

# Preharvest Control of Broadleaf Weeds in Wheat

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## **Abstract**

*Nine herbicide treatments were evaluated for the control of mature nettleleaf goosefoot in durum wheat that was ten days from harvest. The only effective treatments were combinations of Glyphosate (Roundup Ultra Max and Touchdown) and Paraquat (Gramoxone). Applications of Aim, Gramoxone, and Glyphosate alone were ineffective.*

## **Introduction**

Weeds are normally associated with reduced yields due to competition for water, nutrients and space. In grain crops, weeds are also associated with harvest and storage problems caused by the moisture, flavor and color of broadleaf weeds. Several herbicides are used effectively to control broadleaf weeds in wheat from crop emergence to jointing. Weeds that remain after this stage of crop development can become a problem at harvest. The herbicides available to control weeds prior to harvest are more limited and less effective. Both Roundup and Touchdown (Glyphosate) can be used at least 7 days prior to harvest and when the grain moisture is less than 30 percent. Neither can be used on wheat grown for seed due to possible reduction in seed quality. Aim, a contact herbicide, is used in wheat primarily from emergence to jointing and when the weeds are less than 3 inches in diameter. The label prohibits harvest for forage within 7 days of application but does not specifically exclude use as a preharvest treatment. Gramoxone, another contact herbicide, is registered only as a preplant and preemergence (crop) application in wheat.

## **Method**

This test was conducted to evaluate Roundup, Touchdown, Aim, Gramoxone and combinations of each of them for preharvest control of broadleaf weeds in wheat. It was conducted in a durum wheat field in Roll, AZ, containing a heavy infestation (1-3 ft.<sup>2</sup>) of nettleleaf goosefoot. Both the weeds and wheat were mature at the time of application. Small plots measuring 14 x 25 ft. were established with a CO<sub>2</sub> backpack sprayer calibrated to apply 20 gallons per acre. There were 4 replications of each treatment that were applied on May 19, 2003, and visually evaluated for percent control 10 days later.

## **Results**

The results in Table 1 indicate that neither the Glyphosate or contact herbicides were effective alone. The most effective treatments were the Glyphosate (Roundup and Touchdown) combinations with Paraquat (Gramoxone). The Glyphosate combinations with Aim were less effective. The Aim plus Gramoxone treatment was less effective than the Glyphosate Gramoxone treatments but better than the Glyphosate plus Aim combinations.

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**Table 1. Comparison of Herbicides for Preharvest Control of Broadleaf Weeds in Wheat**

<b><u>Herbicide</u></b>	<b><u>Rate (per acre)</u></b>	<b><u>Control (%)</u></b>
Roundup Ultra Max	1.0 qt.	44 d
Touchdown	1.6 qt.	34 e
Aim 2 EC	1.0 oz.	54 c
Gramoxone	2.0 pt.	49 cd
Roundup Ultra Max & Aim 2 EC	1.0 qt. + 1.0 oz.	50 cd
Roundup Ultra Max + Gramoxone	1.0 qt. + 2 pts.	78 a
Touchdown + Aim 2 EC	1.6 qt. + 1.0 oz.	57 bc
Touchdown + Gramoxone	1.6 qt. + 2 pts.	76a
Aim 2 EC + Gramoxone	1.0 oz. + 2 pts.	64b
Untreated	-	0 f

<sup>1</sup>Average of 4 replications    LSD (0.05) = 8.87