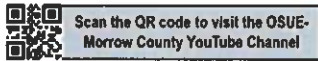


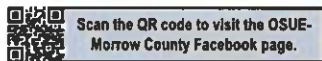
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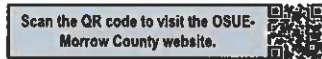
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Additional MGV 2021 Horticulture Classes

OSU Extension Morrow County Master Gardener Volunteers would like to invite you to join them for their 2021 Garden Series. They will be offering various garden topics for the community throughout the year.

CLASSES ARE OPEN TO ANYONE THAT WANTS TO LEARN

• September 16th @ 6:30 p.m.: Plant, Horticulture and Magazine Swap at Bunkers Mill

Winery in Cardington

• December 6th & 7th @ 6 p.m.: Wreath Decorate and Take \$35.00 at the Ag Credit Building RSVP by November 19th

Follow us on Facebook: Ohio State University Extension—Morrow County. Watch us on Youtube: OSU Extension Morrow County

Contact information: Carri Jagger, ANR Educator, 419-947-1070, Jagger.6@osu.edu

Agronomy Field Day
Wednesday September 8th



10:00 a.m. - 3:00 p.m.

Headwaters Outdoor Education Center

151 Home Rd., Mt. Gilead, OH 43338

Lunch will be provided

This year we planted corn plots - half were tilled and half were not. We compared emergence of the tilled plots vs the untilled and will share our reports.

Pierce Paul, Extension Specialist Cereal Crops, Integrated Disease Management (emphasis on wheat, corn and barley) will present on corn fungus and control and vomitoxin research.

Jacqi Smith, ANR Educator, Delaware County, will present on Vomitoxin and Livestock.

Please RSVP at 419-947-1070 or 419-946-7923 by August 31st



Morrow County Soil and Water Conservation District

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL AND ENVIRONMENTAL SCIENCES

MGV Class: Concrete Pumpkin Make and Take

Join the Morrow County Master Gardener Volunteers to learn how to make this cute pumpkin for fall decorating

When: September 8th @ 6:30 pm

Where: Headwaters Outdoor Education Center, 151 Home Rd., Mt. Gilead, OH 43338 (just north of the Sheriff's Office)

Cost: \$5.00

Please RSVP at 419-947-1070



MGV Class: Overwintering plants in the house

The OSU Extension - Morrow County Master Gardener Volunteers would like to invite you to a class about overwintering plants indoors. This class will teach you how to overwinter annuals indoors as well as how to take care of house plants and succulents indoors through the winter months.

When: October 5th @ 6:00 p.m.

Where: OSU Extension - Morrow County Ag Credit Building, 2nd Floor Conference Room



Contact Information: Carri Jagger, ANR Educator, 419-947-1070, Jagger.6@osu.edu

MGV Class: Container Garden Make and Take

Join the Morrow County Master Gardener Volunteers to learn how to layer spring bulbs in containers for a beautiful spring flower display. You will get 25 bulbs to take home and create your own planter.

You will also learn how to force bulbs and grow garlic.

When: November 2nd @ 6:00 p.m.

Where: OSU Extension - Morrow County Ag Credit Building, 2nd floor Conference Room

Cost: \$15.00

Please RSVP at 419-947-1070



Contact Information: Carri Jagger, ANR Educator, 419-947-1070, Jagger.6@osu.edu

Are stink bugs in your soybeans?

By Andy Michel, Kelley Tilmon

As soybean begin to produce pods and seeds, it becomes a good food source for stink bugs. These insects like to feed on the developing seed, leading to wrinkled or shriveled seed. There are



Brown marmorated stink bug

many types of stink bugs, but Ohio's most common stink bugs include the green, the brown and the brown marmorated. Also, stink bugs have nymphal stages that can look very different than the adults—nymphs are smaller and lack wings but feed all the same, if not more, than the adults.

To look for stinkbugs, take a set of 10 sweeps in 10 different areas of the field (although stink bugs are mostly found along the edges, they can also be found in the interior of the field). If the average number of stink bugs is higher than 4 per set of 10 sweeps, treatment is necessary (this decreases to 2 per set of 10 sweeps if soybean is grown for seed or food grade).

Visit our website for more information on stink bugs in soybean, including helpful guides for identification (aginsects.osu.edu).

AGRICULTURE

Canada thistle rebounds?

By Mark Loux

It can be nice to see old friends. Except when they cause crop and yield loss, refuse to leave after a few days, and don't respond to chemicals. A while back we wrote about what appeared to be an increase in populations of dandelions and other winter weeds and made some guesses about why this was happening. Canada thistle has once again become a problem in some fields in a big way, probably for some of the same reasons that dandelion has. Our history with thistle during the past 30+ years is that it was a major problem before the widespread adoption of Roundup Ready soybeans in the late 1990s. Back then we had to take advantage of specific windows in the cropping cycle to try to get control with glyphosate, and the rest of the time we just tried to keep it from getting worse. The "all glyphosate, all the time" strategy during the first decade of RoundupReady soybeans handled thistle and other perennials such as milkweed and hemp dogbane well, and we didn't hear much about them. Now we are though, and increases in thistle could be due to the following:

- Lack of herbicide treatments in fall, when thistle is most effectively controlled
- Lack of wheat in the rotation. Including wheat allows a period after harvest for thistle to regrow to a large enough size in fall (compared with cutting it off during corn and soybean harvest)
- NonGMO soybeans, where options for control are ineffective/expensive and thistle gets a better foothold
- Switch to the use of Liberty Link soybeans and the use of glufosinate in POST treatments. Glufosinate is a contact herbicide that can burn down the top-growth but will not reduce populations
- Applying POST glyphosate treatments too early, before thistle is large enough to respond well
- Failure to use effective POST treatments in corn

The initial slow increases in the population of any weed are often ignored since populations are too low to cause a loss in stand or yield or interfere with harvest. At some point though, the current year's infestation will be substantial enough to provide the source for a much denser infestation the following year. In this steeper part of a population's growth curve, things can get out of control fast. Canada thistle reproduces via wind-blown seed, and also spreads via a deep, dense network of creeping roots. Left uncontrolled for a while, the patch of thistle that results from this



can be thick enough to reduce crop stands and vigor considerably, literally sucking the life out of corn and soybeans. Some suggestions for controlling thistle for those experiencing a rebound:

- Apply herbicides in the fall when the thistle plants are at least 10 to 12 inches tall. This can occur into November as long as plants are still green, before freezes. Our experience is that it's probably not worth treating in fall when plants do not regrow to at least this size unless there are other weeds requiring fall application anyway.
- Use effective POST herbicides in corn, especially where wheat is not in the rotation and glufosinate is not being used POST in soybeans.
- If using glufosinate POST in soybeans that are resistant to glyphosate also (LLGT27, Enlist), add glyphosate to the mixture.
- Use effective burndown and residual herbicides in soybeans, to try to delay the POST glyphosate application until later in June when thistle are larger (ideally in the bud to flower stage).
- Herbicides applied to small thistle plants in late spring only reduce the top-growth, without herbicide getting to the roots. At small sizes, thistle plants are primed to just regrow again. We have heard from several clients who observed ineffective activity on thistle from burndown applications and then resprayed as soon as the thistle plants had a few inches of regrowth. While the basis for this approach in dense stands is to try to prevent suppression of the crop, it largely won't work. Steps need to be taken the previous years to prevent the development of dense thistle stands.
- In soybeans resistant to glyphosate, scout later in the season following the initial POST application for thistle regrowth and treat again as necessary.
- POST options in nonGMO soybeans are generally not good or are just expensive. From the Weed Control Guide: "Postemergence applications of Basagran (2 pt/A) will control above-ground parts of the plant or suppress the growth of Canada thistle. Regrowth usually occurs, but this treatment will reduce competition from Canada thistle in soybeans and help prevent the production of more rootstock. Apply when thistle plants are from 8 inches tall to the bud stage. COC should be included in the spray mixture. A second application at the same rate may be made 7 to 10 days later, if necessary. Other products and mixtures with activity on thistle include fomesafen and mixtures of Basagran with fomesafen, Ultra Blazer, or Cobra. Postemergence application of Pursuit (1.44 oz/A), Classic (0.66 to 0.75 oz/A), FirstRate (0.3 oz/A), and Synchrony XP (0.75 oz/A) may also suppress thistle growth, but results have been variable."

A reminder that the first page of the "Control of Problem Weeds" section of the "Weed Control Guide for Ohio, Indiana, and Illinois" contains a list of strategies for managing perennials. This was first written before the availability of RR soybeans, so it can have some useful information for this type of situation where the use of glyphosate is being deemphasized.

The 2021 "New and Small Farm College" is coming to Wayne County!

Are you interested in learning how to make the most of a few acres? If so, this six-week course is just for you! Filled with practical knowledge on a variety of topics— you won't be disappointed!



CLASS DATES:

Tuesdays
August 31-October 12

CLASS TIMES:

Light dinner at 6:00 pm
Classes are from 6:30 -9:00 pm

CLASS LOCATION:

OSU Wooster Campus
The Shisler Conference Center
1680 Madison Ave.
Wooster, Ohio 44961

PRICE INFORMATION:

\$125.00 per person
Price includes one 3-inch binder of resource materials, meals and dessert each night, and 1 soil sample evaluation

Additional family member = \$100.00 per individual *(does not include a notebook)

Limited to the first 50 registrations • Enrollment deadline: August 23, 2021

Sponsored by:



REGISTRATION: Wayne County SF College

Name _____
(list additional attendee here)

Address _____

City _____

State/Zip _____

Phone _____

Email _____

PLEASE PRINT CLEARLY

Dietary Needs _____

PRICE INFORMATION:

\$125.00 per person
Price includes one 3-inch binder of resource materials, meals and dessert each night, and 1 soil sample evaluation
Additional family member = \$100.00 per individual *(does not include a notebook)

Based on the class fees,
I have enclosed a total of \$ _____

Please make checks payable to
OSU Extension

Send completed form and payment to: OSU Extension - Clinton County
111 S. Nelson Ave., Suite 2, Wilmington, OH 45177

AGRICULTURE

How to identify late season soybean diseases in 2021

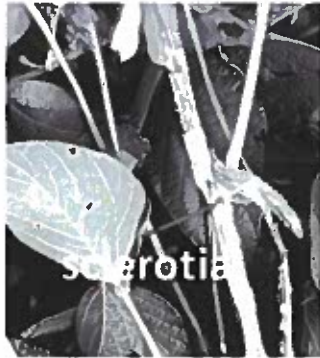
By Anne Dorrance

Sclerotinia stem rot – The nights have been cool this growing season, even when the days were very warm. The fog this morning in Wayne County reminded me that this is the time of the year to begin to scout for this stem disease. Sclerotinia is caused by a fungus that survives from season to season and over several years from sclerotia. The infections actually occurred during flowering when the canopy was closed, and cool nights can really enhance and favor this disease. For this disease, disease levels can reach 20% incidence before there is a measurable yield loss. Sclerotinia will occur as single plants or

small patch of dying plants, that wilt and turn a deeper olive green color. Look at the stem and white fluffy growth will appear on the stem, this is the sign of the fungus.

Sudden Death Syndrome – reports that this disease is also beginning to develop in some areas of the state where soybeans are reaching R6. Symptoms include irregular yellow spots, which turn brown or necrotic between the veins. Interestingly the veins are surrounded by green. The center of the stem or pith is bright white in this disease. This is a fungal pathogen and infections most likely occurred shortly after planting and this fungus causes extensive root rots. Figure has both susceptible and resistant cultivar. There is a look alike symptom caused by triazole fungicides when applied under hot conditions. To separate these two, if a triazole had been sprayed, look at the roots. The roots will be very healthy where SDS, the roots and the center of the tap root are discolored.

Diaporthe stem canker (northern and southern) have both been problems in recent years. On susceptible cultivars the plants will die early in patches. For Northern, there is a canker at the third node which girdles the plant. For Southern, there can be several reddish cankers on the stem



Sclerotinia Stem Rot



Early symptoms of Sclerotinia Stem Rot, also called White Mold



Diaporthe Southern Stem Canker



Phytophthora Stem Canker and the internal pith tissue is a reddish brown.

Phytophthora stem canker – numerous reports this year due to localized flooding events and in places that have not reported it very frequently. Phytophthora stem canker will occur 1 to 2 weeks after a heavy rain and in fields with poor drainage. The plants will wilt first, leaves



Phytophthora Stem Canker will turn yellow, and a chocolate brown canker will form from the bottom of the plant to almost mid-height. The key difference between this and Northern Diaporthe stem canker is the length of the canker and where it originates. If the canker begins below ground, the roots are discolored it is Phytophthora.

It's time to talk noxious weeds law

By Peggy Kirk Hall

Poison hemlock and Canada thistle are making unwelcome appearances across Ohio, and that raises the need to talk about Ohio's noxious weeds law. The law provides mechanisms for dealing with noxious weeds—these weeds that can cause harm to humans, animals, and ecosystems. Location matters when we talk about noxious weeds. That's because Ohio law provides different procedures for dealing with noxious weeds depending upon where we find the weeds. The law addresses managing the weeds on Ohio's noxious weeds list in these four locations:

1. Along roadways and railroads
2. Along partition fence rows
3. On private land beyond the fence row
4. On park lands

Along roadways and railroads. The first window just closed for mandatory mowing of noxious weeds along county and township roads. Ohio law requires counties, townships, and municipalities to destroy all noxious weeds, brush, briars, burrs, and vines growing along roads and streets. There are two mandated time windows for doing so: between June 1 and 20 and between August 1 and 20. If necessary, a cutting must also occur between September 1 and 20, or at any other time when necessary to prevent or eliminate a safety hazard. Railroad and toll road operators have the same legal duty, and if they fail to do so, a township may cause the removal and bring a civil action to recover for removal costs.

Along partition fence rows. Landowners in unincorporated areas of the state have a duty to cut or destroy noxious weeds and brush within four feet of a partition fence, and the law allows a neighbor to request a clearing of the fence row if a landowner hasn't done so. If a landowner doesn't clear the fence row within ten days of receiving a request to clear from the neighbor, the neighbor may present a complaint to the town-

ship trustees. The trustees must visit the property and determine whether there is a need to remove noxious weeds and if so, may order the removal and charge removal costs against the landowner's property tax bill.

On private land beyond the fence row. A written notice to the township trustees that noxious weeds are growing on private land beyond the fence row will trigger another township trustee process. The trustees must notify the landowner to destroy the weeds or show why there is no reason to do so. If the landowner doesn't comply within five days of receiving the notice, the trustees may arrange for destruction of the weeds. The township may assess the costs against the landowner's property tax bill.

On park lands. If the township receives notice that noxious weeds are growing on park land or land owned by the Ohio Department of Natural Resources, the trustees must notify the OSU Extension Educator in the county. Within five days, the Educator must meet with a representative of the ODNR or park land, consider ways to deal with the noxious weed issue, and share findings and recommendations with the trustees.

Even with noxious laws in place, we recommend talking before taking legal action. If you're worried about a noxious weed problem in your area, have a talk with the responsible party first. Maybe the party isn't aware of the noxious weeds, will take steps to address the problem, or has already done so. But if talking doesn't work, Ohio law offers a way to ensure removal of the noxious weeds before they become a bigger problem.


We explain the noxious weed laws in more detail in our law bulletin, Ohio's Noxious Weed Laws. We've also recently illustrated the procedures in a new law bulletin, Legal Procedures for Dealing with Noxious Weeds in Ohio's Rural Areas.

ATTENTION!
MORROW COUNTY
LOCAL
PRODUCERS

Do you live in Morrow County?
Do you grow, raise or produce a food product to sell in Morrow County?

OSU Extension — Morrow County would like to invite you to follow this link:
<http://go.osu.edu/morrowlocalfoods>
scan the QR code to fill out a short survey or call our office 419-947-1070 to be added to the Morrow County Local Foods List.

The list will be available online and in hard copies at OSU Extension — Morrow County and other Morrow County agencies.
This is a great way to let folks in the county know about your business!



AGRICULTURE

Putting poison hemlock in perspective

By Mark Loux, Ted Wiseman, Allen Gabler
Poison hemlock (*Conium maculatum* L.) and wild parsnip (*Pastinaca sativa* L.) are combined in this report because these invasive non-native weeds are increasingly found growing together in Ohio. However, the defense chemicals of these weeds are very different and have vastly different modes of action. This is important to understand relative to management options as well as medical treatments for exposure to these highly dangerous weeds.

Poison hemlock seems to be on everyone's radar more than usual this year, especially in northern Ohio. We know that while hemlock has been all over southern Ohio for years, it is continuing to spread northward, where new occurrences and observations of it may be engendering concern in the general public and local government. There have also been comments that it seems "worse than usual" this year in some areas, and we don't have a ready explanation for what would cause this. For any plant that reproduces by seed, an abundance of seed in one season can lead to much higher populations the following season. Seed-based population increase tends to be exponential. When left uncontrolled for several years, the populations may stay low for a few years until seed production reaches a certain level, and that amount of seed can cause a large and very observable increase in population.



Poison Hemlock Flowers and Stem

Poison hemlock in Ohio has made the news over the past month, in articles such as one in the Mansfield New Journal <https://www.mansfieldnewsjournal.com/story/news/2021/06/19/dangerous-plant-blooming-rampantly-across-buckeye-state/7705613002/>. From a frequency of poisoning standpoint, some of these articles can make it seem worse than it is. Hemlock is in the Apiaceae or parsley plant family, which also includes wild carrot (Queen Anne's lace), wild parsnip, cow parsnip, and giant hogweed. Giant hogweed is the truly bad actor in this group but has not become established in Ohio. All of these species share some of the same characteristics with poison hemlock to varying degrees. There is a comprehensive article in the OSU BYGL newsletter which does a nice job of presenting information on the various species, including identification. It can be found at <https://bygl.osu.edu/index.php/node/1782>.

Poison hemlock has been in Ohio for a long time, and there are many areas it is never subject to any control measures – abandoned fields, forest borders, etc. And there are other areas hem-



lock grows well where it should be controlled because it reduces the quality and safety of these areas or can be seen by people. These areas include parks, roadsides, ditches, hayfields, pastures, etc. Poison hemlock is poisonous to humans and livestock, but only when ingested. Poisoning seems to be extremely rare because: 1) it's not a plant that smells or tastes good, so animals avoid it; and 2) humans are not prone to wandering down roadsides eating plants, especially the ones that do not appear appealing. Contact with hemlock can also cause skin and eye problems which are way more likely than internal poisoning. The severity of this response varies depending upon the sensitivity of the individual and the degree of contact. This does not happen from a distance though – only with direct contact with plant parts or fluids from the plants. Anyone mowing or removing hemlock by hand should keep this in mind and protect themselves from skin and eye contact. Mowing large populations with open station tractors is not recommended.

Within this plant family, poison hemlock and wild parsnip present the most risk to livestock, based on the level of infestation in Ohio and toxicity. Livestock seldom eats these plants due to strong odor and taste, and most problems occur when no other forages/desirable plants are available, often during droughts. It is also possible for these weeds to inadvertently end up in hay bales where they retain toxicity. Many other plants that can have toxic effects on livestock will see those toxins dissipate during the hay drying process, or the during fermentation process if hay is ensiled or wrapped. This is not the case with poison hemlock – toxins will remain viable and lethal regardless of the curing and storage methods. All parts of the plants are poisonous with the seed heads being the most toxic. Poison hemlock contains eight piperidine alkaloids, with coniine (mature plants) and g-coniceine (young

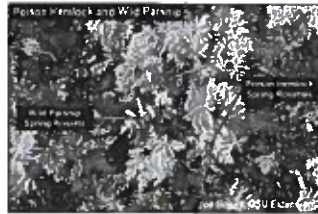


Wild Parsnip Flowers

plants) being the two predominant toxic compounds. Experimental hemlock poisoning in livestock has shown a wide range of clinical signs suggesting variation in the toxic alkaloid content in the plant. Cattle eating as little as 300 grams up to 0.5 percent of body weight has shown to be fatal. Bluish discoloration of the skin from poor circulation, respiratory paralysis, and coma without convulsions are common signs before death which usually occurs within 2-3 hours after consuming a lethal dose.

Wild Parsnip contains chemicals called furanocoumarins which cause severe sunburns. Housing infected livestock in shade may help reduce its effects. Other clinical signs may include acute disorders to the central nervous system or digestive tract without a fever but weakness and rapid weight loss. Other symptoms may include suddenly accelerated heartbeat, stomach, and intestinal irritation, general distress, or repeated attempts to void feces.

Poison hemlock and wild parsnip are on the Ohio noxious weed list, and therefore need to be controlled before becoming large enough to pres-



Poison Hemlock and Wild Parsnip

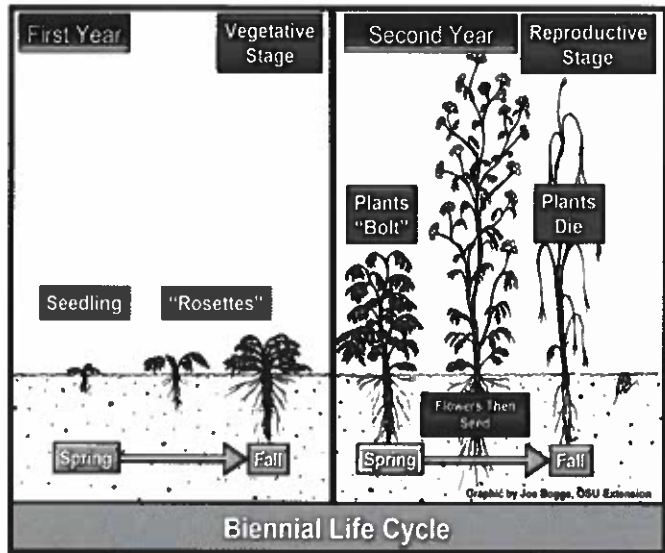
ent a threat, and before seed production to prevent spread. Information on the Ohio noxious weed law can be found on the OSU Farm Office page (<https://farmoffice.osu.edu/news/noxious-weeds-legal-procedures>).



Queen Anne's Lace Flowers

At this time of the year when these plants are flowering, producing seed, and dying, it's not always possible to use chemicals to control them. The goal should be getting rid of existing plants through cutting, mowing, or hand removal, and limiting production and spread of seed.

The most effective timing for the application of herbicides is fall when plants are low-growing rosettes in their first year of growth, or early the following spring when plants are still small. Herbicide effectiveness ratings in Table 21 of the "Weed Control Guide for Ohio, Indiana, and Illinois", which lists pasture and CRP herbicides. That document can be seen at <https://extensionpubs.osu.edu/2021-weed-control-guide-for-ohio-indiana-and-illinois/>. Additional products labeled for roadsides, industrial areas, etc but not shown in this guide are also effective.



Life Stage

AGRICULTURE

Do you have 100 days of grazing still ahead?

By Mark Landefeld, OSU Agriculture Educator, Monroe County
(originally published in *Farm & Dairy*)

As we prepare to move into the fall season, how much longer will your livestock be able to graze forage from your hay and pasture fields? Have you prepared stockpiled forages? Are you able to utilize your livestock to take that last growth of forage off your hay fields rather than using equipment? Not using equipment to make a last cutting of hay, not having the livestock in pasture fields right now and not feeding hay for a while yet seems to be a winning combination all the way around.

Everyone's situation is different and many producers are not able to get livestock to every hay field. Nevertheless, where you can use livestock to harvest forage from hay fields, production costs can be reduced. Producers who have not been doing this should try using their livestock, not the equipment to make later cuttings of hay and this last cutting everyone wants to get off in late September and October. This allows pasture fields and stockpiling areas to grow the maximum amount of forage before killing frosts arrive. I believe this is one of the best opportunities livestock producers have to reduce costs and make more profit year after year. There are some limitations and guidelines producers should consider when doing this and we will discuss them near the end of the article.

The greatest cost a producer incurs with livestock production comes from the cost of feeding animals' year around. In Ohio, the majority of

this cost is related to making and storing hay used for feeding cows, bulls and replacement heifers from the fall through mid-April each year. When costs are calculated for forages, hay made on the farm usually costs 2½-5 times what forage grazed in the field by livestock costs. Therefore, the shortest amount of time a producer must feed hay the more opportunity they have to increase profit.

Producers who have, or will have, quality standing forage for their livestock to graze in December, January and or even February has this forage because of planning and preparation they've done well ahead of the season. Good accumulation of stockpiled forage this time of year does not just happen by coincidence; it is usually the result of several factors. One of which is setting aside the areas to be stockpiled back in early August and applying nitrogen if needed.

Other factors would be, during the growing season the graziers who frequently rotate their livestock, pay close attention to their forages and correctly determine when, where and how long animals graze a paddock, tend to have grazeable forages available longer into the fall and winter than other producers do. While some of these factors may not seem very important as the days of spring and summer pass by, in the fall those small things add up. Things like better utilization percentage of existing forages, proper rest periods for forage plants to produce stronger healthier root systems, moving animals out of pastures based on residual plant height, and keeping the soil surface shaded to reduce moisture loss in dry



weather, etc., all these add up to produce additional forage for livestock to graze late in the season.

In addition to grazing longer in the fall of the year, managers who take time to implement the practices just mentioned usually are rewarded with more grass growth earlier in the spring for livestock to graze. Because plants were not stressed, or over grazed the summer/fall before, properly managed forage plants break dormancy in the spring and take right off growing because they have fully charged root reserves and tillers. This again reduces the amount of hay required for each animal, providing opportunity for more profit.

So, is this something you want to do, or maybe do more of it? If an adequate water source is available, step-in posts or T-posts with insulators, polywire and an electrified fence charger or solar charger is all you need. Take some time now, fence off the fields and start extending your grazing season this year.

Remember, we said there were some limita-

tions to consider when grazing in the fall. Why is fall a critical period of the forage cycle? There are a couple of activities that occur during fall grass plant growth as daylight become shorter and nights are longer. One is the storage of carbohydrates in the roots, lower stems and tiller bases. The other is the formation of shoots or growing points for next year's growth. These functions are critical for long-term forage production to be maintained and maximum forage growth each year. In the fall, grazing or mowing plants lower than a 3-4 inch stubble height for tall fescues and bluegrass or 4-5 inches for orchardgrass, can reduce needed reserves and diminish new tiller growth that will affect next year's growth. So, take advantage of the opportunity to extend your grazing season. Let your livestock do the harvesting, but manage the height carefully by moving livestock as needed to maintain the plant height desired. Hopefully your livestock can graze 100 days, or more, yet this season.

Scout now for cressleaf groundsel in hayfields, or pay the price in May

By Mark Louv

Some hay producers have been unpleasantly surprised in the past when cressleaf groundsel infestations became evident in their hay fields in May prior to first cutting. Cressleaf groundsel in hay or silage is toxic to animals, and infested areas of the field should not be harvested and fed. Groundsel is a winter annual, emerging in late summer into fall, when it develops into a rosette that overwinters. Growth restarts in spring, with stem elongation and an eventual height of up to several feet tall. The weed becomes evident in hay fields when it becomes taller than the al-



Cressleaf Groundsel

falfo grass and develops bright yellow flowers in May. The problem with passively waiting until this point to discover that the hay is infested with groundsel is that: 1) it's too late to control it with herbicides, and 2) hay from infested areas has to be discarded instead of sold or fed, and large plant skeletons are still toxic even if herbicides were effective on them. Groundsel plants finish their life cycle in late spring, once they flower and go to seed, so it should not be problem in subsequent cuttings.

The solution to this is scouting of hay fields in fall and early spring to determine the presence of cressleaf groundsel, when it is small and still susceptible to the few herbicides that can be used. We expect groundsel to be more of a problem in new August seedings, since it would be emerging with the new stand of alfalfa/grass. A well-managed established and uniform hay crop should be dense enough to largely prevent problems with winter annuals although there have been exceptions. Groundsel will be most easily controlled in the fall while in the rosette stage. Controlling plants in the spring is more difficult, because of cold conditions in early spring when plants are still small, and increased tolerance to herbicides as stems elongate.

Herbicide options are more effective in pure

grass hay stands or grass pasture compared with legumes, and it's not possible to control groundsel in a first-year legume/grass seeding without incurring injury to the grasses. Any treatment containing 2,4-D should be effective in grass hay or pasture. Apply 2,4-D (1 qt/A) in late October or early November. Low-volatile ester formulations can be more effective than amine formulations, but the latter are less likely to volatilize and injure nearby sensitive broadleaf vegetation. This treatment can also be effective in spring if applied in late March or early April when the rosettes of groundsel are less than several inches in diameter. Larger plants are more tolerant of 2,4-D, and effective control will require a mixture of dicamba (e.g. Banvel, Clarity, Sterling) and 2,4-D. Desirable legumes in the pasture will be injured or killed by any of these treatments.

In alfalfa fields, the most effective treatments are:

- Metribuzin (1.3 lbs/A of 75% DF) or Velpar (2 to 3 qts/A) applied in late February when alfalfa is still dormant. These herbicides can be applied to established alfalfa only (more than one year old). Metribuzin can be used in fields that have established grasses in addition to the alfalfa. Do not use Velpar in fields with desirable grasses or fields that will be rotated to another crop

within the next two years.

- Pursuit (2.16 oz/A) can suppress groundsel when applied in late fall or early spring. Fall applications are likely to be most effective. Plants should still be in the rosette stage and less than 3 inches tall at the time of application. In the spring, apply during periods of relatively warm weather – daytime temperatures above 60 degrees F and nighttime temperatures above 50 degrees F. Include the appropriate spray adjuvants per the herbicide label. Pursuit can be used in seedling or established alfalfa, but alfalfa seedlings must have at least two trifoliate leaves at the time of application. Do not use this treatment where desirable grasses are present unless injury to grasses is acceptable.

- Glyphosate (0.75 to 1.5 lb ac/A) can be applied in fall or spring to Roundup Ready alfalfa. Fall applications will be most effective. Plants should be small at time of application – no more than several inches tall. Spring applications will be most effective during periods of warmer weather.

- Glyphosate can be applied as a spot treatment in the spring in any legume or legume/grass hay field. This treatment will injure or kill all vegetation in the treated area and should be used only when all other control measures have failed.

OSU EXTENSION CALENDAR OF EVENTS

AUGUST 2021

- 4 Cattlemen's Meeting, 6:30 p.m., Ag Credit 2nd Floor Conference Room
- 5 Market Rabbit Pre Fair Registration/Tattooing, 5-8 p.m., Youth Building Fairgrounds
- 9 Livestock, Horse, and Dogs Skillathons, 6-9 p.m.
- 10 Livestock, Horse, and Dogs Skillathons, 6-9 p.m.
- 10 4-H Science Field Trip to Stone Lab, 7 a.m., Put-In-Bay
- 12 Pork Producers, 7 p.m., Fairgrounds
- 12 Ag Chemical Collection Day, 8-3 p.m., Morrow County Fairgrounds
- 14 Sheep 101 Field Day, Dale & Kathy Davis Farm
- 14 Food Preservation-Freezing Basics, 9 a.m., Ag Credit 2nd Floor Conference Room

- 16 Career Exploration Workshop – Nursing, 9 a.m. or 1:30 p.m., Tri-Rivers Career Center
- 22 Horse and Pony Committee, 12 noon, Fairgrounds
- 23 Canner Testing, 11:30-12:30 p.m., Owl Creek Produce Auction
- 30-Sept. 6 Morrow County Fair
- 31 Virtual Food Preservation: Canning Pie Fillings, 4 p.m.

- 16 Plant, Book, & Magazine Swap, 6:30 p.m., Bunker Mill Winery, Cardington
- 18 Morrow County Cattlemen's Banquet
- 21-23 Farm Science Review
- 28 Virtual Food Preservation: Canning Winter Squash, 4 p.m.
- 28 CARTEENS, 6:30 p.m., Ag Credit 2nd Floor Conference Room

SEPTEMBER 2021

- 8 Concrete Pumpkin Make & Take, 6:30 p.m. (RSVP Required), Headwaters Outdoor Education Center
- 8 Agronomy Field Day, 10-3 p.m. (RSVP Required), Headwaters Outdoor Education Center
- 9 Carcass Contest - (Check for time and location)
- 14 Virtual Food Preservation: Preserving Hot Peppers, 4 p.m.
- 15 Canner Testing, 11 a.m.-12 noon, Owl Creek Produce Auction

OCTOBER 2021

- 3 Canner Testing, 10-11 a.m., Owl Creek Produce Auction,
- 4 Morrow County Dairy Association, Time & Place TBA
- 4 Jr. Fairboard, 7 p.m.
- 5 How To Over Winter Plants In The House Program, 6 p.m., Ag Credit 2nd Floor Conference Room
- 21 Horse & Pony Committee, 7:30 p.m., Ag Credit Building, 2nd Floor Conference Room

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