

# TIMELY INFORMATION

## Agriculture & Natural Resources

### Thistle control for pastures: It's time to get cracking!

**What are the most problematic thistles in Alabama?** Musk thistle or nodding thistle (*Carduus nutans*) is the most aggressive non-native thistle in Alabama. Yellow thistle (aka horrible thistle) [*Cirsium horridulum*] is native and is also abundant throughout most of the state. Milk thistle (*Silybum marianum*), which has large variegated leaves is less common but still very aggressive. Bull thistle (*Cirsium vulgare*) and Canada thistle (*Cirsium arvense*) are uncommon and are not a major problem in Alabama.

**Do thistles really impact spring forage production?** Yes. Research has clearly shown that failure to control winter weeds such as thistles can result in substantial cool season forage losses. Additionally, a dense stand of thistles can also delay the spring transition to warm season forage grasses.

**What is the most effective management method to maintain forage production?** Herbicide treatment will provide the most effective thistle control to maximize grass forage production (Table 1).

**Table 1. Effective thistle herbicides (listed in alphabetical order).**

Herbicide	Active ingredient(s)	Product rate	Restricted use	Timing	Generics available?	Product safe for:
Chaparral	Aminopyralid + metsulfuron	2 oz/A	No	Rosette to early bud	No	Bermuda <sup>1</sup>
Cimarron Plus	Metsulfuron + chlorsulfuron	0.25 oz/A	No	Rosette	No	Bermuda <sup>1</sup>
GrazonNext	Aminopyralid + 2,4-D	2 pt/A	No	Rosette to early bud	No	All grasses
Grazon P+D	Picloram + 2,4-D	2 pt/A	Yes	Rosette to early bud	Yes	All grasses
Milestone	Aminopyralid	3 oz/A	No	Rosette to early bud	No	All grasses
Surmount	Picloram + fluroxypyr	1.5-2 pt/A	Yes	Rosette to early bud	No	All grasses
Weedmaster	Dicamba + 2,4-D	2 pt/A	No	Rosette/early bolting	yes	All grasses
2,4-D	2,4-D	2 pt/A	No	Rosette	Yes	All grasses

<sup>1</sup>Both Chaparral and Cimarron Plus are also labeled for use in tall fescue. However, temporary yellowing and stunting can occur and may cause distress to the landowner.

**What is the optimal herbicide treatment timing?** If your goal is spring forage production, treating early when thistles are still rosettes is best. While there are several herbicides that are effective on large bolted thistle, the spring forage response will be decreased the later you wait to spray.

**What about spraying later in the spring to gain some residual control of summer weeds?** With the exception of Weedmaster and 2,4-D, the other products will effectively control large musk thistle plants that have bolted. However, these herbicides will not prevent seed production when plants are already flowering at the time of application. To prevent seed production, applications need to be made by the bud stage before flowers open. Thistles may take an entire month to die when sprayed this late. This later timing will provide some residual control of many summer annual weeds including horseweed, bitterweed, and spiny pigweed. However, be aware that spiny pigweed will break through sooner than other annual weeds. Perennials like horsenettle will also be suppressed but will typically recover by mid to late summer.

**What about fall applications:** Fall applications are also extremely effective on thistle. However, soil residual herbicides may not provide complete control throughout the next summer when you will likely see many new rosettes.

**What about my clovers?** One of the biggest issues with pasture herbicides is that they are very effective clover killers too. With the exception of very low rates of 2,4-D applied when clovers are dormant, every other commonly used pasture herbicide will severely injure or kill clovers. Waiting until after clovers seed before spraying is possible, but if thistle problems are severe, there will be little clover seeding anyway.

**Non chemical management: What about mowing?** The optimal time for mowing is when thistles reach the late bolting stage when flower buds begin to emerge. However, this is not as effective as herbicide treatment as new thistle flower stalks will emerge from axillary buds in the rosettes below the mowing height and will still produce seed. It is important to recognize that horrible thistle and milk thistle typically flower before musk thistle so there is no single optimal mowing time when you have a combination of these species.

**What about digging or hand pulling?** The best time to dig or hand pull thistles is when they have bolted but before flowering. You do not need to dig out the entire root, just sever it about 3 inches below the soil surface with a shovel. These thistles do not regrow from root sprouts.

**What about bio-controls?** Two musk thistle bio-control insects have been distributed throughout much of Alabama. Both can have substantial impacts on thistle seed production. For more information on thistle bio-control, check out Extension Publication ANR-1034 at <http://www.aces.edu/pubs/docs/A/ANR-1034/>.

Questions? Please contact your local Cooperative Extension Office or [sfe0001@auburn.edu](mailto:sfe0001@auburn.edu).

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