar to No. 2, about same size, and moderately infested. Sprayed with three quarts kerosene at 5.30 o'clock p. m., September 30th, 1897. Temperature 70 degrees. Gentle breeze. October 14th, foliage practically all on and green; drops readily when tree is shaken; but not so easily as in No. 4. No living scale observed. October 28th, foliage all off; one living scale found. March 29th, 1898, Capt. Emory reports 99 per cent. of fruit buds killed, and leaf buds greatly retarded. May 5th, I find the tree in full foliage, but considerably [illegible] than on surrounding trees. Fruit buds practically [illegible] killed [illegible] occasional one on extreme tips of topmost branches. [illegible] and [illegible]

No. 4. Tree similar to Nos. 2 and 3. Sprayed with [illegible] kerosene October 1st at 6.30 a. m. Temperature 64 [illegible] October 14th, foliage practically all on, but falls ver[illegible]