

Chemical Weed Control In Grain Sorghum for 1982

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Federal regulations on the use of herbicides change frequently, so stay informed on the status of label registration. Based on available information, recommendations in this guide conform to laws and regulations at the time of writing.

You must read and understand the label on the herbicides you plan to use. You may legally use a herbicide at rates *lower* than label rates.

Herbicide Performance. Recommendations in this guide are based on research and comparative performance over a period of years. However, herbicide performance depends on many factors that cannot be controlled or foretold. (See UMC Guide 4903, "Factors Affecting Herbicide Performance.") For this reason, results may vary widely from those normally expected. These recommendations do not and cannot imply satisfactory performance in all cases. An element of risk is involved in the use of any herbicide.

Comparative performance with emphasis on weed control and crop tolerance is a major factor in herbicide evaluation. Cost has not been considered in these recommendations. Because no herbicide treatment is superior to others in all circumstances, no effort has been made to list treatments in this guide in any order of preference.

About Application Rates. Because the concentration of herbicides in commercial products may vary, herbicide rates are given on the basis of **active ingredient** (called acid equivalent for some herbicides) per surface acre that actually will be treated. Treated areas will be less than acres of crop in the field if the herbicide is applied in a band.

Label rates take precedence over rates included in this guide!

Pre-emergence (Surface Treatments)

Propachlor (Ramrod, Bexton) + Atrazine. This combination is effective in controlling most *annual grasses* and *small-seeded, broad-leaved weeds*.

Restrictions: Do not graze or feed sorghum forage or silage from treated fields to dairy animals. Consult the labels for other precautions and mixing instructions. See Table 1.

(Metolachlor + Atrazine) (Bicep). Bicep, a package mix of Dual and AAtrex, controls both *grassy* and *broad-leaved weeds* in grain sorghum. It should be used only with sorghum seed commercially treated with a "safener" called "Concep." Sorghum seedlings originating from Concep-treated seed are less likely to be injured than if non-treated seed is used.

Bicep can be used on all medium and fine-textured soils with at least 1 percent organic matter. Bicep should not be used on coarse-textured soils.

Apply at 2.7 pounds per acre on low organic, medium and fine-textured soils and at 3.15 pounds per acre to 3.5 pounds per acre on soils with organic matter above 1.5 percent.

This product can also be applied as a preplant incorporated treatment. Incorporate *only* where Concep-treated seed has been used. Apply 2.7 pounds per acre on low organic, medium and fine-textured soils at 3.15-3.6 pounds per acre on soils with organic matter above 1.5 percent.

Propazine (Milogard). Propazine can be applied pre-emergence to grain sorghum.

Propazine is not fully effective if rainfall does not occur soon after application. Corn may be planted 12 months after treatment. Other crops should not be planted for 18 months after treatment. Only sorghum can be replanted in soil previously treated with propazine.

Restrictions: Do not make a second application if replanting is necessary. Do not contaminate domestic or

irrigation water supplies, lakes, streams or ponds. Do not use on sand or loamy sand.

On loam or sandy loam, apply at 2 pounds per acre; on silt loam or clay loam, use a rate of 2.4 pounds per acre; and on heavy clay or high organic soil, use 3.2 pounds per acre.

Propachlor (Ramrod or Bexton). This herbicide is available as a 20 percent granule and a 4-L flowable. It is a good *grass* killer, but only moderately effective on *broad-leaved weeds*. It is a mild irritant to the skin and mucous membranes. The wettable powder must be well-agitated in the spray tank. Propachlor on light soils low in organic matter may be leached by heavy rains to below the zone in which weed seeds germinate. This can result in less than expected weed control.

Apply 3.9 to 4.8 pounds per acre active ingredient (propachlor). This is equivalent to 20-25 pounds per treated acre of 20 percent granules. The higher rate should be used on high organic soils or in areas of heavy weed grass infestations.

Apply the wettable powder or 4-L flowable in a 20 or more gallons water per acre.

Restriction: Do not graze or feed sorghum forage or silage from treated field to dairy animals.

Postemergence Treatments

Atrazine (numerous brands and formulations).

Weeds should be less than 1.5 inches tall for best results. Apply 2 pounds per acre active ingredient when sorghum is between 1.5 and 4 inches tall. This amount of atrazine is equivalent to 2.5 pounds of an 80 percent wettable powder formulation, or 2 quarts of a 4 pounds per gallon formulation. The wettable powder requires spray tank agitation to insure uniform coverage throughout the entire load of spray mixture. Apply it in a minimum of 20 gallons per acre of water. The liquid formulation can be applied with somewhat fewer gallons.

Restrictions: Do not graze treated areas or feed forage

from treated land to livestock within 21 days of application. Following harvest of a treated crop, plow (moldboard or disk-plow) and thoroughly till the soil to minimize possible injury to rotational spring-planted crops. If the atrazine was applied after June 10, do not rotate with crops other than corn or sorghum the next year or injury may occur. Observe other precautions on the label.

Atrazine applied with emulsifiable oil or surfactant in water is not considered safe. Injury to grain sorghum can be expected.

Glyphosate (Round-up). This herbicide is registered for spot treatment to control *hard-to-kill weeds* in grain sorghum. Apply according to label instructions.

2,4-D Amine (numerous brands and formulations). Most *annual broad-leaved weeds* in grain sorghum can be controlled with 2,4-D. The rate suggested is 0.5 pounds per acre of acid equivalent. Follow the label and do not exceed the rate allowed for grain sorghum.

Sorghum is most tolerant to 2,4-D when it is 4 to 20 inches tall. Injury may occur if applications are made before the 3-inch stage or after flowering has begun. Use drop nozzles to minimize contact with foliage. Label directions and precautions vary among different brands of 2,4-D. Follow the label recommendation on the specific brand of 2,4-D used.

Experimental Pre-plant Incorporated

Terbutryn (Igran 80W). Apply as a shallow pre-plant incorporation (1-2 inch depth) within two weeks of planting, using a rolling cultivator, rotary hoe or spike with tooth harrow. Do not apply twice if replanting is necessary.

Winter wheat may be planted four months after application. Other crops may be planted the following spring. Consult the label for more information.

Terbutryn (Igran 80W) + AAtrex. This shallowly

Table 1. Herbicide Conversion Values.

Herbicide	Formulation	Active Ingredient/Acre	Product/Acre
Atrazine 80W	80% W.P.	1.0 lb.	1.25 lbs.
Atrazine 4L	4 lbs./gal.	1.0 lb.	1.0 qt.
Banvel	4 lbs./gal.	1.0 lb.	1.0 qt.
Banvel II	2 lbs./gal.	1.0 lb.	2.0 qts.
Banvel 5G	5% granule	1.0 lb.	20 lbs.
Bicep	4.5 lbs./gal.	1.0 lb.	2.4 pt.
Bladex 4L	4 lbs./gal.	1.0 lb.	1.0 qt.
Dual 8E	8 lbs./gal.	1.0 lb.	1.0 pt.
Igran 80W	80% W.P.	1.0 lb.	1.25 lbs.
Milogard 80W	80% W.P.	1.0 lb.	1.25 lbs.
Milogard 4L	4 lbs./gal.	1.0 lb.	1.0 qt.
Maxx 90	90% granule	1.0 lb.	1.1 lbs.
Modown	4 lbs./gal.	1.0 lb.	1.0 qt.
Ramrod or Bexton 4L	4 lbs./gal.	1.0 lb.	1.0 qt.
Ramrod 20	20% granule	1.0 lb.	5.0 lbs.

incorporated tank mix is more consistent in performance than Igran used alone. Do not wait more than two days after planting to apply and do not apply over merged sorghum.

Restriction: Do not graze or feed forage from treated areas.

Experimental Pre-Emergence Treatments

Cyanazine (Bladex) + Propachlor (Ramrod). Do not make a second application of this tank mix. User can rotate to other crops.

Cyanazine (Bladex) + Propazine (Milogard). Do not use this tank mix on sand, loamy sand, or sandy loam soils.

Bifenox (Modown). Apply after planting, but before crop seedlings emerge. Do not use on sweet sorghum or sorghum sudans.

Dicamba (Banvel) Postemergence. Banvel applied to sorghum during periods of rapid growth may result in rolled leaves, but the effect is usually outgrown within 10-14 days. Do not apply Banvel on sorghum grown for seed production.

Metolachlor (Dual 8E). Use only on sorghum where Concep-treated seed has been used.

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