

Quick Guide for Weed Control and Harvest Desiccation in Texas Grain Sorghum—2014

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Information is provided as a general education guide only; and no discrimination is intended or endorsement implied. This guide is not a substitute for herbicide product labels. Refer to individual labels for specific instructions before using any herbicide listed, and consult the label for recent changes. To readily access chemical labels online at any time, see the information at the end this document.

Pre-emergence Use

Trade Name (common name)	Product Rate per Acre	Rotation Restrictions	General Comments
AAtrex <i>atrazine</i> (4L) AAtrex Nine-0 WDG See label for Nine-O rates	Northern High Plains: 0.75-1.2 qts S. High Plains: 0.5-0.75 qts Coarse soil: do not use	Corn or sorghum - immediately; all others usually the following year. Can be risky to cotton under prolonged dry conditions.	Apply PRE (to the soil prior to crop emergence). Do not use on soils with less than 1% O.M. or sand, loamy sand or sandy loam textured. Good broadleaf herbicide, particularly pigweed. 24c label for Texas use.
Bicep II Magnum or Cinch ATZ 5.5L <i>s-metolachlor +</i> <i>atrazine</i>	Fine: 1.6 - 2.1 qts Med: 1.6 - 2.1 qts Coarse: do not use Do not use on any soil with <1% OM.	Only corn or sorghum can be planted the following season. See atrazine restrictions.	Apply preplant, PPI or PRE for control of both annual grasses and broadleaves. Excellent pigweed, crabgrass, and barnyardgrass control. Must use safened seed.
Bicep Lite II Magnum or Cinch ATZ Lite 6.0L <i>s-metolachlor +</i> <i>atrazine</i>	Fine: 1.1 - 1.5 qts Med: 1.1 - 1.5 qts Coarse: do not use Do not use on any soil with <1% OM.	Only corn or sorghum can be planted the following season. See atrazine restrictions.	Apply as either PPI or PRE for control of both annual grasses and broadleaves. Excellent pigweed, crabgrass, and barnyardgrass control. Must use safened seed.
Bullet 4EC or Lariat 4EC <i>alachlor +</i> <i>atrazine</i>	Coarse: 2.5 qts Med: 2.75 qts Fine: 3.0 qts	Corn and sorghum the following year; others follow atrazine restrictions.	Apply PRE for control of annual grasses and broadleaves. Slightly increased rates for minimum and no-tillage systems. Must use safened seed.

Trade Name (common name)	Product Rate per Acre	Rotation Restrictions	General Comments
Dual Magnum or Cinch 7.64EC <i>s-metolachlor</i>	Fine: 1.33-1.67 pts Med: 1.33-1.5 pts Coarse: 1.0-1.33 pts.	Corn, cotton, sorghum, peanuts, soybean—immediately; wheat- 4.5 mos.	Apply as either PPI or PRE for control of annual grasses, broadleaves and yellow nutsedge. Use high range of rate if no pre-plant incorporation. Must use safened seed.
Guardsman Max 5L (<i>dimethenamid + atrazine</i>) See label for G - Max Lite (less ATZ)	Med to fine soils: 3.0 to 4.0 pts. Coarse soils: 2.0 to 3.0 pts. Do not use on coarse soils < 1% O.M.	Corn, sorghum - immediately; cotton, soybeans, peanuts - following year; others - check label.	Apply as either PPI or PRE for control of annual grasses and broadleaves. Reduced rates can be used for less carryover and partial control. Must use safened seed.
Lumax <i>mesotrione + s-metolachlor + atrazine</i>	Up to 2.5 qts./A. Applications can be split. Do not apply to GS on sandy soils, or in Texas south of I-20 or east of U.S. 277.	Corn, sorghum—immediately; small grains, 4.5 mo.; only rotate to corn, cotton, small grains, sorghum, soybean, peanuts the next year; all others, 18 mos. For High Plains, rotate only to corn or grain sorghum, otherwise injury next year to other crops if applied after June 1.	Do not incorporate. May be applied 7 to 21 days prior to planting for low injury risk. If <7 days, esp. with rain or irrigation, injury potential increases. If no rain or irrigation occurs by 7 days then irrigation is advised or shallow incorporation. Good burndown. NIS or COC plus UAN or AMS if spraying on emerged weeds. OK for no-till. Use safened seed.
Micro-Tech 4EC Intrro 4EC <i>alachlor</i>	<u>Pre</u> Fine: 2.0 - 2.5 qts Med: 2.0 - 2.25 qts Coarse: 1.5-2.0 qts <u>Preplant Incorp.</u> See label.	Corn, sorghum - immediately; most others after harvest.	Apply as either PPI or PRE using given rates to control annual grasses and broadleaves. Must use safened seed.
Milo-Pro 4EC <i>propazine</i>	Coarse: sandy loam only, 0.50-0.75 qts. Med & fine soils: 0.75-1.2 qts.	Wheat & small grains, 120 days. Corn & cotton, 12 months if top rate of 1.2 qts./A applied.	Apply PRE or preplant. Will NOT control atrazine tolerant weeds. Shallow incorporation when applied preplant can improve weed control under dry conditions. Do not incorporate on sandy loam soils.
Outlook 6EC <i>dimethenamid</i>	Med and fine soil: 14 to 18 ozs. Coarse soil: 12 to 14 ozs. OM restrictions.	Corn, sorghum, soybeans - immediately; fall-seeded cereal crops - > 4 mos. Cotton should be OK the following year.	Apply as either preplant, PPI, or PRE for control of annual grasses and broadleaves. Must use safened seed.

Trade Name (common name)	Product Rate per Acre	Rotation Restrictions	General Comments
Sharpen <i>saflufenacil</i>	1-2 oz. for all soil types	Check Table 4 of label. Corn, sorghum, small grains, immediately. For 2 oz. rate (months): soybean, 1.5, cotton, 3, sunflower & other crops, 4.	Pre-plant, PPI, or PRE timing. Burndown and short-term residual weed control; other herbicides needed for longer-season weed control. 1 oz. rate if <30 days before planting and organophosphate or carbamate insecticide is planned/already applied. 1% v/v MSO + UAN or AMS (latter if with glyphosate). Injures emerged sorghum.
Verdict <i>dimethanamid + saflufenacil</i>	Label is not clear, including whether rate is tied to soil type.	Corn, sorghum, soybeans - immediately; fall-seeded cereal crops - > 4 mos. Cotton should be OK the following year.	Apply only as preplant, PPI, or PRE (sorghum not emerged). Not labeled for sorghum/sudan. 1% v/v MSO + UAN or AMS (latter if with glyphosate). Must use safened seed. Injures emerged sorghum.
Warrant 3EC <i>acetochlor</i>	Fine: 1.5 to 2.5 qts. Med. and coarse: 1.5 to 2.25 qts.	Corn, sorghum, cotton, and Soybeans immediately; wheat 4 mo.; Alfalfa 9 mo.	Apply as either PPI or PRE using given rates to control annual grasses and broadleaves. Only labeled for TX Panhandle, and fine-textured soils of gulf coast and Blacklands. Must use safened seed.

Post-emergence Use

Trade Name (common name)	Product Rate per Acre*	Rotation Restrictions	General Comments
Aim 40DF <i>carfentrazone-ethyl</i>	0.33 oz	Corn, cotton, sorghum, soybeans - 1 mo.; wheat - immediately.	Apply to small, actively growing weeds. Does not provide good control of palmer amaranth. Provides good control of velvetleaf. Crop leaf burn may occur after treatment. Add NIS @ 0.25 % v/v as a surfactant.
Ally 60DF + 2,4-D amine <i>metsulfuron</i>	1/20 oz + 0.25 lb a.i. 2,4-D amine	Corn, sorghum, and cotton the following season, wheat immediately, other crops see label.	Supplemental label. Use for broadleaf weed control. Apply when weeds are less than 6 inches tall. Do not use with surfactant or crop oil.
atrazine 4L atrazine Nine-0 WDG	1.2 qts 1.3 lbs	If rainfall is sparse only plant corn or sorghum the following year. Label vague on rotation to cotton.	Apply when crop is 6 to 12 inches in height. Apply before pigweed exceeds 6 inches in height. Add COC @ 1 qt/ac. Can use drop nozzles after crop is 12 inches. Weak on grass control.

Trade Name (common name)	Product Rate per Acre*	Rotation Restrictions	General Comments
Buctril 2E Buctril 4EC <i>bromoxynil</i>	1 pt - 3 leaf to pre-boot sorghum 1.5 pts - 4 leaf to pre-boot sorghum 0.5 pt - 3 leaf to pre-boot sorghum 0.75 pt - 4 leaf to pre-boot sorghum	Corn and sorghum immediately; most others - 1 mo.	Apply to small, actively growing weeds. May not provide satisfactory control of pigweeds. See label for complete list of controlled weeds and weed size at application. Addition of spray additives may increase occurrence of leaf burn to sorghum. Best used in combination with atrazine.
Clarity 4L <i>diglycolamine salt of dicamba</i> Banvel also labeled	8 oz	Corn - immediately; sorghum - 15 days; others - after harvest.	Apply to sorghum from spike to prior to 15" tall. Use drop nozzles for sorghum >8" tall. Do not apply Clarity in sorghum seed production. Apply to actively growing weeds less than 3 inches tall. Application may result in leaf rolling or leaning sorghum plants. Plants usually grow out in 10 - 14 days.
Direx <i>diuron</i>	0.2-0.4 qts.	Corn, cotton, immediate. All other crops 4 mos. if banded, 6 mos. if broadcast.	Directed sprays only (not over the top). Apply after sorghum is 15" tall. Lower rates for broadleaves up to 2" tall, higher rates on grasses to 2" and broadleaves to 4" tall. Second application possible for lower rates not to exceed 0.4 qts./A. Add surfactant.
Dual Magnum or Cinch 7.64EC <i>s-metolachlor</i>	Fine: 1.33-1.67 pts Med: 1.33 - 1.5 pts Coarse: 1.0-1.33 pts	Corn, cotton, sorghum, peanuts, soybean—immediately; wheat- 4.5 mos.	For POST applications Dual Magnum is safe to emerged grain sorghum (can be applied to emerged crop without safened seed), but no control of emerged weeds. Control of annual grasses, broadleaves and yellow nutsedge. 75 day PHI.
Huskie <i>pyrasulfotole + bromoxynil</i> Revised label October, 2013.	12.8-16.0 oz./A For all of Texas, Bayer recommends 1 pint Huskie + 1 pint atrazine + 1 lbs. AMS+NIS/HSOC.	Small grains, 1 mo.; alfalfa, millet, grain sorghum, soybean, 4 mo.; corn, sunflower, 9 mo.; cotton, field assay (check label for changes for cotton for 2015) else 18 mo.	Apply to sorghum 3-leaf to 30" tall or just prior to flag leaf emergence, whichever comes first (no ATZ after 12" tall). Best results on weeds ≤4" tall. Controls many broadleaf weeds including pigweed species. Many tank-mix options. For best control add 1 pt. atrazine. <u>Use AMS at 0.5-1.0 lb./A, & NIS or HSOC.</u> Some leaf burn will occur, but less sorghum injury potential compared to 2,4-D or dicamba. Labelled for seed production, cautious about hay/grazing sorghums. Including iron (Fe) may reduce leaf burn.

Trade Name (common name)	Product Rate per Acre*	Rotation Restrictions	General Comments
Marksman 3.2L <i>dicamba + atrazine</i>	1.5 - 2.0 pts	See Clarity and atrazine restrictions.	Apply to sorghum <12" tall. Apply 1.5 pts rate to redroot pigweed less than 3 inches tall. Apply 2.0 pts rate to all other broadleaf weeds. Do not use a spray additive unless a certain amount of crop injury is acceptable.
Paramount 75DF (quinclorac)	8.0 oz	Wheat, grain sorghum immediately. Other crops 10 mos. Alfalfa 24 mos.	Apply to sorghum up to 12 inch in height. Provides good control of field bindweed. Apply with COC @ 1 qt/ac or MSO.
Peak 57WDG <i>prosulfuron</i>	0.5 - 1.0 oz Rate depends upon weed species, size and rotational crop.	Wheat immediately, corn, sorghum - 1 mo., soybeans, cotton - 18 mos. Sunflowers - 22 mo.	Apply to sorghum between 5 and 30 inches in height and prior to head emergence. In drier climates, COC is preferred over NIS as an additive. Tank mix with atrazine for improved control of pigweed.
Permit 75WSG <i>halosulfuron</i>	0.67 oz	Corn - 1 mo. sorghum, wheat - 2 mos., cotton - 4 mos., soybeans - 9 mos.	Apply post emergence to grain sorghum from 2 leaf through layby stage, before head emergence. Provides control of yellow nutsedge, but weak on pigweed. Add NIS @ 0.25% v/v as an additive.
Prowl 3.3EC Pendimax 3.3 Prowl H₂O <i>pendimethalin</i>	fine- 3.6 pts med.- 2.4 pts coarse- 1.8 pts fine- 3.0 pts med- 2.0 pts coarse 1.5 pts	Corn, sorghum - next year; crops labeled for PPI application, immediate. Small grains, 4 mos. (12 mos. if <12" rainfall + irrig.); Grain sorghum, 10 mos. (if <20" rain + irrig., 12 months). All other crops, the next season.	POST incorporated for grain sorghum 4" tall to last cultivation (lay-by). Do not apply in liquid fertilizer. H ₂ O formulation may be applied same as above for spray, but pivot chemigation can apply at 2-3 leaf stage to 30 days before harvest to established grain sorghum.
Starane 1.5L <i>fluroxypyr</i>	2/3 pt	No crop rotation restrictions.	Apply over-the-top of 3 to 7-lf sorghum. Drop nozzles may be used for 7-lf up to boot stage sorghum. Good on kochia and morningglory. Use with NIS. Cotton can be injured from drift.
Treflan Treflan TR-10 granular <i>trifluralin</i>	Fine: 1.5-2.0 pts Med: 1.0-1.5 pts Coarse: 0.75-1.0 pts	Most grass crops - 18 mos. for rainfall <20"; for rainfall >20", 12 mos. (but 14 mos. if fall applied).	Directed or over-the-top spray when sorghum is 8-24" tall. Use drop nozzles if foliage prevents soil contact. Cultivate before spraying to remove existing weeds and cover base of sorghum plant with ~1" of soil. Mechanically incorporate trifluralin within 24 hours with thorough mixing. Lower rate range for fields with <20" annual rainfall + irrigation. May be chemigated (see label).

Trade Name (common name)	Product Rate per Acre*	Rotation Restrictions	General Comments
Yukon <i>halosulfuron + dicamba</i>	4 – 6 ozs	Follow Clarity restrictions.	Apply from 2 lf through 15 inches in height. Use drop nozzles if sorghum is > 8 inches. Use with COC or NIS. Good for nutsedge and vol. sunflower control.
2,4-D amine 4 2,4-D LV6	0.5 - 1.0 pint 0.5 pint	cotton - following year; corn - immediately; sorghum, wheat 0.5 mo.; soybeans - check label.	Apply to sorghum from 6 to 15 inches in height. If sorghum is taller than 8 inches in height, use drop nozzles and keep spray off foliage. Do not treat during the boot, flowering, or dough stage as head blasting may occur. Apply to small, actively growing broadleaf weeds.

Numerous generic brands not mentioned in the table are available.

General soil types:

Fine = silty clay loam, clay loam, sandy clay, silty clay, clay

Medium = loam, silt loam, silt, sandy clay loam

Coarse = sand, loamy sand, sandy loam

Desiccation, Drying, and Harvest Aids

Herbicide use for drying and desiccation of grain sorghum as a **harvest aid** at or after physiological maturity is more common in Texas than in the past. Label directions state that applications should be made at physiological maturity (seed black layer, seed moisture <30%).

See labels for recommended rates. Check for generics with the same active ingredient that are also labeled for grain sorghum.

- Drexel Defol (*sodium chlorate*)
Remarks—Desiccates leaves but does not kill the plant and regrowth may occur.
- Roundup (*glyphosate*)
Remarks—Kills the plant and lodging is a potential problem if harvest is delayed (7 day post-harvest interval). This has become a popular choice as a late-season weed control option.
- Aim (*carfentrazone*)
Remarks—Labels emphasizes clean-up of problem weeds rather than crop drydown, 1-2 oz./A. NIS, COC, or AMS recommended.
- Diquat 2L (Aceto) or RowRunner (Rotam), but not Reglone (Syngenta) (*diquat dibromide*),
Remarks—Only for **seed** hybrid grain sorghum.

For ready online access to multiple chemical labels consult:

- Chemical Management Data Systems, www.cdms.net To use the free database, log in then: 1) click 'Services' then 'Labels/MSDS,' 2) enter the desired product name in the search box (keep the name simple, for example 'Prowl' rather than 'Prowl H₂O' to ensure you return all labels for Prowl products), 3) select the label of your choice, then 4) choose the main label or any supplemental labels you might need.

You may also search by active ingredient (Click 'Services' then 'Other search options,' register with CDMS to search by crop, active ingredient, chemical type, state, etc.).

- Greenbook, www.greenbook.net, where your search category includes product name, active ingredient, crop, or pest (registration required).

Chemical & Worker Safety

Herbicide safety is paramount. For emergency medical treatment information call the emergency number listed on your chemical label, or your local 9-1-1 if you can't get the label. If you have an accident and must require examination and possible treatment take the chemical label with you.

Additional Texas A&M AgriLife Extension weed control expertise may be obtained from the following:

- Dr. Paul Baumann, Texas A&M AgriLife Extension Service, College Station, (979) 845-4880, p-baumann@tamu.edu
- Dr. Peter Dotray, Texas A&M AgriLife Extension Service, Lubbock, (806) 746-6101, pdotray@ag.tamu.edu
- Mr. James Grichar, Texas A&M AgriLife Research, Beeville, (361) 358-6390, w-grichar@tamu.edu

This publication is no substitute for the herbicide product labels! It is intended to serve only as a guide for controlling weeds in sorghum. Because labeled rates and restrictions change constantly, consult a current product label before use.

The information given herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by Texas A&M AgriLife Extension Service is implied.

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