

Department of Plant Sciences

Forage Herbicide Quick Reference Guide

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*Hannah Wright-Smith, Assistant Professor and Extension Weed Specialist,
Department of Plant Sciences*

*Bruno Pedreira, Associate Professor and Director of the UT Beef and Forage
Center, Department of Plant Sciences*

*Charley Martinez, Assistant Professor and Director of the Center of Farm
Management, Department of Agriculture and Resource Economics*

This publication serves as a quick reference for many pasture herbicides, but it is not a full list of all available products. The cost per acre is an **estimate** based on available online prices; however, herbicide prices can vary widely depending on location, container size and quantity, and use of generic products. **Always** read and follow label instructions.

A Few Tips to Make Your Herbicide Application More Effective

- **Apply at the right time.** The best time to apply herbicides to control annual and biennial weeds is when they are small and actively producing vegetative growth. As weeds mature and shift to reproductive growth (flowering and seed production), herbicides cannot move sufficiently in the plant, resulting in poor weed control. The optimal time to apply herbicides for perennial weed control is usually in late summer or early fall. Do not apply herbicides to drought stressed weeds or when daytime temperatures are below 50 F.
- **Calibrate.** Calibrating ensures you are applying the correct amount of product per acre to effectively control your weeds and are getting the most out of your herbicide investment. If using a boomless sprayer, keep in mind that actual swath width is almost always less than what is stated by the nozzle manufacturer. Refer to UT Extension publication W315: A Simple Method to Calibrate Sprayers for more information on sprayer calibration.
- **Use a surfactant.** Surfactants improve coverage and herbicide movement into the plant, making your application more effective. The product label will indicate which type of surfactant (nonionic surfactant, crop oil concentrate, or methylated seed oil) to add to the spray mix.
- **Wait to graze or cut hay.** Most herbicides used in forages are systemic, meaning they move throughout the plant. This movement takes time, so even for products with short or no hay or grazing restrictions, we recommend waiting 14 days after application to harvest hay or graze. This allows time for adequate herbicide movement in the plant and results in improved weed control.

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Herbicide Active ingredient(s)	Product Rate/Acre	Est. Cost/Acre ¹	Hay or Grazing Restrictions	Comments and Precautions
Preemergence				
Rezilon <i>indaziflam</i>	3 fl oz	\$42	Hay: Wait 40 days after application to harvest if applying >3 fl oz/A in an application Grazing: None	Use only in established bermudagrass hay fields. Late summer applications are recommended for annual ryegrass control. Do not apply after mid-February. Do not use on cool-season grasses.
Prowl H2O <i>pendimethalin</i>	2 - 3 qt	\$23 - 34	No hay or grazing restrictions in warm-season grasses. Wait 14 days to harvest hay or graze cool-season/alfalfa stands.	Apply early- to mid-spring for summer annual weed control. Needs 0.25 to 0.5" rainfall within 7 days of application for activation. May cause temporary injury to cool-season grasses when applied during periods of cold temperatures.
Postemergence				
Roundup, others <i>glyphosate</i>	8 - 32 fl oz	\$3 - 11	Check label as restrictions vary depending on product used and rate applied.	Non-selective. When making applications to dormant bermudagrass, use 16 to 32 fl oz/A. For pasture renovation, apply when cool-season grasses are actively growing.
Broadleaves				
NovaGraz² <i>2,4-D amine + florpyrauxifen-benzyl</i>	24 - 48 fl oz	\$18 - \$36	Hay: Wait 14 days after application to harvest Dairy animals: Withhold grazing of treated forage for 3 days after application Meat animals: Terminate grazing of treated forage 3 days before slaughter	Controls more broadleaf weeds than 2,4-D alone. Can be applied to established perennial white clover and some annual lespedezas, however injury will still occur. Plants should recover in 5 to 6 weeks. Requires addition of 1% v/v methylated seed oil (1 gal. MSO per 100 gal. spray solution). Do not apply to other clovers (red, crimson, alsike, etc).
DuraCor² <i>aminopyralid + florpyrauxifen-benzyl</i>	12 - 20 fl oz	\$12 - \$20	Hay: Wait 7 days after application to harvest Grazing: None	A broadcast spray application generally results in better weed control than applying on dry fertilizer. When using dry fertilizer as a carrier, apply a minimum of 16 fl oz/A on at least 200 pounds of dry fertilizer per acre.
GrazonNext HL² <i>aminopyralid + 2,4-D amine</i>	1.2 - 2.1 pt	\$15 - \$21	Hay: Wait 7 days after application to harvest Grazing: None	A spray application generally results in better weed control than applying on dry fertilizer. When using dry fertilizer as a carrier, apply herbicide rate needed for target weed per label instructions on at least 200 pounds of dry fertilizer per acre.

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<p>Grazon P+D^{2,3} <i>picloram + 2,4-D amine</i></p> <p>GrazonPD3^{2,3} <i>picloram + 2,4-D choline</i></p>	<p>2 - 4 pt</p> <p>1.25 - 2.67 pt</p>	<p>\$12 - \$22</p> <p>\$9 - \$16</p>	<p>Hay: Wait 30 days after application to harvest</p> <p>Dairy animals: Withhold grazing of treated forage for 7 days after application</p> <p>Meat animals: Terminate grazing of treated forage 3 days before slaughter</p>	<p>GrazonPD3 has a lower use rate and is less volatile than Grazon P+D. GrazonPD3 is also less acutely toxic to humans than Grazon P+D. Avoid applications of either product near surface water, as this herbicide can harm aquatic organisms at low rates. See label for groundwater advisory.</p>
<p>Chaparral 72 DF² <i>aminopyralid + metsulfuron</i></p>	<p>1 - 3.3 oz</p>	<p>\$9 - \$30</p>	<p>No hay or grazing restrictions</p>	<p>Do not use treated plants or manure around sensitive plants. Do not use on legumes, fescue or bahiagrass.</p>
<p>Weedmaster <i>2,4-D amine + dicamba</i></p>	<p>1 - 4 pt</p>	<p>\$3 - \$12</p>	<p>Hay: Wait 7 days after application to harvest</p> <p>Dairy animals: Withhold grazing of treated forage for 7 days after application</p> <p>Meat animals: Terminate grazing of treated forage 3 days before slaughter</p>	<p>Controls more broadleaf weeds than 2,4-D alone, including some difficult to control weeds such as dogfennel and smartweed. Apply when weeds are small.</p>
<p>2,4-D <i>2,4-D 4 lb formulations</i></p>	<p>1 - 2 qt</p>	<p>\$6 - \$12</p>	<p>Hay: Wait 7 days after application to harvest</p> <p>Dairy animals: Withhold grazing of treated forage for 7 days after application</p> <p>Meat animals: Terminate grazing of treated forage 3 days before slaughter</p>	<p>Do not apply to desired legumes. Apply when weeds are small. For optimal buttercup control apply between Thanksgiving and Christmas. Use of ester formulation during periods of warm (65 F), sunny weather during winter months can improve control. Do not use ester formulations after March.</p>
Grasses				
<p>Pastora <i>nicosulfuron + metsulfuron</i></p>	<p>1 - 1.5 oz</p>	<p>\$23 - \$34</p>	<p>No hay or grazing restrictions</p>	<p>Use only on bermudagrass established at least 1 year, may temporarily yellow or stunt bermudagrass. Apply when grass weeds are <2” tall. Suppresses Vaseygrass when applied at 1.5 oz/A.</p>
<p>Patriot <i>metsulfuron</i></p>	<p>0.1 - 1 oz</p>	<p>\$1 - \$5</p>	<p>No hay or grazing restrictions</p>	<p>Improves broadleaf weed control when tank mixed with auxin herbicides. Weak on thistle and ragweed species. Only use on well-established fescue if injury can be tolerated.</p>

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Facet L <i>quinclorac</i>	22 - 32 fl oz	\$35 - \$40	Hay: Wait 7 days after application to harvest Grazing: None	Controls broadleaf weeds and grasses, including crabgrass. Suppresses knotroot foxtail and annual foxtail species. For best results, apply in late spring or early summer when weedy grass species are small. Add 2 pt/A crop oil concentrate or 1 to 2 pt/A methylated seed oil.
Outrider 75DF <i>sulfosulfuron</i>	1.33 oz	\$22 - \$24	No hay or grazing restrictions	Use on bermudagrass for johnsongrass (18" to 24" tall) and sedge control. Do not use on tall fescue pastures and hayfields.
Panoramic 2SL <i>imazapic</i>	6 fl oz	\$7 - \$11	Hay: Wait 7 days after application to harvest Grazing: None	Best option for sandbur control in bermudagrass. Will suppress bermudagrass for 30 to 45 days, plan on losing one hay cutting. Jiggs is more sensitive than other bermudagrass varieties. Do not use on cool-season grasses.
Sedges				
Permit <i>halosulfuron</i>	0.67 - 1.33 oz	\$10 - \$23	Hay: Wait 37 days after application to harvest Grazing: None	Nutsedges are perennial and best controlled with two applications of 0.67 oz/A. Make the first application in early summer while nutsedge is small and the second application 6 weeks later. If multiple applications are not possible, one application of 1.33 oz/A can be applied prior to nutsedge flowering. Expect to make applications every year for several years.
Woody Plants & Brush				
PastureGard HL <i>triclopyr + fluroxypyr</i>	0.75 - 4 pt	\$46 - \$92	Hay: Wait 14 days after application to harvest Meat animals: Terminate grazing of treated forage 3 days before slaughter	Use low rates for small annual broadleaf weeds and higher rates for larger annual weeds or perennials. Use 4 pt/A to control difficult weeds like blackberry.
Remedy Ultra <i>triclopyr</i>	1 - 4 pt	\$10 - \$40	Hay: Wait 14 days after application to harvest Meat animals: Terminate grazing of treated forage 3 days before slaughter	Used primarily for woody plant control, apply when brush is actively growing. May be used as a cut stump treatment. For blackberry control, use 3 pt/A plus 0.3 oz/A metsulfuron.

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Surmount^{2,3} <i>picloram + fluroxypyr</i>	3 - 6 pt	\$32 - \$64	Hay: None Dairy animals: Withhold grazing of treated forage for 14 days after application Meat animals: Terminate grazing of treated forage 3 days before slaughter	Controls many difficult-to-control broadleaf weeds. Best herbicide option for prickly pear. Avoid applications near surface water as this herbicide can harm aquatic organisms at low rates. See label for groundwater advisory.
<p>¹ Estimated cost/acre was determined using product prices from various online sources as of December 2025.</p> <p>² Aminopyralid, picloram, fluroxypyr: See product label for restrictions regarding manure and hay use, as well as plant-back restrictions.</p> <p>³ Picloram: See PB1580 Weed Control Manual for Tennessee regarding picloram use in various counties.</p>				



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