



Southern Gardens Series

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Beating the Bugs in 1850

Long before the age of modern pesticides, fruit growers of the 1850s waged their own chemical warfare against noxious insects. Andrew Jackson Downing (1815-1852), considered the first great landscape designer in the United States, was also an architect and a frequently published horticulturist. In 1847 he published *The Fruits and Fruit Trees of America*, a practical guide for orchardists

His general advice in the war on bugs was to watch carefully and attack early. The difference between "whether it is done at first, or a fortnight after, is frequently the difference between ten and ten-thousand" insects infesting an orchard.

Like a good general, he devised his battle strategies according to his specific enemies.

Insects which spent part of their life cycle in the soil, he attacked with salt. To destroy the grubs of peach worms, for instance, he applied of a small handful of coarse packing salt as a top dressing, and for the plum-weevil a quart of salt per tree at the roots annually for three years then once every two or three years afterwards. Too much salt, he cautioned, would kill the tree.

To drive away winged insects, he called for strong odors, strong concoctions of tobacco, or a wash of whale oil or other strong soap. Just as the odor from peppercorns or shredded tobacco would discourage the moths that attacked furs, by the same principle other bugs could be driven away by strong odors. To destroy the brown scale that attacks orange trees, one could hang plants of common chamomile in the branches. Others could be dissuaded by particular odors: the vapor of oil of turpentine for wasps, odor of coal tar for wire worms, and tobacco smoke for green flies.

For small insects that fed on young shoots and leaves, tobacco water or whale oil soap was the weapon of choice. One could boil tobacco leaves or refuse stems from tobacco shops and apply it to young shoots with a syringe, or sprinkle this concoction on the tips and other infested parts of the tree with a white-wash brush. Two pounds of whale oil soap to fifteen gallons of water could be applied the same way.

The most dramatic campaign was waged against the moths and night flying insects. A candle could be placed in a flat saucer filled with oil, set on the ground, and partially covered with a bell jar smeared with oil. In one account, two hundred of these traps in a French vineyard of four acres caught 30,000 moths in one night. In orchards, even a small bonfire of brush or a flambeau made of tow wrapped around a stick and dipped in oil could help attract and sizzle moths.

Another insect trap was a wide-mouth jar half-filled with a mixture of molasses, water, and vinegar and hung from a branch to kill wasps, flies, beetles, slugs, grubs, and others insects. With such traps, Downing reported, one amateur killed three bushels of insects in one season in his orchard.

To recruit allies, Downing recommended growing hedges and live fences to provide nesting sites for insect predators--sparrows, robins, and wrens (he didn't mention purple martins). Toads and bats were always desirable.

His final counsel, which I'm sure his orchardists least wanted to hear was, "in default of more rapid methods, hand-picking is best."