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Weed Management in Pastures and Rangeland—2025[1]

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Weeds in pastures and rangeland cost ranchers more than $180 million annually in Florida by reducing forage yield, lowering forage quality, and causing animal injury through toxicity or specialized plant organs (thorns and spines). Effective weed management begins with a healthy pasture. Weeds are seldom a serious problem in a well-managed, vigorously growing pasture. Good pasture management involves the proper choice of the forage species and variety, an adequate fertility program, controlled grazing management, and pest management (weeds, insects, and diseases). This publication provides practical pasture and rangeland weed management information for landowners, Extension agents, state and federal agency personnel, and others interested in managing grazing lands in Florida.

If pasture health declines, weeds will become established. Unless the management problem that caused forage decline is corrected, the grass will not reestablish and weeds will continue to re-infest the area. Bare ground is the perfect environment for establishment of weeds. Once established, weeds must be effectively controlled with mechanical or chemical methods.

Integrated weed management is both an economically and environmentally sound approach to weed management. An integrated approach involves scouting, prevention, and control (biological, cultural, mechanical, and chemical) in a coordinated plan.

Scouting

Scouting pastures periodically, which is often overlooked, is the foundation of a sound weed management program. Scouting involves routinely walking or driving through pastures and identifying a weeds issue. This defines the scope of the problem and allows the best management practices to be implemented in a timely fashion. The number of weeds, the species present, and their locations are important. Note the dominant species as well as uncommon or perennial weeds. The management strategies adopted should focus on controlling the dominant species while preventing the spread of less common species. If not managed proactively, the less common weeds in a pasture may become dominant weed problems.

Proper identification of weeds is the first step toward weed control. A good example is knowing the difference between tropical soda apple (TSA) and red soda apple (cockroach berry). Of the two, only TSA is a troublesome invasive weed. However, these two species can be incorrectly identified. This costly mistake allows TSA to go uncontrolled and results in the weed spreading throughout the ranch and potentially onto neighboring ranches. If you have questions about weed identification, contact your local UF/IFAS Extension office for assistance.

Some weeds grow best in wet sites (maidencane ponds, depressional areas, ditches, etc.) while others can be found on dry sites (ditch banks, upland areas, and fencerows).

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Scout pastures for weeds in conjunction with other activities, such as checking calves, working cattle, and feeding. When you first discover a weed, remove it or spot treat with an appropriate herbicide. Do not allow that one plant to produce seeds and give rise to hundreds of new plants. It is less costly in terms of both time and money to control one plant than to wait and have to control hundreds of plants.

Poisonous plants (e.g., *Crotalaria*, black nightshade, spiny pigweed, lantana, etc.) are commonly found throughout Florida. Animals do not usually choose to graze most poisonous plants when forage is abundant; however, when quality forage is limited due to poor growing conditions or overstocking, they may graze these plants.

Prevention

Prevention is any activity that keeps weeds from infesting a pasture. Most of the weeds are spread by seed. Thus, preventing the movement of weed seeds onto the ranch reduces potential weed pressure. Weed seeds can be transported in hay, harvested grass seed, sod, cattle, and mowing equipment, or dispersed by wind, water, and wildlife. Producers should avoid buying hay or grass seed that is contaminated with weed seeds. Do not purchase hay from someone who cannot provide a weed-free product. Using certified forage seed reduces weed seed contamination and is highly recommended.

Also, consider prevention of TSA while moving cattle to a new location. Cattle have been shown to excrete TSA seeds for at least 7 days after consumption. If cattle are grazing in a TSA-infested pasture, holding them in a clean area for 10 days before moving them to a new pasture is recommended. This will reduce the likelihood of transporting TSA seeds. Remember that an ounce of prevention is worth a pound of cure.

Control

Cultural Control

Cultural practices improve weed control by increasing the competitiveness of the forage. This involves optimizing forage production through monitoring of soil pH, fertility, and potentially irrigation management. Generally, a thick sward will prevent weed emergence, outcompete emerged weeds, and capture the majority of environmental resources (light, water, nutrients) necessary for growth. The aim of cultural practices is to modify your management program so that the sward is as competitive as possible.

Soil pH is an important factor for forage growth as well as weed establishment. UF/IFAS forage agronomists and soil scientists have determined the optimum soil pH for most forages grown in Florida. Acidic soils limit plant growth and can result in aluminum and manganese toxicity as well as magnesium, calcium, phosphorus, molybdenum, and potassium deficiency. Soil acidity may also result in poor root growth, which can reduce water and nutrient uptake. Weeds that grow under such conditions can be indicators of low soil pH. For example, flat-top goldenrod tends to be found in pastures with soil pH levels between 4 and 5, which are too low for optimum forage growth. Thus, the presence of flat-top goldenrod in your pasture may warrant a soil test and corrective action.

Mechanical Control

Mowing is one of the most often-used weed control methods in pastures. Mowing improves the appearance of a pasture, temporarily increases forage production, and, if properly timed, prevents weeds from producing seed. Mowing is generally more effective on broadleaf weeds than grass weeds and on annual weeds than perennial weeds. Carefully consider the cost of mowing and the anticipated effectiveness. As fuel prices increase, it may be more cost-effective to avoid mowing and use other forms of weed control because other weed control methods may be more effective on a given species.

Mechanical weed control does have drawbacks. Large weeds with extensive root systems will not be controlled by mowing alone. Additionally, mowing misses prostrate-growing weeds such as crabgrass, spurges, and matchweed. Mowing can also spread vegetative plant stems, allowing the plant (e.g., prickly pear) to root elsewhere. If mowing is performed after seed set, seeds can accumulate on the mowing equipment and worsen the weed problem by spreading to other pastures.

Biological Control

Biological control involves the use of biotic agents (e.g., plants, herbivores, insects, nematodes, and phytopathogens) to suppress weeds. Overall, biological control is still in its infancy, but great strides are being made, especially against invasive plants. Two good examples are the tobacco mild green mosaic tobamovirus (TMGMV) and the insect, *Gratianaboliviana*, both used for TSA control. The virus TMGMV can be sprayed to control existing TSA plants, while the beetle is used primarily for suppression.

Most biological control agents rarely provide complete weed control, but they usually suppress the weed

population to a manageable level. Additionally, biological control agents are rarely fast-acting, so time is needed for the agent to suppress a given weed population. For example, the effect of *Gratianaboliviana* is often not seen until the year after the release of the beetle.

Chemical Control

Chemical weed control includes the use of herbicides. Herbicides kill weeds by inhibiting plant processes necessary for growth. Herbicides should be selected based on the forage species being grown, the weed species present, the cost, and the ease of application. Application method and environmental impact should also be considered.

Proper herbicide choice and application rate are extremely important. Lower-than-recommended application rates will not provide consistent weed control, while excessive application rates may cause injury to the forage or result in only killing the aboveground portion of perennial weeds. Additionally, herbicides must be applied at the right time to be cost-effective.

Preemergence (PRE) applications are made before weeds germinate and emerge. Understanding the life cycle of the weed is important when using a preemergence herbicide. Some weed seeds germinate in the summer, while others germinate in the winter months. Always refer to the herbicide label for additional information about controlling specific weeds.

Postemergence (POST) applications are made after the weeds emerge. The most effective and cost-efficient applications are made when the weeds have recently emerged and are small (3 to 5 inches tall). For perennial weeds (regrowing from root storage organs), it is advisable to allow them to bloom before spraying. This allows sufficient leaf surface for coverage and ensures that the perennial is transporting photosynthates back to the roots.

Postemergence herbicides may be broadcast over the entire pasture or may be applied as a spot treatment to sparse weed patches. Spot treatment is less costly compared to broadcast spraying. Other application methods include wipers and mowers that dispense herbicide while mowing the weed. Carefully read the herbicide label before purchasing to determine if that herbicide controls the weeds in your situation.

PRECAUTIONS WHEN USING PHENOXY OR BENZOIC ACID HERBICIDES

1. For information about growth-regulating herbicides not covered below, see https://edis.ifas.ufl.edu/wg051.

2. Application of other pesticides from sprayers previously used for 2,4-D, dicamba, or other phenoxy or benzoic acid herbicides to susceptible crops may result in injury.

3. Legumes in pastures or rangelands will be injured or killed by these herbicides.

4. Avoid drift to susceptible crops by applying at low pressures and when wind speeds are low and blowing away from susceptible crops. The use of a drift-control additive is advisable.

5. Clean the sprayer thoroughly as described on the herbicide label. If no instructions are provided, you may follow the procedure below using household ammonia:

   a. Flush system with water. Drain.

   b. Flush the system with ammonia (1 qt ammonia per 25 gallons water); let it circulate for at least 15 minutes, then flush the system again. Drain again.

   c. Remove screens, strainers, and tips, and then clean in fresh water.

   d. Repeat step 5b.

   e. Thoroughly rinse the tank, hoses, booms, and nozzles.

   f. Be sure to clean all other associated application equipment.

Forage Tolerance

Not all cultivars of a particular forage species respond similarly to a given herbicide (Table 5). Argentine bahiagrass tolerates most pasture herbicides except Roundup, while Pensacola bahiagrass may be severely injured by metsulfuron-containing products, such as Cimarron and others. All herbicides may be used on stargrass and bermudagrass, with some level of injury from Velpar (hexazinone). *Hemarthria*, also known as limpograss, is the most sensitive to herbicide applications of all forage grasses grown in Florida.

Note that the response to an herbicide application can vary. For example, the chance for forage injury can increase or decrease as the rate of herbicide applied either increases or decreases. Additionally, environmental conditions such as high temperature and high relative humidity may increase the potential for herbicide injury. For example, we have

observed little or no injury to limpograss from 8 pt/acre 2,4-D amine when applied under cooler conditions, while 4 pt/acre in warmer weather caused moderate to severe injury.

The response of forages in Table 5 is for established forage cultivars. However, 2,4-D + dicamba (2 pt/acre) can be applied to sprigged forage cultivars, except for limpograss, seven days after planting/sprigging. A forage can be considered established when at least three tillers are present on bahiagrass or at least 6 in of new stolon growth are present on sprigged forages.

Summary

Maintaining healthy, productive pastures will minimize the risk associated with weeds. Good pasture management practices such as adequate fertilization, insect control, and controlled grazing will result in healthy pastures. Unfortunately, weeds are present in pastures, and the associated loss in forage production can have serious economic implications. An integrated weed management strategy combining prevention, detection, and control is the most economical and environmentally friendly approach to pasture weed management.

Table 1. Weed control suggestions for pastures and rangeland. Contact: Brent Sellers (sellersb@ufl.edu). This table lists registered herbicides that should be integrated with other pest management methods. Contact your local UF/IFAS Extension office for additional information (https://ifas.ufl.edu/maps/).

Herbicide Active Ingredients (Commonly Used Products)	HRAC MOA[1]	Application Rate	Remarks
DURING ESTABLISHMENT			
Preemergence (PRE) to Weeds			
2,4-D amine (Several brands, 4 lb/gal formulation)	4	2–4 pt/A	Bermudagrass and stargrass only. Apply after sprigging and before emergence of sprigged bermudagrass. Will not give complete weed control; however, short residual control of seedling broadleaves, sedges, and certain grasses may be noted for 2–3 weeks, if proper environmental conditions exist.
Diuron 4L 1.5–4.5 pt or Diuron 80 1–3 lb	5	1.5–4.5 pt/A or 1–3 lb/A	Bermudagrass only. Will provide fair to good control of crabgrass, crowfootgrass, and goosegrass. Plant sprigs 2 inches deep. If sprigs have emerged at time of application, bermudagrass injury will occur. Do not graze or cut hay within 70 days. Before application, ensure that your product has proper labeling, since not all Diuron products are labeled for use in pastures. Do not use this herbicide when planting tops.
2,4-D + dicamba (Weedmaster, others)	4	2 pt/A	Bermudagrass and stargrass only. Similar to 2,4-D, but often provides greater weed control. Short residual control of seedling broadleaves, sedges, and certain grasses may be noted for 2–3 weeks if proper environmental conditions exist. Do not apply to limpograss (*Hemarthria*) during establishment.
Indaziflam (Rezilon)	29	3–5 oz/A	Bermudagrass and bahiagrass only. Rezilon should be applied well before expected seed germination of annual grasses and broadleaves. No more than 6 oz/A in a 12-month period. No grazing restrictions. No haying restrictions if applied at 3 oz/A, but if applying more than 3 oz/A, hay may not be harvested for 40 days. For longer-term weed control, apply 3 oz/A before mid-February and another 3 oz/A at least 60 days later; usually within 7 to 10 days after cutting to reduce canopy interference and maximize soil coverage. Rezilon should only be applied to permanent pastures; 18-month restriction on planting of cool-season grasses and 22 months for other crops.
Postemergence (POST) to Weeds			
2,4-D amine (Several brands, 4 lb/gal formulation)	4	0.5–2.0 pt/A	Do not apply to bahiagrass until plants are 5–6 inches tall. Do not apply to limpograss (*Hemarthria* sp.) during establishment. Bermudagrass can tolerate 2,4-D at any growth stage. Controls most seedling broadleaf weeds. Repeat application may be needed.
2,4-D + dicamba (Weedmaster, others)	4	2 pt/A	Can be used during establishment of hybrid bermudagrass, stargrass, and pangolagrass. Annual sedges and some grasses will be suppressed if shorter than one inch at the time of application. Best results are seen if applications are made 7–10 days after planting. Do not apply to limpograss (*Hemarthria*) during establishment.
Dicamba (Banvel, others)	4	1.5–2.0 pt/A	Primarily used for establishment of limpograss (*Hemarthria*). Annual sedges and some grasses will be suppressed if under one inch in height at the time of application. Best results are seen if applications are made 7–10 days after planting.
ESTABLISHED STANDS			
Dormant Pastures			
Paraquat (Gramoxone, others)	22	1–2 pt/A	For dormant bermudagrass or bahiagrass. Apply in 20–30 gallons of water in late winter or early spring (January or February) before grass begins spring green-up. Add 1 pt surfactant (nonionic) per 100 gal spray mix. Do not mow for hay until 40 days after treatment. Can be mixed with 2,4-D or other herbicides for more broad-spectrum control.
Pendimethalin (Prowl H_2O) 1.1–4.2 qt	3	1.1–4.2 qt/A	Applications of 3 qt/A have provided satisfactory weed control, but late-season escapes should be expected. Provides preemergence control of crabgrass, goosegrass, Texas panicum, sandbur, and other summer annual grasses. Must have activating rainfall or irrigation within two weeks or control will be minimal at best. Does not control plants that have already emerged.

Herbicide Active Ingredients (Commonly Used Products)	HRAC MOA[1]	Application Rate	Remarks
Glyphosate (Roundup Powermax II or other 5.5 lb formulations or Roundup Ultra or other 4 lb formulations)	9	11 fl oz/A or 16 fl oz/A	Apply in mid- to late-winter months to bermudagrass or bahiagrass pastures and hayfields for control of weedy grasses. Apply before new growth appears in the spring. Bermudagrass that is not dormant at the time of application may show a 2- to 4-week delay in green-up. No restrictions exist between application and grazing or haying.
Indaziflam (Rezilon)	29	3–5 oz/A	Bermudagrass and bahiagrass only. Rezilon should be applied well before expected seed germination of annual grasses and broadleaves. No more than 6 oz/A in a 12-month period. No grazing restrictions. No haying restrictions if applied at 3 oz/A, but if applying more than 3 oz/A, hay may not be harvested for 40 days. For longer-term weed control, apply 3 oz/A before mid-February and another 3 oz/A at least 60 days later; usually within 7 to 10 days after cutting to reduce canopy interference and maximize soil coverage. Rezilon should only be applied to permanent pastures; 18-month restriction on planting of cool-season grasses and 22 months for other crops.
Nondormant Pastures			
2,4-D amine (Several brands, 4 lb/gal formulation)	4	2–4 pt/A	Broadleaf weeds. Annual weeds should be treated soon after emergence for best control with lower rates. Perennial weeds should be allowed to obtain a leaf surface large enough to allow sufficient spray coverage (about 12–18 inches tall). Use amine formulations during warm weather and LV esters during cool weather. Avoid drift. Applications of 2,4-D to limpograss (*Hemarthria* sp.) will cause significant injury during periods of high temperatures and humidity; much less injury has been observed during cool and dry conditions.
Dicamba (Banvel, others)	4	0.5–2.0 pt/A	Broadleaf weeds. Rate depends on weed species and size. Refer to the label for grazing restrictions. Avoid drift. *Hemarthria* has generally exhibited more tolerance to dicamba than 2,4-D.
Metsulfuron + aminopyralid (Chaparral) 2.0–3.3 oz	2, 4	2.0–3.3 oz/A	Use on bermudagrass, pangolagrass, stargrass, and limpograss. Do not use on bahiagrass. Controls tropical soda apple, pigweed, blackberry, and many other problematic weed species. Will not control dogfennel. Add a nonionic surfactant at 1–2 pt/100 gal of solution. Avoid applications during spring green-up.
Metsulfuron + chlorsulfuron (Cimarron Plus)	2	0.125–1.25 oz/A	Use on bermudagrass, pangolagrass, and stargrass. Controls several cool-season broadleaf weeds, pigweeds, and Pensacola bahiagrass. Bermudagrass should be established no less than 60 days prior to application. Add a nonionic surfactant at 1–2 pt/100 gal of solution. Avoid application during spring green-up.
Aminopyralid + 2,4-D (GrazonNext HL, Gunslinger AMP)	4	1.6–2.1 pt/A	Excellent control of TSA, horsenettle, and other members of the nightshade family. Also controls pigweeds and other broadleaf weeds including dogfennel shorter than 20 inches. Do not apply more than 2.1 pt/A/yr. Do not apply to desirable forage legumes or severe injury and stand loss will occur. Aminopyralid will pass through animals and remain in the waste. Do not mulch sensitive crops with manure if animals have been grazing on GrazonNext HL-treated pastures. Avoid applications of this product to limpograss pastures during hot and humid conditions.
Aminopyralid + florpyrauxifen (DuraCor)	4	12–20 oz/A	Excellent control of TSA, horsenettle, and other members of the nightshade family when at least 16 oz/A is applied. Will require tank-mix partners to control dogfennel and other broadleaf weeds. See same precautions for GrazonNext HL; however, this herbicide is safe to use on limpograss. Use of methylated seed oil as a surfactant provides quicker kill of broadleaf weeds.
Metsulfuron (Escort or MSM 60, others)	2	0.1–1.66 oz/A or 0.1–0.4 oz/A	Use on bermudagrass, pangolagrass, and stargrass. Controls several cool-season broadleaf weeds, pigweeds, and Pensacola bahiagrass. Bermudagrass should be established no less than 60 days prior to application. Add a nonionic surfactant at 1–2 pt/100 gal of solution. Avoid application during spring green-up. Note that Escort allows higher application rates than other products containing metsulfuron.

Herbicide Active Ingredients (Commonly Used Products)	HRAC MOA[1]	Application Rate	Remarks
Imazapic (Panoramic)	2	4–12 fl oz/A	DO NOT apply to bahiagrass. DO NOT apply during spring transition or severe bermudagrass or stargrass injury will occur. In summer months, expect 3–4 weeks of bermudagrass stunting after application, followed by quick recovery and rapid growth. This will reduce harvest yields of that cutting by 30–50%. If this yield reduction is not acceptable, do not use these herbicides. Yield reductions of subsequent cuttings have not been observed. For control of crabgrass, sandspur, nutsedges, and vaseygrass, use 4 oz/A. For suppression of bahiagrass, use 12 oz/A.
Indaziflam (Rezilon)	29	3–5 oz/A	Bermudagrass and bahiagrass only. Rezilon should be applied well before expected seed germination of annual grasses and broadleaves. No more than 6 oz/A in a 12-month period. No grazing restrictions. No haying restrictions if applied at 3 oz/A, but if applying more than 3 oz/A, hay may not be harvested for 40 days. For longer-term weed control, apply 3 oz/A before mid-February and another 3 oz/A at least 60 days later; usually within 7 to 10 days after cutting to reduce canopy interference and maximize soil coverage. Rezilon should only be applied to permanent pastures; 18-month restriction on planting of cool-season grasses and 22 months for other crops.
Aminopyralid (Milestone, Whetstone)	4	3–7 fl oz/A	Excellent control of tropical soda apple, horsenettle, and other members of the nightshade family. Controls pigweeds and other broadleaf weeds but does not control blackberry or dogfennel. Can be safely applied under trees. Do not apply more than 7 oz/A/yr. Do not apply to desirable forage legumes or loss of stand will occur. The use of a nonionic surfactant is recommended. Milestone will pass through animals and remain in the waste. Do not mulch sensitive crops with manure if animals have been feeding on Milestone-treated pastures. Safe on limpograss.
Sulfosulfuron (Outrider, Outline)	2	1.0–1.33 oz/A	Safe to apply to established bermudagrass and bahiagrass. Provides excellent control of annual and perennial sedges.
Metsulfuron + nicosulfuron (Pastora)	2	1–1.5 oz/A	Established bermudagrass only. Can be used to effectively control seedling crabgrass, sandbur, vaseygrass, and established johnsongrass. Established vaseygrass will require retreatment for long-term control. If sandbur or crabgrass is more than 4 inches tall, only seedhead suppression should be expected. Do not apply more than 2.5 oz/A/yr. Do not apply to limpograss or bahiagrass due to high injury potential.
Triclopyr + fluroxypyr (PastureGard HL, Cleargraze)	4	1.0–2.0 pt/A	Provides excellent control of dogfennel, blackberry, teaweed, and other broadleaf weeds. Less effective on tropical soda apple than triclopyr ester (Remedy Ultra, others) alone. Forage legumes will be severely injured or lost if present at the time of application. Applications of 2 pt/A may result in less than desirable weed control. Do not apply more than 8 pt/A per season. Surfactant should be added to spray mixture at 0.25% v/v.
Pendimethalin (Prowl H_2O)	3	1.1–4.2 qt/A	Apply only to established perennial warm-season grasses including bahiagrass and bermudagrass grown for forage or hay production between cutting or grazing events. DO NOT apply to bermudagrass and other warm-season grasses after green-up in the spring before the first cutting. DO NOT apply when surface water is present. Maximum application per year is 4.2 qt/acre. Provides preemergence control of annual and some perennial grass weeds but does not control existing plants.
Triclopyr ester (Remedy Ultra, others)	4	1–2 pt/A	Provides excellent control of herbaceous and certain woody plants in pasture and rangeland. For best results, apply in 30 or 40 gallons of water per acre. The addition of a nonionic surfactant at 0.25% v/v will increase control. Applications at air temperatures higher than 85°F may cause moderate to severe bermudagrass injury for 2–3 weeks.

Herbicide Active Ingredients (Commonly Used Products)	HRAC MOA[1]	Application Rate	Remarks
Glyphosate (Roundup Powermax II)	9	8–11 fl oz/A	For control of annual grasses in bermudagrass and stargrass. Apply immediately after hay removal, but prior to regrowth. Applications made after regrowth will cause stunting. Application rates as low as 6 oz/A are often effective for crabgrass and other small annual grass weeds. Do not apply more than 2 qt/A/yr. If Roundup Weathermax is applied to a dormant pasture, it cannot be sprayed again that season. Be sure to read the label of the particular brand before purchasing to ensure the product is labeled for use on the application site.
Halosulfuron (Sandea)	2	0.67–1.33 oz/A	Safe to apply to bahiagrass, bermudagrass, and stargrass for annual and perennial sedge control. Does not control Surinam sedge. Do not apply more than 1.33 oz per acre in a 12-month period.
Chlorsulfuron (Telar)	2	0.1–1.0 oz/A	For use on established warm-season forage grass species. Telar will control blackberry, pigweeds, wild radish, and selected winter weeds. Not effective on ragweed, tropical soda apple, and other common weeds. Ryegrasses will be severely injured or killed by Telar. Do not apply more than 1.3 oz/A/yr. There are no grazing restrictions for any animals.
2,4-D + dicamba (Weedmaster, others)	4	1–4 pt/A	See remarks for 2,4-D and dicamba above. This mixture is usually more effective than either herbicide used alone.
Hard-to-Kill Perennial Grasses			
Glyphosate		1%–3% solution for hand sprayer (1.3–4.0 oz/gal)	Spot treatment. Apply when perennial weeds are actively growing. Surrounding forage will be killed if sprayed.
Glyphosate		33%–50% solution (4–8 qt to 2 gal water)	Wiper application. Apply at speeds up to 5 mph. Two passes in opposite directions. No more than 10% of any acre should be treated at one time.
Giant and Small Smutgrass			
Hexazinone (Velpar L/Tide Hexazinone or Velossa or Velpar DF)	5	2.75–4.5 pt/A or 2.29–3.75 pt/A or 0.9–1.5 lb/A	Apply hexazinone to established stands of bermudagrass or bahiagrass when soil conditions are warm and moist and weeds are actively growing. Best control of smutgrass is usually achieved in late spring to early summer when regular rainfall occurs at an application rate of 3 to 4 pints/acre (Velpar L/Tide Hexazinone). Some yellowing of the bermudagrass or bahiagrass will occur, but plants will soon outgrow this effect. Apply hexazinone by ground equipment only. Only one application is allowed per year. Reducing the application rate to 2 to 3 pints/acre is allowable if a multiyear application smutgrass strategy is being considered. For more information on smutgrass management, see EDIS publication SS-AGR-18, *Smutgrass Control in Perennial Grass Pastures* (https://edis.ifas.ufl.edu/aa261). KEEP SPRAYS WELL AWAY (AT LEAST 100 FT) FROM THE BASE OF DESIRABLE TREES, ESPECIALLY OAKS. Check the label for further precautions and safe use instructions.
Pensacola Bahiagrass			
Metsulfuron (Escort, MSM 60, others)	2	0.3–0.4 oz/A	Apply to bermudagrass hayfields early in the season, after bahiagrass green-up but prior to seedhead formation. Early applications are often most effective; fall applications rarely control bahiagrass. Do not apply with liquid fertilizer solutions, as poor control may occur. Prolonged periods of dry weather prior to application will greatly decrease herbicide effectiveness. Always include a nonionic surfactant at a rate of 0.25% v/v. Common or Argentine bahiagrass will not be effectively controlled. Pasture legumes will be severely injured or killed.
Metsulfuron + chlorsulfuron (Cimarron Plus)	2	0.5 oz/A	Same as metsulfuron.
Cogongrass			
Glyphosate (Roundup, others)	9	3% to 5% solution for hand sprayer	For spot treatment of cogongrass. For best results, apply in the fall prior to frost. Applications to the entire patch plus an additional 5 ft beyond the patch are beneficial. Late fall treatment is typically better than spring treatments.

Herbicide Active Ingredients (Commonly Used Products)	HRAC MOA[1]	Application Rate	Remarks
Glyphosate (Roundup, others)	9	128 oz/A	For broadcast treatment of cogongrass infestations. Burning followed by 6 weeks of regrowth tends to improve control over long-established cogongrass stands. Late fall treatment is typically better than spring treatments.
Imazapyr (Arsenal, others)	2	1% solution for hand sprayer	For spot treatment of cogongrass. Do not apply near areas with desirable hardwood trees. Provides longer-term control than glyphosate. Applications to the entire patch plus an additional 5 ft beyond the patch are beneficial. Late fall treatment is typically better than spring treatments. DO NOT treat more than 10% of the available area to be grazed or cut for hay.
Imazapyr (Arsenal, others)	2	48 oz/A	For broadcast treatment of cogongrass. Do not apply near areas with desirable hardwood trees. Provides longer-term control than glyphosate, but plant-back restrictions may limit opportunities to plant forage crops in treated areas. DO NOT treat more than 10% of the available area to be grazed or cut for hay. DO NOT apply more than 0.75 lb of imazapyr (48 fl oz) per acre per year.
Tropical Soda Apple			
Aminopyralid + metsulfuron (Chaparral)	2, 4	2–3 oz/A	Excellent control of TSA plants. Provides preemergence control of TSA seedlings for approximately 6 months after application. There are no grazing or haying restrictions; however, delaying cutting for 14 days will enhance weed control. Not for use on Pensacola bahiagrass.
Aminopyralid + florpyrauxifen (DuraCor)	4	16–20 oz/A	Excellent control of tropical soda apple. Provides preemergence control of TSA seedlings for approximately 6 months after application. The 16 oz/A rate is highly effective on emerged TSA plants, but the 20 oz/A rate will provide the greatest amount of residual control. Do not apply more than 20 oz/A/yr. Will severely injure desirable forage legumes. There are no grazing restrictions, but do not harvest for silage or hay for 14 days for maximum herbicide activity.
Aminopyralid + 2,4-D (GrazonNext HL, Gunslinger AMP)	4	1.6–2.1 pt/A	Excellent control of tropical soda apple. Provides preemergence control of TSA seedlings for approximately 6 months after application. The 1.6 pt/A rate is highly effective on emerged TSA plants, but the 2.1 pt/A rate will provide the greatest amount of residual control. Do not apply more than 2.1 pt/A/yr. Will severely injure desirable forage legumes. Do not apply to limpograss. There are no grazing restrictions, but do not harvest for silage or hay for 7 days.
Aminopyralid (Milestone, Whetstone)	4	5–7 oz/A	Excellent control of tropical soda apple. Provides preemergence control of TSA seedlings for approximately 6 months after application. The 5 oz rate is highly effective on emerged plants, but the 7 oz rate will provide the greatest length of residual control. Do not apply more than 7 oz/A/yr. Do not apply to desirable forage legumes or loss of stand will occur. Volatility is low. The use of a nonionic surfactant at 0.25% v/v is recommended.
Triclopyr ester (Remedy Ultra, others)[1]	4	1 qt/A	Apply in late spring through summer as a broadcast spray for control of this species. Best results will occur when plants are adequately covered with spray solutions. Application of 30–40 gal/A of herbicide solution will be more effective than 20 gal/A or less. The addition of a nonionic surfactant at 0.25% v/v will increase control. Retreatment will be required as new seedlings emerge. Spot spray rate is 0.5%–1.0% v/v.
Prickly Pear Cactus			
Triclopyr ester (Remedy Ultra, others)[1] + basal oil	4	20% + 80%	Apply as a spot treatment directly to prickly pear pads during spring and summer. Grass will be burned in treated spots but will recover. The addition of diesel fuel drastically enhances herbicide uptake, which will lead to prickly pear control. Prickly pear will die slowly over a period of 6–8 months with a few plants requiring retreatment.
Fluroxypyr (Vista XRT, Flagstaff)	4	22 oz/A	Apply Vista XRT at 22 oz/A as a broadcast treatment in water. The use of a surfactant is required. For spot treatment, use 0.5 fl oz (15 mL) per gallon of water. Control is very slow. It often takes more than one year to see satisfactory results.

Herbicide Active Ingredients (Commonly Used Products)	HRAC MOA[1]	Application Rate	Remarks
Blackberry			
Aminopyralid + metsulfuron (Chaparral)	2, 4	2 oz/A	Chaparral will provide good to excellent control of blackberry. For best results, apply when moisture conditions are sufficient and blackberry plants are not under drought stress. Late bloom and fall applications of Chaparral are the most effective. DO NOT apply in bahiagrass pastures. Do not mow within 6 months prior to application or control will be greatly reduced.
Chlorsulfuron + metsulfuron (Cimarron Plus) or (Cimarron Xtra)	2	0.75 oz/A or 2 oz/A	Cimarron will provide good to excellent control of blackberry. Results are best when applied at blooming or late in the fall. Do not mow within 6 months prior to application or control will be reduced. DO NOT apply to bahiagrass pastures.
Metsulfuron (Escort, MSM 60, others)	2	0.3–0.5 oz/A	Metsulfuron will provide good to excellent control of blackberry. Results are best when applied at blooming or late in the fall. Apply to bahiagrass pastures only as a last resort and expect 6–8 weeks of reduced growth and some stand thinning. Mixing with 1 pt/A 2,4-D amine will help reduce bahiagrass injury when applying in bahiagrass.
Triclopyr + fluroxypyr (PastureGard HL, Cleargraze)	4	2 pt/A	Control similar to Remedy.
Triclopyr ester (Remedy Ultra, others)	4	1–2 pt/A	For best control of blackberry, apply 2 pt when blooming and do not mow within one year prior to application. Remedy does not control dewberry. Applications made during prolonged periods of dry weather can greatly decrease control. Fall applications often provide more consistent blackberry control. Applying 1 pt/A two years in a row provides better long-term control.
Chlorsulfuron (Telar)	2	0.75–1.0 oz/A	Similar to control with Cimarron. Telar can safely be applied to bahiagrass or bermudagrass.
Dogfennel			
2,4-D + dicamba (Weedmaster, others)	4	2–3 pt/A	Apply when plants reach a height of 12–18 inches. Weedmaster is most effective approximately one month after dogfennel transition from winter dormancy. Refer to previous comments for dicamba and 2,4-D above.
Aminopyralid + 2,4-D (GrazonNext HL, Gunslinger AMP)	4	24 oz/A	Apply when plants are under 30 inches tall. If plants are larger than 30 inches, tank-mix GrazonNext with 3 pt/A 2,4-D, or 8 oz/A PastureGard HL.
Triclopyr + fluroxypyr (PastureGard HL, Cleargraze)	4	24 oz/A	For control of larger dogfennel that has reached 40 inches or more in height.
Mixed Stands: Grass-Clover/*Lespedeza* Pastures			
2,4-D amine (Several brands, 4 lb/gal formulation)	4	0.5–1.0 pt/A	Apply only one treatment per year to established perennial clover. Slight to moderate injury may occur. See label for specific use information.
Thistles			
2,4-D amine (Several brands, 4 lb/gal formulation)	4	2 qt/A	Highly effective if applied to thistles in the rosette stage. 2,4-D is not effective on thistles that have bolted or flowered. During cool temperatures, the ester formulation of 2,4-D will be most effective.
Aminopyralid + 2,4-D (GrazonNext HL, Gunslinger AMP)	4	24 oz/A	Excellent control of thistles at any stage of growth.
Aminopyralid + florpyrauxifen (DuraCor)	4	16–20 oz/A	Excellent control of thistles at any stage of growth.

Herbicide Active Ingredients (Commonly Used Products)	HRAC MOA[1]	Application Rate	Remarks
2,4-D + dicamba[1] (Weedmaster, others)	4	1–2 qt	Apply late fall to early spring when daytime temperatures are higher than 50°F. Applications are most effective if made before flower stalks elongate. The addition of crop oil will increase herbicidal activity. Refer to previous comments for dicamba and 2,4-D above. For small rosettes, 1 qt/A rate is sufficient. For larger rosettes, 1.5–2 qt/A will be required.

[1] For state rules pertaining to application of organo-auxin herbicides (HRAC MOA 4) in Florida, see EDIS publication SS-AGR-12, *Florida's Organo-Auxin Herbicide Rule—2021* (https://edis.ifas.ufl.edu/wg051).
Herbicide recommendations in this report are contingent upon their registration by the US Environmental Protection Agency. If an herbicide's EPA registration is canceled, the herbicide is no longer recommended.

Table 2. Estimated effectiveness of herbicides on common broadleaf weeds in pastures and hayfields (2,4-D through Panoramic).[1]

Weed Name	2,4-D	Chaparral	Cimarron Plus or Xtra	Banvel or others	Vista XRT	Diuron	DuraCor	GrazonNext HL	Metsulfuron	Panoramic
Bagpod	F–G	E	E	G	-	-	E	E	E	-
Bitter sneezeweed	E	E	E	E	-	G	E	E	E	-
Blackberry	P	G–E	G–E	F–G	F	P	P–F	P–F	G–E	P
Bracken fern	P	E	E	P–F	P	P	P	P	E	-
Brazilian peppertree	P	P	P	P	P	-	P	P	P	P
Bullrush	G	-	-	G	P	P	P	P	-	-
Bushmint	P	-	-	F	F–G	-	-	F	-	-
Butterweed	F–G	E	E	F–G	-	-	G–E	E	E	-
Buttonbush	P	-	-	-	-	-	-	-	-	-
Caesarweed	G–E	G	G	-	G–E	-	G–E	G–E	G	-
Camphor weed	F–G	-	-	F–G	-	-	-	G	-	-
Carolina geranium	P–F	G	G	F–G	G	-	G-E	F–G	G	-
Castor bean	F–G	-	-	-	-	-	-	F–G	-	-
Chickweed	F	E	E	E	-	P	-	F	E	-
Coffee weed	G	E	E	E	G	-	E	E	E	-
Coral ardisia	P	P	P	P	P	-	P	P	P	G
Creeping indigo	G	E	E	G	-	-	E	E	E	-
Crotalaria, showy	G	G	-	G	G	-	E	G	-	-
Cudweed	F	G	G	E	-	-	-	E	G	-
Curly dock	F	E	E	E	-	P	E	E	E	-
Dayflower	G	F	F	F	-	-	-	F–G	F	-
Dewberry	P	F–G	F–G	P	-	-	-	P	F–G	-
Dodder	P	-	-	P	-	P	-	-	-	-
Dogfennel	F–G	P	F	F–G	G	P	P	F–G	F	-
Dollarweed	G	G	G	E	F	-	-	G	G	-
Elderberry	F–G	-	-	F–G	-	-	-	F–G	-	-
Evening primrose	E	G	G	E	-	G	-	E	G	-
Florida pusley	P	-	-	P–F	P	E	-	G–E	-	-
Flat-top goldenrod	G	P	P	F–G	P	-	P	G	P	-
Gallberry	G	-	-	E	-	P	-	-	-	-
Goatweed	G	G	G	F–G	P–F	-	P	-	G	P
Goldenrod	F	P	P	G	-	P	G	G	P	-
Greenbrier	P	F	F	P	F–G	-	P	P	F	-
Groundcherry	F–G	-	-	F–G	-	-	E	E	-	-
Hairy indigo	F–G	E	E	F–G	F–G	-	E	E	E	-
Hempvine	F–G	E	-	F–G	E	-	E	E	-	-
Honeysuckle	-	-	-	E	-	P	-	-	-	-
Horsenettle	P	E	P–F	G	F	P	E	E	P–F	-
Horseweed	F	G	F	E	-	P	E	E	F	-
Kudzu	P–F	G	P–F	G	P	P	-	G	P–F	P
Lantana	P	P	P	P	F–G	-	P	P	P	-

Weed Name	2,4-D	Chaparral	Cimarron Plus or Xtra	Banvel or others	Vista XRT	Diuron	DuraCor	GrazonNext HL	Metsulfuron	Panoramic
Matchweed	G	-	-	G	F–G	-	G	G–E	-	-
Maypop	P	P	P	P	-	-	-	F	P	-
Mexican tea	G	E	E	G–E	-	-	E	E	E	-
Milkweed	F–G	-	-	G	-	-	F–G	F–G	-	-
Morning glory	G–E	E	G–E	E	E	-	E	E	G–E	-
Palmetto	P	P	P	F	G	P	P	P	P	P
Pawpaw	P	P	F	P	F–G	-	P	P	F	-
Persimmon	P	-	-	F–G	-	P	P	P	-	P
Pigweed	F	E	E	E	P	F	G–E	E	E	G
Plantains	E	E	E	E	-	-	P	-	E	-
Pokeberry	G	-	-	E	P	P	F	P	-	-
Prickly pear	P	P	P	F	G	P	P	P	P	P
Prickly poppy	G	E	G	G–E	G	-	E	E	G	-
Ragweed	E	E	G	E	G	G	E	E	G	F
Red sorrel	P	E	E	E	-	F	-	-	E	-
Redroot, Carolina	-	P–F	P–F	-	P–F	-	-	-	P–F	F–G
Rosary pea	F	E	G	G	F–G	-	E	E	G	-
Sand vetch	F	E	G	G	G	-	E	E	G	-
Saltbush	P	P	P	P	F	-	P	P	P	-
Shepherd's purse	E	-	-	E	-	G	-	-	-	-
Sicklepod	G	G	G	E	G	F	E	E	G	F–G
Smartweed	G	E	G	G	-	-	E	E	G	-
Softrush	G	P	P	F–G	P	-	P	F–G	P	-
Spanish needles	G–E	E	G	E	-	-	E	E	G	-
Stinging nettle/fireweed	P	E	-	-	G–E	-	E	E	-	P
Tall elephant's foot	F	-	-	F–G	-	-	F	F–G	-	-
Teaweed	P	G	G	G	-	-	-	G	G	-
Thistles	E	E	F	G	G	F	E	E	F	-
Toadflax, oldfield	F–G	G–E	G–E	G	-	-	-	G–E	G–E	-
Tropical soda apple	P	E	P	F–G	F	P	E	E	P	P
Virginia pepperweed	G	-	-	E	G	G	-	-	-	-
Wax myrtle	P	P	-	P–F	-	P	P	P	-	-
Whitehead broom	P	P–F	P–F	P	P	-	P	P	P–F	-
Winged sumac	F–G	-	-	-	F–G	-	-	F–G	-	-
Wild garlic	G–E	G	G	E	-	P	P	-	G	-
Wild radish	G	G–E	G–E	E	-	P	P	G	G–E	-
Yellow jessamine	-	G	G	-	-	-	-	-	G	-
Yellow woodsorrell	P	F–G	F–G	G	F	-	-	F–G	F–G	-

[1] Weed control symbols: E = 90%–100% control; G = 80%–90% control; F = 60%–80% control; P < 60% control.

Table 3. Estimated effectiveness of herbicides on common broadleaf weeds in pastures and hayfields (Milestone through WeedMaster or others).[1]

Weed Name	Milestone	Outrider	PastureGard HL	Remedy	Rezilon[3]	Velpar	WeedMaster, others
Bagpod	E	-	G	F–G	-	-	F–G
Bitter sneezeweed	E	-	E	E	-	-	E
Blackberry	P	P	G–E	G–E	-	F	P–F
Bracken fern	P	-	P–F	P–F	-	F	P
Brazilian peppertree	P	P	P–F	G–E	-	G–E	P
Bullrush	P	-	P	F–G	-	-	-
Bushmint	P	-	G	G	-	-	P
Butterweed	G–E	-	G–E	-	-	-	F–G
Buttonbush	-	-	F–G	G	-	-	-
Caesarweed	G–E	-	E	E	-	-	G–E
Camphor weed	-	-	G	F–G	-	-	G
Carolina geranium	G–E	-	-	-	-	-	G
Castor bean	-	-	G	G	-	-	F–G
Chickweed	-	-	F	E	G	E	E
Coffee weed	E	-	E	E	-	-	G
Coral ardisia	P	-	F–G	G	-	-	P
Creeping indigo	E	-	G	G	-	-	G
Crotalaria, showy	-	-	E	E	-	-	G
Cudweed	E	-	G	E	G	-	G
Curly dock	E	-	F	E	-	P	E
Dayflowers	-	-	G	G	-	-	G
Dewberry	-	-	F–G	F–G	-	-	P
Dodder	-	-	P	P	-	-	P–F
Dogfennel	P–F	P	E	G–E	G	G	G
Dollarweed	-	-	F–G	F–G	-	-	F–G
Elderberry	-	-	G	E	-	-	P–F
Evening primrose	E	-	G	E	-	E	E
Florida pusley	-	-	G	-	-	-	F
Flat-top goldenrod	P	-	P	P	-	-	G
Gallberry	-	-	E	E	-	P	G
Goatweed	-	-	F	F	-	F–G	G
Goldenrod	G	-	G	G	-	-	G–E
Greenbrier	P	P	F	F	-	-	P
Groundcherry	E	-	G–E	G–E	-	E	G
Hairy indigo	E	-	G–E	G	-	-	G
Hempvine	E	-	E	E	-	-	F–G
Honeysuckle	-	-	P	P	-	-	E
Horsenettle	E	-	F	F–G	-	-	F
Horseweed	E	-	G	G	G	-	E
Kudzu	G	P	F	F	-	-	F
Lantana	P	-	P–F	P–F	-	-	P
Matchweed	G	-	G	G	-	-	G
Maypop	-	P	G	F	-	-	P–F

Weed Name	Milestone	Outrider	PastureGard HL	Remedy	Rezilon[3]	Velpar	WeedMaster, others
Mexican tea	E	-	E	E	-	-	E
Milkweed	F–G	-	F–G	F–G	-	-	F–G
Morning glory	E	-	E	E	-	-	E
Palmetto	P	P	G	F	-	P	P–F
Pawpaw	P	-	F–G	G	-	-	P
Persimmon	P	P	F–G	F–G	-	F	P–F
Pigweed	E	-	F	E	G	G	E
Plantains	P	-	-	-	G	-	E
Pokeberry	F	-	P	P	-	-	E
Prickly pear	P	P	F	G[2]	-	P	P–F
Prickly poppy	E	-	E	E	-	-	G–E
Ragweed	E	-	E	E	-	F	E
Red sorrel	-	-	F	E	-	-	G
Redroot, Carolina	-	-	F–G	G	-	-	G
Rosary pea	E	-	G–E	G–E	-	-	F–G
Sand vetch	E	-	E	E	-	-	E
Saltbush	P	-	G–E	E	-	-	F
Shepherd's purse	-	-	G	E	G	E	E
Sicklepod	-	-	G–E	E	-	-	E
Smartweed	E	-	G	G	-	-	G–E
Softrush	P	-	F	P–F	-	-	F–G
Spanish needles	E	-	E	E	-	-	E
Stinging nettle/fireweed	E	P	E	E	-	-	F
Tall elephant's foot	F	-	F–G	F–G	-	-	F
Teaweed	-	-	G	G	-	-	F–G
Thistles	E	-	G–E	E	-	E	E
Tropical soda apple	E	P	G	G–E	-	F–G	F–G
Virginia pepperweed	-	-	G	P	-	E	E
Wax myrtle	P	-	F–G	G	-	P	P–F
Whitehead broom	P	-	P	P	-	F–G	P
Winged sumac	-	-	G	G	-	-	F–G
Wild garlic	P	-	P	-	-	-	E
Wild radish	P	-	G–E	E	-	E	E
Yellow jessamine	-	-	G	G	-	-	-
Yellow woodsorrell	-	-	F	F	-	-	F

[1] Estimated effectiveness based on rates recommended in this report. Effectiveness may vary depending on factors such as herbicide rate, size of weeds, time of application, soil type, and weather conditions.
[2] When applied as spot treatment in basal oil.
[3] Estimated effectiveness from preemergence applications.
Weed control symbols: E = 90%–100% control; G = 80%–90% control; F = 60%–80% control; P < 60% control.

Table 4. Estimated effectiveness of herbicides on common grass and sedges in pastures and hayfields.[1]

Herbicide	Bahiagrass	Bermudagrass	Broomsedge	Crabgrass	Dallisgrass	Guinea grass	Johnsongrass	Ryegrass	Sandbur	Smutgrass	Vaseygrass	Nutsedge
2,4-D	P	P	P	P	P	P	P	P	P	P	P	P
Banvel or others	P	P	P	P	P	P	P	P	P	P	P	P
Chaparral	G	P	P	P	P	P	-	P	P	P	P	P
Cimarron Plus or Xtra	G	P	P	P	P	P	-	P	P	P	P	P
Diuron	P	P	P	F–G	P	P	P	P	G	P	P	P
DuraCor	P	P	P	P	P	P	P	P	P	P	P	F–G
GrazonNext HL	P	P	P	P	P	P	P	P	P	P	P	P
Metsulfuron	G	P	P	P	P	P	-	P	P	P	P	P
Panoramic	P–F	P	P	E	F	-	G	F	F–G	P	P–G	G–E
Milestone	P	P	P	P	P	P	P	P	P	P	P	P
Outrider	P	P	P	P	P	P	E	-	-	P	F–G	E
Pastora	F–G	P	P	F–G	F–G	F–G	G	G	G	P	F–G	P
PastureGard HL	P	P	P	P	P	P	P	P	P	P	P	P
Remedy	P	P	P	P	P	P	P	P	P	P	P	P
Rezilon[2]	G	G	-	G	-	G	-	G	G	G	-	G[3]
Velpar	P	P	P	P	-	-	-	G	-	E	-	P
Vista XRT	P	P	P	P	P	P	P	P	P	P	P	P
Weedmaster or others	P	P	P	P	P	P	P	P	P	P	P	P

[1] Estimated effectiveness based on rates recommended in this report. Effectiveness may vary depending on factors such as herbicide rate, size of weeds, time of application, soil type, and weather conditions.
[2] Estimated effectiveness of Rezilon is from preemergence applications only.
[3] Rezilon does not control perennial sedges like yellow or purple nutsedge, but does have activity on annual sedges.
Weed control symbols: E = 90%–100% control; G = 80%–90% control; F = 60%–80% control; P < 60% control.

Table 5. Tolerance of *established* (for at least 6 months) forage cultivars to commonly used herbicides.

Forage Species	Cultivar	2,4-D	Aim	Banvel	Chaparral	Cimarron Plus	Cimarron X-tra	DuraCor	Vista XRT	GrazonNext HL	Panoramic	Metsulfuron (MSM 60, others)	Milestone	Outrider	Pastora	PastureGard HL	Remedy Ultra, others	Roundup/others	Telar	Vista	Banvel + 2,4-D	Velpar
Bahiagrass	Argentine	T	T	T	I	I	I	T	T	T	S	I	T	T	NL	T	T	S	T	T	T	T
	Pensacola	T	T	T	S	S	S	T	T	T	S	S	T	T	NL	T	T	S	T	T	T	T
Bermudagrass	Coastal	T	T	T	T	T	T	T	T	T	I	T	T	T	T	T	T	I–S	T	T	T	T–I
	Florakirk	T	T	T	T	T	T	T	T	T	I	T	T	T	T	T	T	I–S	T	T	T	T–I
	Jiggs	T	T	T	T	T	T	T	T	T	I–S	T	T	T	T	T	T	I–S	T	T	T	T–I
	Tifton 85	T	T	T	T	T	T	T	T	T	I	T	T	T	T	T	T	I–S	T	T	T	T–I
Brachiaria	Mulato	T	I	T	N	N	N	N	T	T	N	N	T	T	NL	T	T	S	N	T	T	N
Stargrass	Florico	T	T	T	T	T	T	T	T	T	I	T	T	T	NL	T	T	I–S	T	T	T	NL
	Florona	T	T	T	T	T	T	T	T	T	I	T	T	T	NL	T	T	I–S	T	T	T	NL
	Okeechobee	T	T	T	T	T	T	T	T	T	I	T	T	T	NL	T	T	I–S	T	T	T	NL
	Ona	T	T	T	T	T	T	T	T	T	I	T	T	T	NL	T	T	I–S	T	T	T	NL
Hemarthria	Floralta	I–S	T	T	T	T	T	T	T–I	I–S	T–I	T	I	T	NL	I	I	S	T	I	I–S	NL
	Gibtuck	I–S	T	T	T	T	T	T	T–I	I–S	T–I	T	I	T	NL	I	I	S	T	I	I–S	NL
	Kenhy	I–S	T	T	T	T	T	T	T–I	I–S	T–I	T	I	T	NL	I	I	S	T	I	I–S	NL

T = Tolerant; very little injury, if any
I = Intermediate; slight injury, will regrow in approximately one month
S = Severe injury; more than two months to recover or complete death
N = No current information available
NL = Not labeled

Table 6. Days between herbicide application to forage or pasture and feeding, grazing, or animal slaughter.

Herbicide	Non-Lactating Cattle			Lactating Dairy Cattle		Horses
	Grazing	Hay Cutting	Slaughter	Grazing	Hay Cutting	
Banvel (Up to 1 pt)	0	7	30	7	37	0
Banvel (Up to 2 pt)	0	7	30	21	51	0
Banvel (Up to 4 pt)	0	7	30	40	70	0
Chaparral	0	0	0	0	0	0
Cimarron Plus and Cimarron Xtra	0	0	0	0	0	0
Vista XRT	0	7	0	0	7	0
2,4-D	0	7	3	7	7	0
DuraCor	0	14	0	0	14	0
GrazonNext HL	0	7	0	0	7	0
Metsulfuron	0	0	0	0	0	0
Panoramic	0	7	0	0	7	0
Milestone	0	0	0	0	0	0
Outrider	0	14	0	0	14	0
Pastora	0	0	0	0	0	0
PastureGard HL	0	14	3	0	14	0
Prowl H_2O	0	0	0	0	0	0
Remedy Ultra, others	0	14	3	0	14	0
Rezilon (Up to 3 oz/A)	0	0	0	0	0	0
Rezilon (From 3 to 5 oz/A)	0	40	0	0	40	0
Roundup Powermax (Dormant application)	0	0	0	0	0	0
Roundup Powermax (Between cuttings)	0	0	0	0	0	0
Roundup Powermax (Pasture renovation)	56	56	56	56	56	56
Sandea	0	37	0	0	37	0
Telar	0	0	0	0	0	0
Velpar	0	38	0	0	38	0
2,4-D + dicamba (Weedmaster, others)	0	7	30	7	7	0