

WEED CONTROL FOR WHEAT AND BARLEY IN THE LOW DESERTS OF ARIZONA

Wheat and barley are vigorous crops that rapidly cover the soil surface and often out-compete weeds. Small grains and other grasses are often planted as cover crops to suppress weeds. However, weeds can be a problem in wheat and barley especially where crop rotation is

not practiced. Besides reducing yields, weeds can make harvesting difficult, increase dockage, cause heating in grain bins, discolor the grain, produce an off-flavor in the grain, reduce crop quality, and encourage insect infestation or mold growth in stored grain.

Herbicide timing on crop and weed growth stages

Herbicide	Stage at application	
	Crop	Weeds*
2,4-D	3 leaf to boot	Emergence to bud stage
Achieve	No restriction	1-6 leaf
Aim/Shark	Emergence to jointing	Up to 4 inches high and rosettes less than 3 inches across
Avenge	2-leaf to jointing	Wild oats: 3-5 leaf Canarygrass: Will not control
Banvel (Clarity)	Prior to 5-leaf	2-3 leaf, less than 2 inches across
Buctril	Emergence to boot	2 to 8 leaves
Discover (wheat only)	2-leaf to pre-boot	Grasses: 1-5 leaf
Hoelon	Emergence to jointing	Canarygrass: 1-2 leaf Wild oats: 1-4 leaf
MCPA	3-leaf to boot	Emergence to bud stage
Osprey (wheat only)	Emergence to jointing	Grasses: 1-leaf to 2-tiller Broadleaf: 1 to 2 inches
Puma	Barley: Prior to 5-leaf Wheat: Prior to 70 days before harvest	1-2 leaf
Starane	2-leaf thru flag leaf	Up to 4 inches tall
Stinger	3-leaf to boot	Emergence to 5-leaf
Unity/Harmony	2-leaf to flag leaf	Past cotyledon stage to 4 inches tall or wide

* Herbicide timing based on weed growth stage varies somewhat depending on the weed species to be controlled. The weed growth stages presented in this table are generalized for most but not all weeds.

Chemical Weed Control for Wheat and Barley in the Low Deserts of Arizona

Revised 4-08

Herbicide	Year first registered or expected	Available as a generic	Grasses			Mustards			Goosefoot			Sunflower		Other		Comments	
			Canarygrass	Wild oat	Watergrass/barnyard	London Rocket	Shepardspurse	W. mustard	Nettleleaf Goosefoot	Lambsquarters	Russian Thistle	Sowthistle	Prickly Lettuce	Knotted	Malva		
2, 4-D	1945	Y	○	○	○	●	●	●	●	●	●	●	●	●	●	●	Drift hazard. Apply after tillering & before boot.
MCPA	1950	Y	○	○	○	○	○	○	○	○	○	○	○	○	○	○	Drift hazard, but safer than 2, 4-D. apply after tillering & before boot.
Banvel (Clarity)	1965 (98)	Y	○	○	○	○	○	○	○	○	○	○	○	○	○	○	Crop injury more common than with other growth regulators, less drift hazard with Clarity.
Buctril	1969	Y	○	○	○	○	○	○	○	○	○	○	○	○	○	○	Contact activity only. Will control only small weeds with good coverage
Avenge	1972	Y	○	○	○	○	○	○	○	○	○	○	○	○	○	○	Do not use on Durum. Weak on canarygrass.
Hoelon	1980	Y	●	○	○	○	○	○	○	○	○	○	○	○	○	○	Narrow application window on some grasses. COC will improve control.
Stinger	1988	Y	○	○	○	○	○	○	○	○	○	○	○	○	○	○	Growth regulator with soil residual activity. Follow plantback restrictions
Achieve	1999	N	○	○	○	○	○	○	○	○	○	○	○	○	○	○	Apply after most weeds have emerged and before coverage is compromised
Puma	2007	N	○	○	○	○	○	○	○	○	○	○	○	○	○	○	Apply after most weeds have emerged and before coverage is compromised
Aim/Shark	2000	N	○	○	○	○	○	○	○	○	○	○	○	○	○	○	Contact activity only. Will control small weeds with good coverage
Osprey (Wheat)	2005	N	○	○	○	○	○	○	○	○	○	○	○	○	○	○	Good on grasses and some B.L. weeds if timing is correct. 10 month plantback to some crops
Unity/Harmony	2008 (09)	Y	○	○	○	○	○	○	○	○	○	○	○	○	○	○	Broad spectrum systemic herbicide without volatility. Drift hazard
Starane	2009	Y	○	○	○	○	○	○	○	○	○	○	○	○	○	○	Plant growth regulator. Avoid drift to sensitive crops.
Discover (Wheat)	2009	N	○	○	○	○	○	○	○	○	○	○	○	○	○	○	Wide application window.

● Good Control ● Partial Control ○ No Control

An integrated approach to weed management in wheat and barley includes preventing the introduction or spread of weeds, crop rotation, cultural practices that result in a vigorous crop, and chemical treatment when necessary. Weed seed can be spread from weeds growing along ditch banks and other areas, by tillage and harvesting equipment, and through contaminated crop seed. Crop rotation is an integral component of weed management since many weeds are easier to control in certain crops. Pre-irrigating can germinate weed seeds which can be eliminated by tillage at planting time. Planting below dry soil in a mulch can inhibit germination of certain shallow-germinating weeds such as canarygrass, but not other weeds such as wild oats that can emerge from 3 inches or more. Early planting dates generally result in plants that tiller more and are more competitive with weeds. Drill seeding produces a more uniform stand than broadcasting and helps in weed control. High seeding rates produce stands that are more competitive with weeds. Land leveling is important for weed control since weeds often flourish in low areas. Providing adequate but not excessive water and fertilizer maintains a vigorously growing crop that is competitive with weeds. Chemical treatments are important tools in weed management to maintain yield and quality and prevent proliferation of weeds that could affect future crops.



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cals.arizona.edu/pubs/crops/az1268.pdf

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Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, James A. Christenson, Director, Cooperative Extension, College of Agriculture & Life Sciences, The University of Arizona.

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