

BINDWEED CONTROL STUDY IN AVOCADO ORCHARD BY SPRAYBLADE LAYERING TECHNIQUE

A Progress Report

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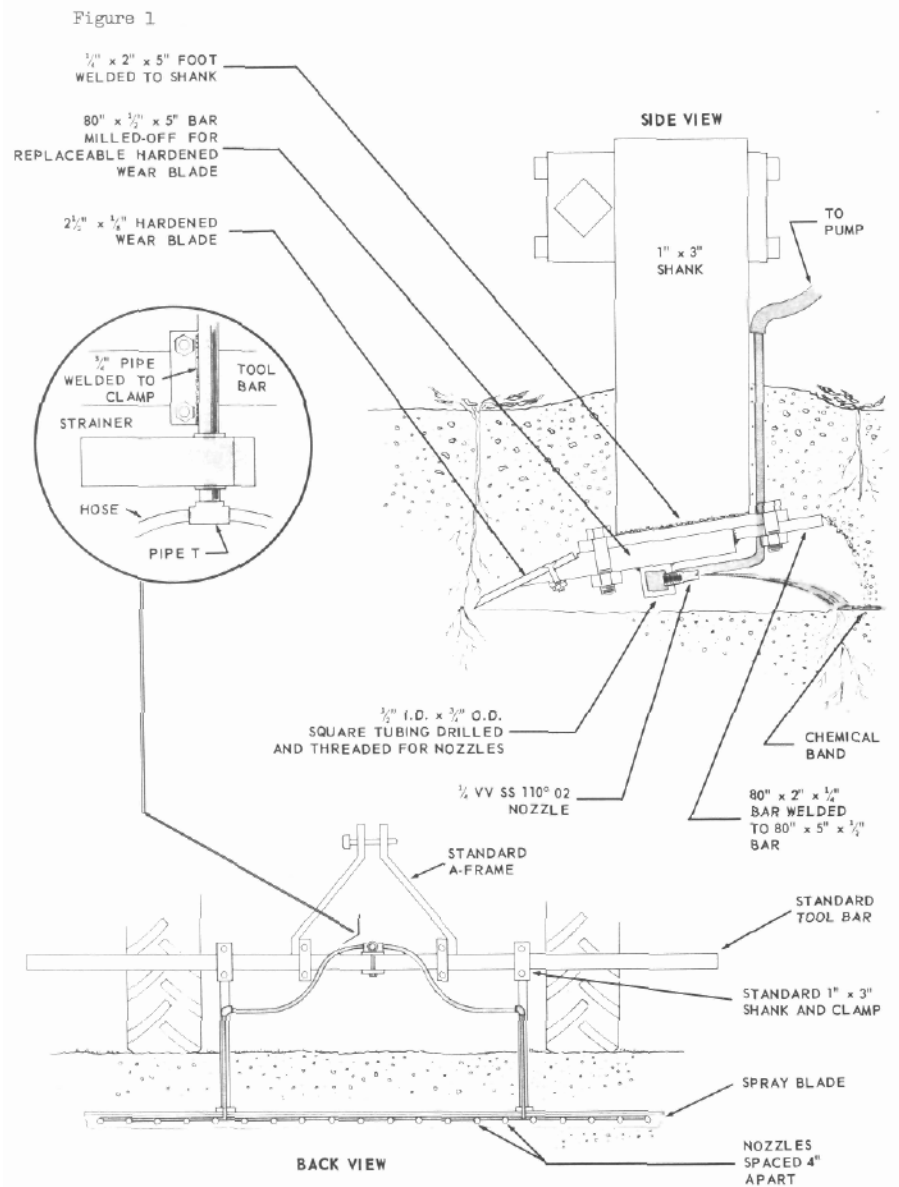
Bindweed, *Convolvulus arvensis*, commonly called morning glory, is one of the most troublesome weeds in the world. The fanner has learned to live with it, but this cohabitation has been expensive. To prevent its taking over an orchard, a grower may have to cultivate it under as many as eight times a year, or knock it down with a contact herbicide such as weed oil a like number of times. The systemic herbicide, 2,4-D, provides a more permanent means of control but it is not registered for such use in avocados. So, the search for a residual control for bindweed continues.

This study's object was to evaluate a new herbicide application technique called layering and its influence on the efficacy of various herbicides on bindweed control. This technique uses a spray blade or French plow to place a horizontal layer of herbicide four to six inches below the soil surface. Soil preparation is necessary for successful operation of the spray blade. In this study, preparation included discing and harrowing of the orchard's loam type soil.

The herbicides were applied to a 3-month-old Reed avocado grove on July 29, 1971. The treatment plots were 6.5 ft. wide, 48 ft. long, running approximately 1.5 ft. from trunk of tree. Depth of the spray blade was between 2-5 inches. Each treatment was replicated four times,

Chemicals were selected that had shown promise in previous tests with the spray blade or on bindweed. All the treatments were better than the commercial control rating of 7 on a scale of 0 to 10 for the first six months (Table 1). Most of the treatments still looked good after ten months, especially the high rates of trifluralin (Treflan®) and dichlobenil (Casoron®). The two numbered compounds look very promising. None of the treatments caused visual damage to the trees. Overall, the spray blade technique of applying the herbicides used in this trial appears to be quite successful for controlling bindweed.

Of the herbicides tested, only dichlobenil is registered for use on avocados. Figure 1 illustrates the principle and standard design of a spray blade.¹ There are several modifications of this design being built but the main components are the same.



This is only a progress report on ten months of study. The information presented is not to be interpreted as a recommendation.

¹ Lange, A. H., Johnsongrass Control Study in Vineyards by Layering Techniques, University of California Agricultural Extension leaflet MA-39, p. 4, 1972.

² Bindweed control ratings: 0—no control; 3—some weeds killed; 5—apparent 50% reduction; 7—commercially acceptable control; and 10—all bindweed controlled.

TABLE 1

<i>Herbicide</i>	<i>Act. Ingr. lb./Ac.</i>	<i>Bindweed Control²</i>			
		<i>2 mo.</i>	<i>4 mo.</i>	<i>8 mo.</i>	<i>10 mo.</i>
Trifluralin	2	5.5	7.8	8.5	6.9
„	8	8.5	9.0	9.8	8.7
Dichlobenil	2	8.0	8.2	8.5	6.5
„	8	8.8	8.8	9.5	8.3
CGA 10832	2	7.0	8.2	8.8	7.2
Borax 3584	2	8.0	7.2	8.8	6.2
Check	—	1.8	5.0	5.5	4.3

WARNING ON THE USE OF CHEMICALS

"Pesticides are poisonous. Always read and carefully follow all precautions and safety recommendations given on the container label. Store all chemicals in their original labeled containers in a locked cabinet or shed, away from food or feeds, and out of the reach of children, irresponsible persons, pets, and livestock. Confine chemicals to the area being treated. Avoid drift onto neighboring properties, especially those containing food or forage crops. Consult your County Agricultural Commissioner for correct methods of disposing of leftover spray material and empty containers. **NEVER BURN PESTICIDE CONTAINERS.**"