

WEED MANAGEMENT IN ALMONDS AND GRAPES

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Introduction Weed management in both young and established almonds (*Prunus dulcis*) and grapes (*Vitis vinifera*) is important to ensure proper growth and seasonal development. Many growers have reduced or eliminated weed management to conserve their financial resources. However, this is a mistake as weeds will compete for water, nutrients, sunlight and space, interfere with effective harvest and physically reduce yield. New materials have been tested in trees and vines for efficacy and crop safety in 2002, 2003 and 2004.

Materials and Methods All tests were applied with CO₂ backpack sprayers delivering a spray volume of 20 GPA at 40 psi thru 8002 flat fan nozzles.

2002: 2 year old almonds on a 15 by 22 ft spacing & 4 year old grapes on a 7 by 11 ft spacing were divided into 2 tree or 4 vine plots and treated on 11/30 (vines) & 12/7, 01 (almonds). Evaluations were conducted on 2/14 & 4/15 (78 & 128 DAT) in almonds and 2/26 & 4/15 (68 & 116 DAT) in grapes.

2003: 3 year old almonds on a 15 by 22 ft spacing and 5 year old grapes on a 7 by 11 ft spacing were divided into 2 tree or 4 vine plots and treated on 1/30 (almonds) and 2/4 (grapes). Evaluations were conducted on 3/28 and 6/25 (57 & 146 DAT) in almonds and 4/10 and 6/24 (65 & 140 DAT) in grapes.

2004: 6 year old vines on a 7 by 11 ft spacing were divided into 4 vine plots and treated on 2/12. Evaluations were conducted on 3/22 & 5/24 (38 & 101 DAT).

Results

2002 Studies in 2 year old trees and 4 year old vines. Goal alone or tank-mixed with Visor, Surflan and Roundup, Rely and Agridex, or Shark and Agridex, Prowl alone, and Chateau tank-mixed with Roundup were evaluated on almonds. At 78 DAT all treatments exhibited excellent control with a range of 84 to 100% except Prowl at 75%. At 128 DAT, Goal and Visor treatments had reduced efficacy at 71 to 77%. All other treatments provided greater than 80% control. In the vine study at 68 DAT, all treatments except Visor (at 25 and 56% respectively) exhibited excellent control of oats and mustard. All treatments provided excellent control of chickweed and all but Visor and Prowl (at 75 and 79%) performed well on fleabane (*Conyza bonariensis*). At 116 DAT Visor and the low rate of Chateau exhibited reduced efficacy on oats (*Avena sativa*) at 10 and 76% respectively. All treatments exhibited excellent control of mustard (*Brassica nigra*). Goal and Visor, Visor alone, and Prowl (39 to 60%) did not adequately control spikeweed (*Hemizonia pungens*). Fleabane control ranged from excellent to poor at 69 to 94%.

2003 Studies in 3 year old trees and 5 year old vines. Chateau tank-mixed with Surflan and Rely, Envoke at various rates or tank-mixed with Touchdown IQ, an experimental material tank-mixed with Roundup and standards of Goal tank-mixed with Surflan and Roundup or Rely were evaluated on almonds. All treatments provided excellent control of all weeds at 57 DAT. At 146 DAT, all treatments exhibited excellent control except the Goal, Surflan, Roundup and COC tank-mix at 74%. The same treatments with the addition Shark tank-mixed with Princep and excluding those including Envoke were tested in the vine study. At 65 DAT, all treatments exhibited good to excellent control of mustard and filaree (*Erodium spp.*). Only the Shark tank-mix without Roundup exhibited unacceptable control of fleabane. Neither Shark tank-mix performed adequately on oats. At 140 DAT control ranged from 65 to 98% for fleabane.

2004 A study in 6 year old vines included 2 formulations of Goal alone or tank-mixed with Glyphomax Plus or Surflan and Glyphosate, Chateau tank-mixed with Surflan and Rely or Glyphosate, an experimental material tank-mixed with glyphosate, Shark tank-mixed with Princep and Roundup, and Outlook tank-mixed with Prowl and Rely. All treatments exhibited good to excellent control of all weed species at 38 DAT with the least control of fleabane exhibited by Goal 4F alone. Control was reduced by 101 DAT with either Goal formulation alone, Goal 2XL tank-mixed with Glyphomax Plus or Surflan and Glyphosate, and the tank-mixes of Outlook with Prowl and Rely exhibiting unacceptable control.

Conclusions Many of the new materials being developed and registered for use in tree and vine weed management show great promise as effective tools for growers. Rates of active ingredients required for effective weed control are often reduced with these new materials and restricted use based on season is less of an issue. More materials available provide more choices to growers and may lead to more efficacious and economical use of herbicides.

SESSION B:

TURF SESSION