THIMET *(PHORATE)* APPLICATIONS

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Thimet (Phorate) in the 10 percent granular form is being widely accepted in the South by seed orchard managers for insect control. This chemical, a systemic insecticide, is applied on the ground surface for absorbtion by the tree roots and translocation to all living tree tissues.

Since Thimet is highly toxic to humans, extreme care must be used in its handling. For this reason the Virginia Division of Forestry designed and tested several new applicators for the safe handling and application of Thimet.

The Division's Tree Improvement Program is rapidly expanding with more than 150 acres of loblolly pine seed orchard established to date. A goal of 300 acres will be reached within the next 2 years. In addition, a 30-acre white pine orchard and an 8-acre shortleaf pine orchard are already established, and a 10-acre Virginia pine orchard will be established in 1968. With all these seed orchard areas, insect control on the grafted trees is an absolute necessity.

The first unit designed for Thimet applications consisted of a tractor drawn trailer-mounted platform, containing the Thimet reservoirs. These reservoirs were simply two heavy duty steel garbage cans with spring-loaded lids. One-inch clear plastic tubing carried the chemical from the can to a plastic pipe (PVC) applicator (fig. 1). The applicator itself was light weight and designed so that one squeeze of the trigger discharged the measured amount of Thimet in a steady flow at ground level

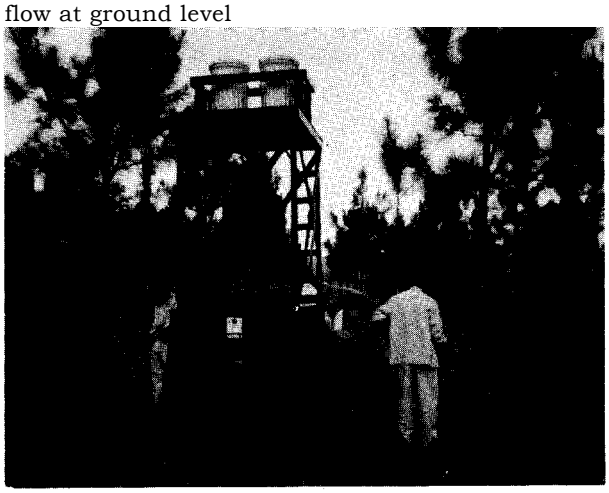

Figure 2.—Tractor drawn trailer-mounted platform with reservoirs.

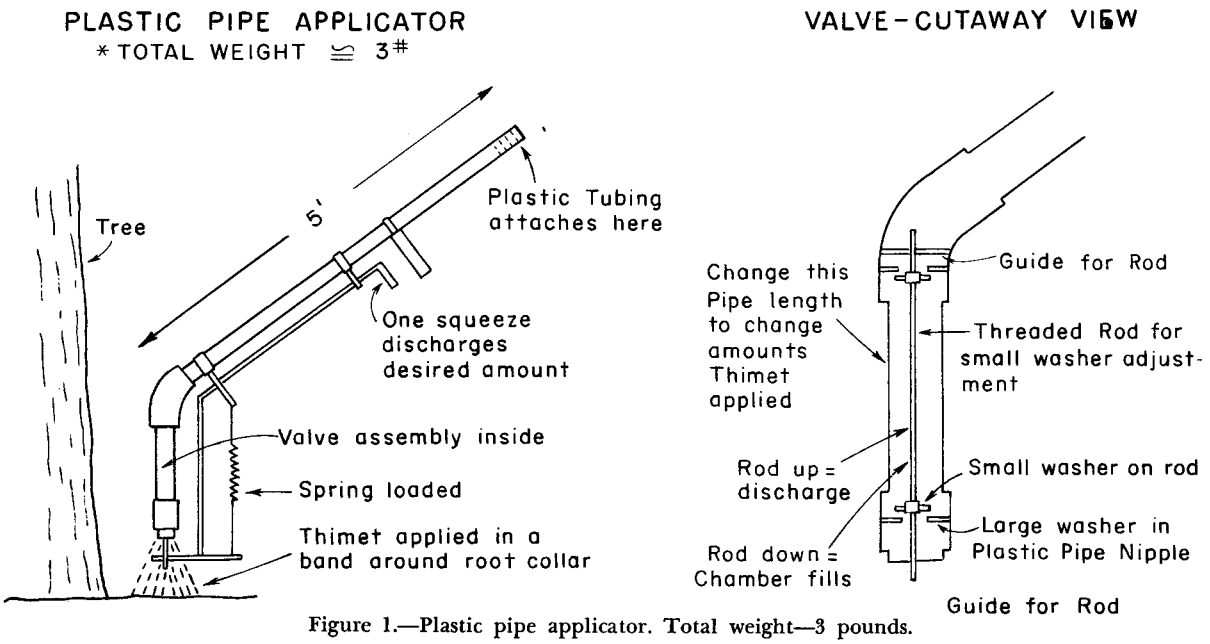

Figure 1.—Plastic pipe applicator. Total weight—3 pounds. Valve-cutaway view.

Figure 3.—Applying Thimet from reservoirs by plastic pipe.

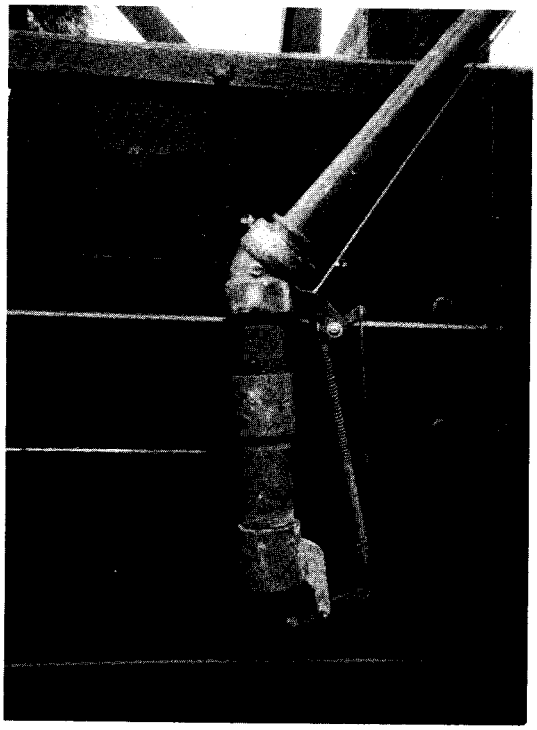

Figure 4.—Applicator head showing feed control mechanism.

(figs. 2, 3, 4). The valve assembly at the discharge end when opened allowed a measured amount of Thimet to flow out while stopping the flow of Thimet into the chamber. This chamber would immediately refill when the trigger was released as the man was walking to the next tree. By using such a unit, the only time workers would come into direct contact with the chemical was when the cans were loaded. Nevertheless, workers were completely protected by safety clothing and respirators and showered themselves and their clothing at the end of each day's work.

To reach areas in the seed orchard where tractor movements were limited, a hand applicator was

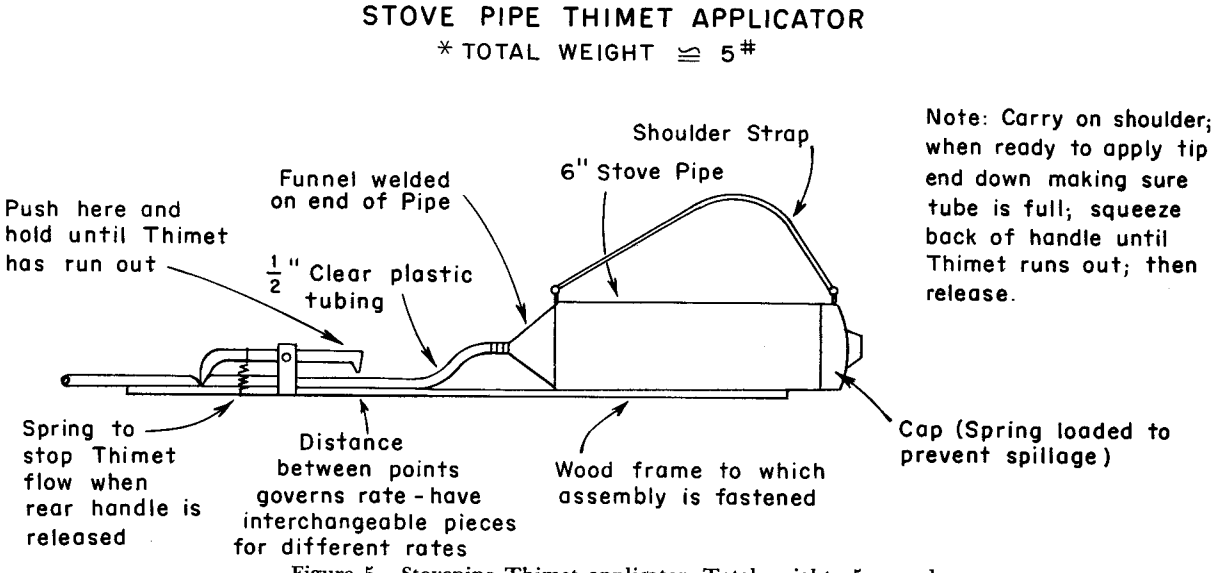

Figure 5.—Stovepipe Thimet applicator. Total weight—5 pounds.

built from stovepipe, a funnel, clear plastic tubing, and some lumber (fig. 5). The distance between the two points on the wooden trigger determined the amount of Thimet discharged.[1] The capacity of the stovepipe is about 20 pounds. One end of the stovepipe tank is covered with a spring loaded cap (figs. 6, 7). Here also, workers were completely protected from the chemical.

1 Harry 0. Yates, Southeast. Forest Exp. Sta. suggested this metering device.

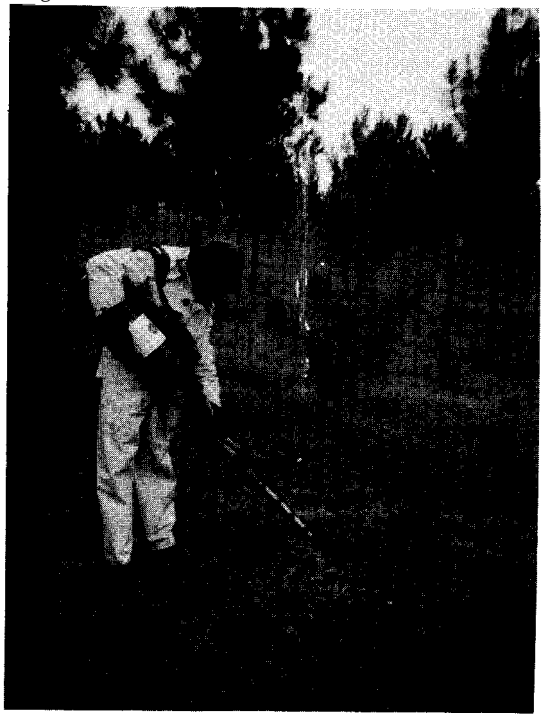

Figure 6.—Applying Thimet by "stovepipe" hand unit.

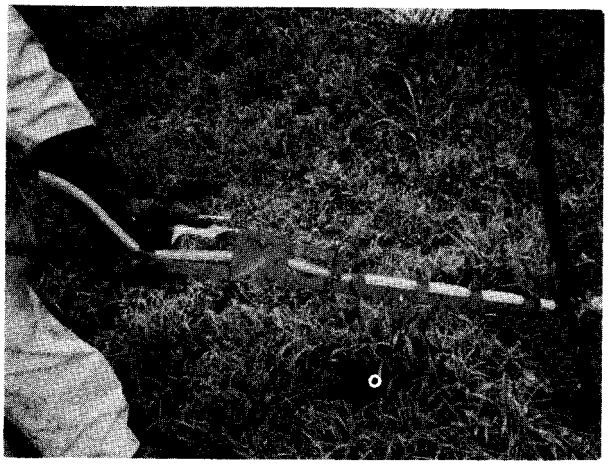

Figure 7.—Feed control mechanism for "stovepipe" hand applicator.

Other methods of Thimet applications have been attempted, but those described above proved to be the most safe and efficient to date. In addition, these units may also be used in a slight breeze since the Thimet is being discharged at ground level with no blowback (fig. 8). Also, a light rain would not cease the applications since the units are completely waterproof.

Figure 8.—The Thimet application surrounds the base of the tree.

CAUTION: In using pesticides discussed in this publication, follow directions and heed precautions on pesticide labels. Be particularly careful where there is danger to wildlife or possible contamination of water supplies.