

Solution For Bindweed Problems in Vineyards

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A subsurface application of low rates of trifluralin appears at this time to be the safest and most effective approach to vineyard bindweed control. Fairly uniform results have been obtained in trials in Alameda, Napa, Monterey, and San Bernardino Counties. Several points relative to subsurface application of this chemical were brought out at a recent symposium on the subject. They have been compiled by Dr. A.H. Lange, University of California Agricultural Extension Weed Specialist.

Rates of 2-8 Lbs. per acre of trifluralin and some related compounds applied 4-6 inches below the soil surface in heavy bindweed infestations has given excellent season-long bindweed control. In clay soils that crack badly this control may be broken unless the surface is mulched to prevent the cracks from penetrating the layer of Treflan and thus letting the bindweed through. Most of the work this year was conducted in the early spring in February, March and April 1970-71. However, even trials as late as June have given excellent bindweed control in one vineyard. In University and chemical company trials extending from Orange County in the south to Sutter County in the north, several herbicides in addition to trifluralin have given outstanding results.

Several trifluralin related compounds, principally CGA 10832, A820, and UCB 3584, have also given control nearly as good as trifluralin on

a pound for pound basis. Other trifluralin related compounds such as nitralin (Planavin), EL199, Torpedo, (AN56477) have also, been tested and found to be much less effective on bindweed, applied by the spray blade technique.

Johnsongrass, also a long-time perennial weed in orchards, vineyards and field crops likewise may fall victim to this new chemical tool. Substantial reductions or elimination of Johnsongrass may be possible in the second year of subsurface laid applications of 2-8 pounds per acre rates of trifluralin.

What about residual in the soil? Is trifluralin going to last longer in a layered application as compared to incorporated by discing or rototilling? Preliminary results suggests it will. A good deal more work is needed to evaluate this most important point.

How does trifluralin work? To find out, bindweed shoots were uncovered down to the layered trifluralin. Swollen shoot tips were observed. Some necrosis in the growing points was also seen. In pot tests, corn and beans failed to emerge when planted *below* the treated herbicide layer. After germination, shoots of the young crop grew up to the treated layer and stopped; greatly enlarging, swelling and twisting, but they were unable to move through the treated zone. When these crops were planted the same distance *above* the treated layer, they were able to grow almost normally when evaluated one month after seeding.

A practical solution appears to be in sight for the control of bindweed in vineyards. We think that winter applications may be superior to spring applications. We need to know more about how to use this technique in controlling bindweed in new plantings. Modification of existing equipment may be needed in order to do a better job immediately around the vine.