Hale County Extension and Farmers Co-op Continue Pesticide Program

Brenda Glover, Regional Extension Agent

The Black Belt region is recognized as one of the best places in the state to grow grass. But to make grass-growing profitable, it must be managed correctly, and one of the most important management practices is weed control. Hale County producers do a good job of controlling weeds in their pastures due to the education they have received on weed control and pesticides.

In 1993, former County Extension Coordinator Jamey Clary began a yearly pesticide meeting for producers in Hale County. Clary would get a business to sponsor lunch and would then provide the education producers needed to obtain their pesticide permits from the Department of Agriculture and Industries. These meetings included information about pests to be controlled and the damage they cause; how to read and understand pesticide labels and labeling information; how to apply pesticides in accordance with the label instructions and precautions for their use; how to recognize poisoning symptoms and the procedures to follow in case of an accident; and the applicable state and federal laws and regulations. It was also stressed how important it is to keep records of when and where the pesticide is sprayed, the type of pesticide and the amount used per acre, and the total number of acres sprayed and the reason for spraying. Over the years, producers began to realize the importance of this information. In time, not only did producers from Hale County attend the meetings, but producers from surrounding counties came as well.

After Clary retired from the Extension System, there was still a need for pesticide training. Ray Duncan, manager of the Greensboro Farmers Co-op, began receiving many of the calls Clary had received. Duncan, along with the Hale County Extension office, saw the need for the meeting Clary had started to continue on an annual basis, so he and his staff at the co-op now help many producers from Hale County and the surrounding areas determine what pesticides they need to use. In addition, the Greensboro Farmers Co-op keeps a copy of the license of each producer to whom they sell restricted-use pesticides on file and helps the producers keep their permits up to date. Each February, a meeting is held to help producers either renew or apply for a permit.

Regional Extension Agents Brenda Glover (Animal Science and Forages) and Rudy Yates (Agronomy) have continued providing the education for these meetings with the support of the Greensboro Farmers Co-op. The meeting is usually in February so producers will have their permits before planting season begins and spring weeds emerge. Those producers who cannot attend the meeting can go to their county Extension office to pick up an information packet that can be used to apply for a permit.
Private Applicator Permit from the Department of Agriculture and Industries. The pesticide permit costs $25.00 and is valid for 3 years.

Thanks to Jamey Clary’s initiation of pesticide meetings in Hale County, producers now have a greater awareness of how important it is to control weeds in their pastures and crops and have a support system for maintaining their knowledge and their permits.

The Litter Did It!

M. Kent Stanford, Extension Specialist

Alabama livestock and forage producers are fortunate to have broiler litter as an option for providing the nutrients for their pastures and hayfields. The rise in prices for all inputs necessary for quality forage production has forced producers to evaluate each purchase carefully. Considering the use of broiler litter, a comment frequently heard is that litter will bring in weed seed. Over the years, I have received many calls about weed problems that start with “the litter did it!” Certainly it is easy to lay the blame on litter, but that actually is not the case.

I visited with Extension Soil Agronomist Dr. Charles Mitchell to discuss this topic and his effort to debunk this myth. After hearing from folks across the state, Mitchell and a team of researchers set out in 1993 to determine exactly what weed seeds were found in litter. Samples of broiler litter were taken from 18 farms across the state, taken to Auburn, and each one mixed with sterile soil. The samples were kept in greenhouse conditions to allow any seed present to germinate and emerge. Extremely high rates of litter were used to give weeds every opportunity. And what happened? Nothing came up, proving that the weed problems many experience do not start with litter. In the same study, pots of sterilized soil were inoculated with weed seed. In those fertilized with litter, the weeds did grow rapidly.

If the weed seed did not arrive with the broiler litter, then where did it come from? The answer is simply this: most soil contains a bank of many different kinds of seeds. As conditions become ideal, these seeds germinate and, like all weeds, seem to grow rapidly. Conditions that can lead to such a scenario include continuous overgrazing, drought, insect or disease pressure, or changes in soil fertility. For instance, the drought experienced in Alabama from 2006 to 2008 created serious challenges when it came to providing roughage for livestock to eat. In many cases, maintaining enough forage for a core group of animals was all that many could accomplish. This situation led to severely overgrazed pastures. A late freeze on Easter weekend in 2008 dealt another blow to an already-weakened forage stand. As the forage canopy was opened up and sunlight penetrated to the soil, pesky weeds began to emerge and provide competition for desirable grasses and legumes. When the drought declined and rainfall came more often, the natural tendency for many producers was to fertilize pastures to bring them back. However, there were weeds to deal with as well. With the application of litter, the weeds flourished and provided significant competition. Left unchecked, those weeds thrived and spread.

Sound familiar? While it is important to maintain proper soil fertility, adequate weed control must be practiced as well. The nitrogen, phosphorous and potassium you apply is too expensive to be wasted on growing more weeds. Whether you use broiler litter or commercial fertilizer, your investment in those nutrients should pay dividends by producing more grass and legumes and fewer unwanted weeds. Be sure to give credit to the broiler litter when your forage production does go up, and let your neighbors know that the litter did it!

Three Tough Pasture Weeds

Jack Tatum, Regional Extension Agent, and Stephen Enloe, Extension Weed Specialist

Summer pasture weeds are a big problem for many producers. Three that generate numerous calls each year are spiny pigweed, dogfennel and Carolina horsenettle. All three are competitive with forage grasses and may cause problems throughout the entire summer.

Spiny Pigweed

This summer annual species is often observed in pastures and hayfields, especially around well-worn areas such as winter feeding areas, gates and water troughs. Spiny pigweed responds very positively to disturbance and high fertility and thrives when chicken manure is applied to pastures. The sharp spines on the stems are a strong deterrent to grazing animals, and the leaves can accumulate nitrate to levels that are toxic to livestock. Spiny pigweed germinates throughout the summer and is one of the first weeds to break through after herbicide treatment in the late spring. This generates many problems mid to late summer when herbicide retreatment is often not a good option.

Dogfennel

This plant is also known as summer cedar. Dogfennel is an aggressive clump-forming perennial found throughout Alabama. It is common to overgrazed and poorly managed pastures but may also invade productive stands of bermudagrass and bahiagrass. Cattle do not readily feed on the finely divided, strong-smelling leaves, and dogfennel also contains low levels
are still seedlings or small rosettes and are hardly noticeable until they begin rapid growth. While their impact is limited this time of year, later in the spring they are problematic when they begin to shade out clovers and the warm-season grasses that begin to break dormancy. To clean up pastures and reduce weed competition with desirable clovers, cattle producers often mow in the spring. While it appears to control many winter annual weeds, it is important to know exactly what mowing does and does not accomplish.

#1. Mowing in the early to mid-spring is one of the few tools available to suppress winter annual weeds and give clovers a boost. The best herbicides for winter annual weed control are still lethal on clovers. Mowing opens up the canopy, allowing more light to reach low-growing clovers. To be useful, mowing to protect clovers must be done by mid-spring to give them any advantage. However, you will notice that the earlier you mow, the more likely winter annual weeds will recover from it, so there is a balance. The closer winter annual weeds are to flowering, the better control with mowing will be. If your winter annual weeds are still very small, mowing will do nothing to control them. If they begin to form a dense canopy over your clovers, do not delay, and get out there!

#2. Many cattle producers specifically use mowing to control thistles. Mowing in the late spring when musk thistle is bolting (but before flowering) is the optimum time for musk thistle control. Note that some regrowth and flowering will occur. After bolting, thistles put most of their energy into reproduction and have little left in the tank for regrowth. Earlier mowing results in more thistle regrowth. Later mowing (after thistle flowering) contributes to thistle seed spread and does nothing to control them. Additionally, mowing will not control new rosettes at any time. So, if you are mowing to protect clover and you have thistle, expect more thistle regrowth than you would with a later spring mowing.

These herbicides can be safely applied to all forage grasses. Consult "The Alabama Pest Management Handbook" for more information on these herbicides.

### Table 1. Herbicide Treatments for Spiny Pigweed, Dogfennel, and Carolina Horsenettle

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Rate</th>
<th>Soil residual</th>
<th>Restricted use</th>
<th>Effectiveness&lt;sup&gt;1&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-D</td>
<td>1–2 qt/A</td>
<td>none</td>
<td>no</td>
<td>F</td>
</tr>
<tr>
<td>Grazon P+D</td>
<td>1 qt/A</td>
<td>long</td>
<td>yes</td>
<td>E</td>
</tr>
<tr>
<td>GrazonNext HL</td>
<td>1.5 pt/acre</td>
<td>long</td>
<td>no</td>
<td>G</td>
</tr>
<tr>
<td>Pasturegard HL</td>
<td>1.5 pt/acre</td>
<td>none</td>
<td>no</td>
<td>P</td>
</tr>
<tr>
<td>Weedmaster</td>
<td>1 qt/A</td>
<td>short</td>
<td>no</td>
<td>G</td>
</tr>
</tbody>
</table>

<sup>1</sup>E = Excellent; G = good; F = Fair; P = poor
<sup>2</sup>Optimal treatment timing for spiny pigweed is when plants are less than 6 inches in height.
<sup>3</sup>Optimal timing for dogfennel is when plants are 12–24 inches in height. Pasturegard is the exception and can be applied to dogfennel 3–4 feet in height.
<sup>4</sup>Optimal timing for Carolina horsenettle is at the flowering to early fruit stage.

of the toxin tremital, which can cause dehydration in cattle. Dogfennel has been shown to cause significant bahiagrass losses when it is not controlled. Dogfennel starts growing when the soil temperature reaches 60 to 65 degrees F and may attain heights of 4 to 8 feet. Options for controlling dogfennel include herbicide treatment (Table 1) or mowing. Mowing is most effective in August, but most herbicide treatments should be applied when dogfennel is 12 to 24 inches tall.

**Carolina Horsenettle**

This is a creeping perennial weed that is erect and has a white or purple bloom. The fruit has a smooth globe-like shape that will initially be green in color but then turns yellow at maturity. Carolina horsenettle is a greater problem in pastures than in hayfields as it does not do as well in regularly mowed areas. The fruits are poisonous, but most livestock will not touch this plant because of the prickly spines on the leaves and stems. Carolina horsenettle produces a network of lateral roots that form new shoots from dormant root buds. Even the best herbicide treatments do not completely kill the lateral root system, but late spring or early summer treatments do provide good control.

Table 1 lists recommendations for controlling these weeds. Remember to follow all label recommendations and that these herbicides will kill legumes.

### Mowing for Spring Weed Control

Stephen Enloe, Extension Weed Specialist

Winter is upon us, but signs are everywhere that spring is just around the corner. In pastures and hayfields, many winter annual weeds are springing to life. Most winter annual weeds are still seedlings or small rosettes and are hardly noticeable until they begin rapid growth. While their impact is limited this time of year, later in the spring they are problematic when they begin to shade out clovers and the warm-season grasses that begin to break dormancy. To clean up pastures and reduce weed competition with desirable clovers, cattle producers often mow in the spring. While it appears to control many winter annual weeds, it is important to know exactly what mowing does and does not accomplish.

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#3. Mowing woody invaders such as sweetgum, common persimmon or popcorn tree in the spring does not effectively control them. These prolific root sprouters are generally resistant to mowing any time of year, and you cannot mow pastures enough to kill them. They rapidly respond to mowing by producing several new stems around the stumps and lateral roots. Repeated mowing of woody invaders may also make eventual herbicide control more difficult. When woody plants have a large root system and a small shoot system, it is difficult to get enough herbicide into the plant to kill the whole root system. If you are planning to treat with an herbicide following mowing, it is generally best to wait until there is 3 to 4 feet of regrowth before spraying. Therefore, do not mow this spring, and expect to spray by early summer. If you are dealing with blackberries, do not spray until at least 9 months after mowing.

#4. Mowing isn’t always the cheap alternative when fuel costs are high. Mowing can actually be more expensive than some pasture herbicide treatments. Make sure you are mowing for the right reasons at the right spring timing to help accomplish your goals.