



## RON VARGAS RETIRES

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After 33 years with the University of California Cooperative Extension I will be retiring effective June 30, 2006. It has been an honor and privilege serving the growers of Madera and Merced counties as well as throughout the San Joaquin Valley and California. I only hope that the small part I have played in the agricultural industry has helped solve problems and has been a benefit to the agricultural economy and society as a whole. It has been a great honor to have served on behalf of the University of California Cooperative Extension. I have had an extremely rewarding and most fulfilling career, and have worked with some of the most competent, professional individuals and best agricultural scientists, in one of the greatest Land Grant University systems in the nation. California agriculture faces a number of challenging issues, but I am confident with the partnership of the agriculture community and UCCE agriculture research, they will be met.

Sincerely,

**Ron Vargas**  
Farm Advisor

## **WEED CONTROL IN COTTON FALLOW BEDS**

The continuous wet, cool weather we have been experiencing is resulting in weedy fallow beds. Weeds that will have to be controlled before planting. Remember last year's wet winter that resulted in late spring herbicide applications to fallow bed and grain crops when tree and vine crops were "leafed out" leaving them vulnerable to drift injury? The lessons from the winter of 2005 should not be forgotten. Proper application, drift management and sprayer clean out, in attempting to control weeds on fallow beds will go a long way in preventing a recurrence of 2005.



Winter annual weeds left to grow on fallow beds deplete the available soil moisture and can interfere with final seed bed preparation and planting. Many acres of cotton are "bedding up" or listed in the fall previous to winter rains or later during the winter. Most of the acreage is treated with a dinitroaniline herbicide previous to listing. A pre-irrigation and/or winter rains germinate and start the growth of several winter annual weeds. Weeds in the mustard family such as shepherds purse, london rocket and black mustard, and volunteer cereals are not controlled by the DAN's and can germinate and flourish under this environment. If a dinitroaniline herbicide has not been applied, other weeds such as fiddleneck, chickweed and annual bluegrass can become severe problems.

When late rains occur in the spring, on heavier soils it becomes even more important to have cotton ground prepared well in advance of planting time. Besides the physical problems created by such weed growth during final seedbed preparation and planting, green undecomposed vegetation becomes an ideal host for wireworm and cutworm which can quickly reduce a stand of cotton.

Control of fallow bed weed growth can be approached by several options:

Mechanical cultivation with the use of rolling cultivars can be effective if weeds are never allowed to become large. If this is the chosen method of control, depending on winter rainfall patterns, two to three cultivations may be necessary to keep the weeds under control. However, wet weather may prevent timely cultivation, and tillage when soils are too wet can create soil compaction problems. Labor and fuel cost, due to multiple cultivations, must be considered. On fields that have not been listed, allow adequate time for weeds to decompose after discing so that plant residues don't interfere with listing and planting.

Options available for winter fallow-bed weed control (Table 1) include both soil-applied residual and postemergence herbicides.

Fallow bed studies conducted 2002 - 2005 (Table 2, 3, & 4) indicate the effectiveness of the various herbicides on chickweed, swinecress, shepherds purse and annual bluegrass. A combination of Chateau and glyphosate applied 67, 46 and 16 days before planting had no detrimental effect on cotton stand density while providing 100 percent control of chickweed. Poor control of swinecress was exhibited by Gramoxone Inteon, and both Goal 246 and Goal Tender. The low rate of Gramoxone Inteon was provided only marginal control of london rocket.

Effective control of field bindweed on fallow beds (Table 5 & 6) was achieved with Roundup WeatherMax tank mixed with the buffering agent Indicate 5. After two irrigations at 66 days after treatment control was 95 percent. When Ignite was tank mixed with either Clarity or WeatherMax control was unacceptable. Best control was being exhibited when herbicides were applied in 20 gallons of water per treated acres as compared to 5 and 10 gallons.

With the options available, unwanted weed growth on fallow cotton beds can be effectively and economically controlled. Final seedbed preparation and planting can be accomplished easily, resulting in a greater chance of obtain a vigorous and uniform stand of cotton.

Table 1. Cotton Fallow Bed Herbicides

<p><b>Pre-emergence to weeds</b>          Trifluralin (Treflan, Tialin, various others)</p> <p>Pendimethalin (Prowl)</p>	<p>Applied PPI after October 15 or immediately before planting. Incorporation within 24 hours.</p> <p>Applied PPI after October 15 or up to 60 days before planting. Incorporation within 7 days.</p>
<p><b>Pre and post-emergence to weeds</b>          Prometryn (Caparol, Cotton Pro, various others)</p> <p>Oxyfluorfen (Goal)</p> <p>Flumioxazin (Chateau)</p>	<p>Apply before weed germinate or seedlings are more than 2 inches tall. Rainfall, sprinkler irrigation or mechanical incorporation required. Can be tank mixed with trifluralin.</p> <p>Apply before weed germinates or 6 inches tall. Preirrigation or rainfall needed with 3-4 weeks. Till beds before planting.</p> <p>Apply before weeds germinate or seedlings become 2-4 inches tall. Rainfall or irrigation must occur before planting. Do not plant within 21 days of application.</p>
<p><b>Postemergence to weeds</b>          Glyphosate (Roundup, Touchdown, various others)</p> <p>Paraquat (Gramoxone Max)</p> <p>Carfentrazone (Shark)</p> <p>Pyraflufen-ethyl (ET)</p> <p>Glufoxinate (Ignite 280)</p>	<p>Apply after maximum weed emergence, but before weeds greater than 6 inches tall. Allow at least 3 days before treatment. Can be tank mixed with Caparol, Goal, Chateau.</p> <p>Apply to weeds 1 - 6 inches tall. Can be tank mixed with Caparol, Goal, Chateau.</p> <p>Apply to actively growing weeds up to 4 inches tall. Can be tank mixed with glyphosate and paraquat.</p> <p>Apply to actively growing weeds 3 - 6 inches tall. Can be tank mixed with glyphosate. Do not plant rotational crops other than cotton, corn or wheat following 30 days after application.</p> <p>Apply to actively growing weeds 2 - 4 inches tall. Can be tank mixed with AMS and glyphosate.</p>

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