PRIDE
Panhandle Research Integration for Discovery Education

The WEED WATCH

HIGH PLAINS
Weed Management Association

A Publication of the Panhandle Research Integration for Discovery Education
in conjunction with High Plains Weed Management Association

Fall 2009 Newsletter

Scotch Thistle Threat Level High

Cris Burks - PRIDE Member

Scotch thistle is marching its way across the Panhandle and is leaving a path of destruction in its wake.

Scotch thistle is a biennial plant, growing up to 7 feet tall. Each plant produces more seeds than a big swig cup can hold. A plant that tall needs a solid base, so the base of a Scotch thistle can cover a 4-foot circle. Imagine how much grass that base can choke out! The leaves and stem are covered with thorns. Cattle and horses refuse to even walk through dense stands, let alone put their tender noses close to the plant.

Prickly winged stems will help you identify Scotch thistle.

Scotch thistle is a declared noxious weed in several Panhandle counties including Dawes, Sheridan, Morrill, and Banner, but it is present in all eleven counties. The infestation level in pastures and waste areas range from single plants to acres of dense stands.

Several control measures are effective for Scotch thistle. The plants that will seed next year are lurking in the grass or trash from this year's thistle crop. Digging these rosettes to a depth of six inches will eliminate the plants for good! Too many to dig? Several herbicides are labeled for controlling Scotch thistle, and fall is a great time to spray them. A spring follow-up inspection of the property is necessary to find and control any missed plants. Mowing the plants next summer will reduce seed production, but the thick woody stalks will probably damage the mower. Goats will graze Scotch thistle if the plant is less than 18 inches tall.

Invasive weed control is most effective when all the neighbors are working together to control the marching invaders. So visit with your neighbors about a team effort to prevent the introduction of this invading army or to kick the thistle out of your neighborhood. This plant can and will take control of your land if you don't take a stand and fight for good grass and fat cattle or horses.

Your county weed superintendent will gladly assist you in developing an effective control plan to assist in regaining your most valuable commodity: healthy, productive grasslands. Do yourself a favor and control that first plant. For those properties already infested with Scotch thistle, consider the cost of lost grass production and start a control program today!

Scotch thistle marches down the lane armed with millions of seeds ready to invade this property.

Sheridan County Adds Two Weeds to County Noxious Weed List

Kristi Paul – Sheridan County Weed Superintendent

Sheridan County Weed Control Authority has taken aggressive action by adding two weeds to its noxious weed list. ***Houndstongue*** and ***Scotch thistle*** have been added due to the increase in number of acres infested and the increase of the severity of infestations. Greg Ibach, Director of the Nebraska Department of Agriculture, approved the request on July 20, 2009, after receipt of all the necessary steps according to the Nebraska Noxious Weed Act.

Houndstongue, a biennial originating from Europe, invades many areas in northwestern Sheridan County. But it is on the move as its Velcro-like seeds stick to animals, clothing, tires, etc, and easily spread to new locations. Houndstongue spreads only by seeds, so if you can prevent it from flowering and setting seed, you can control it on your property.

Control methods for houndstongue include the following:

Grazing: If they graze intensively, goats will eat the houndstongue at any stage.

Biological control (insects): There is no biological control yet approved for houndstongue in the United States.

Herbicide control: Robert Wilson of the University of Nebraska Panhandle Station recommends one ounce per acre of Cimmaron Plus, with an added surfactant. Other products are recommended in the

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How Common Is Common Mullein?

Stephanie King - NRCS

Common mullein (*Verbascum thapsus*) is a pioneer plant, so it is often the first to grow after a fire or other disturbance. It was introduced into the U.S. probably as a medicinal plant. Since then, it has spread extensively. It currently exists in every state and is considered to be noxious in 20 of them. South Dakota, Wyoming, Colorado, and Missouri all have listed it on their state noxious weed lists. Mullein is not an overly aggressive plant and is usually not considered to be significant. However, certain conditions may allow it to displace natives and prevent the establishment of native broadleaf plants and grasses.

Mullein is a biennial, which means that it takes two years to flower and die. The first year's growth is a low-growing rosette. The leaves are bluish-green with a soft, velvety texture. To survive the winter, the rosette must reach a critical size, and it has to vernalize (have exposure to cold). The next spring, it will bolt to produce a flowering plant with large fuzzy leaves and a single stout erect stem, 2 to 8 feet tall. The flowers, which bloom from June through September, are small, yellow, and very fragrant.

As with most biennials, mullein produces solely by seed – and can it ever! One plant can produce up to 240,000 seeds. As if that were not enough, these seeds can remain viable for over 100 years. The sheer number and longevity of seeds are what make this plant a formidable opponent. While most plants establish within 16 inches of the parent plant, the small mullein seeds can be transported by seedhead movement, wind, water, or large animals. Densities can increase from a mere few to hundreds of plants in just a few years.

Its fast growth and deep taproot allow it to crowd out other plants. According to UNL, heavy stands of mullein can reduce grass population by 50%. However, if grasses are allowed to take over the field, mullein can't compete, so they die, leaving only their dead stalks and a very large seed depository lying in wait. This existing seed supply may produce plants when soil is disturbed.

Mullein can be difficult to control because of its long-lived seed bank. Prevention is best, so always minimize soil disturbances and keep pasture conditions competitive. However, if mullein does become established, several methods of control are available. Small infestations can be treated by hand pulling, digging, or hoeing before seed set or cutting off the head just as flowering begins. Mowing is not a recommended treatment as rosettes will increase in size.

For larger infestations, herbicide will provide good, season-long control. Herbicide is most successful in the spring or fall during the rosette stage. Addition of a good surfactant is essential, due to the leaves' hairy surfaces. Apply herbicides according the University of Nebraska Extension EC-130 Guide for Weed Management. As always, read and follow label instructions.

Mullein does not have to be a problem. It is easily controlled if disturbance is minimal and if treatments are timely, repeated, and thorough. Once mullein is established, it will be more difficult, more expensive, and more time consuming to control. Mullein's seed bank is ever-present and awaiting its next opportunity.

Sheridan County Adds Scotch Thistle and Houndstongue to Noxious List

Continued from front

UNL EC-130 Guide for Weed Management.

Scotch thistle is also a biennial, so it spreads only by seeds. It was brought to the US from Eurasia, and it continues to invade several Panhandle counties. In Sheridan County, it has increased in areas in Gordon, north of Rushville, in and around Hay Springs, and around the Antioch area. This thistle, which reaches 5 to 7 feet tall, produces as many as 500,000 seeds per plant. Once it goes to seed, a landowner will be busy for many years trying to keep it under control.

Control methods for Scotch thistle include the following:

• **Chopping or mowing**: This must be done before bloom stage to prevent seeding. One bit of caution regarding Scotch thistle – if it is blooming and you simply cut the plants off and leave them lay, they have enough energy stored in the plant to produce viable seed.

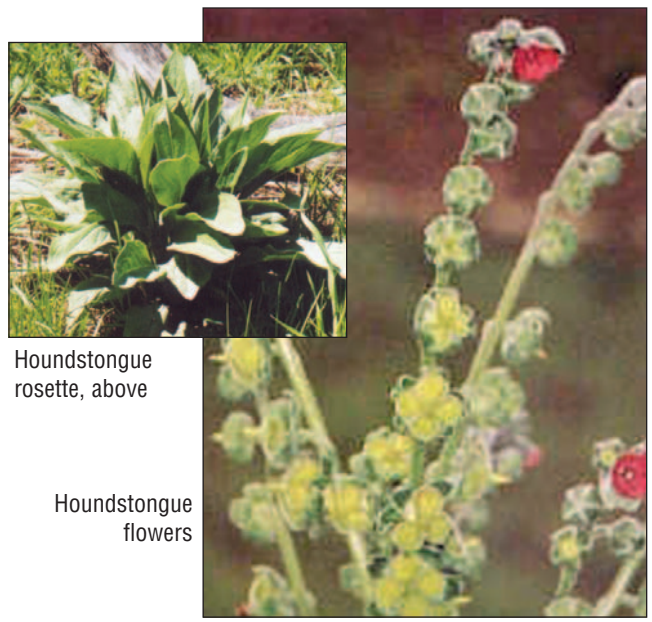
• **Grazing** is an option with goats, but must be done when the plant is in the rosette stage before it is 18 inches high.

• **Biological control**: Currently there are no bio-control insects available to be shipped for Scotch thistle.

• **Herbicide**: Refer to the UNL EC-130 Guide for Weed Management for recommendations. Using herbicides in the fall at the rosette stage will provide excellent control, providing you spray every rosette out there!

Diligently spraying both houndstongue and Scotch thistle rosettes in the fall will prevent having plants that bloom and seed next year. Control of these two noxious weeds is not difficult. Getting all landowners on board to fight these two invaders is the biggest battle.

It is now the law that in addition to all Nebraska noxious weeds, Sheridan County homeowners and landowners must control all three "county added" noxious weeds: houndstongue and Scotch thistle (added this year) and field bindweed (added in 1976).



Houndstongue rosette, above

Houndstongue flowers

Mites Show Success in Controlling Bindweed

Jennifer Cleveland – Chadron Record, Becky Paulsen – Dawes County Weed Superintendent

Field bindweed mites were released in over 300 sites in Dawes County last year. Field bindweed (*Convolvulus arvensis*) is a very aggressive perennial that invades yards, pastures, roadsides, and cropland in the Nebraska Panhandle. In 8 of the 11 Panhandle counties, bindweed is designated a noxious weed and by law must be controlled.

The mites (*Aceria malherbae*), which reproduce three times a year, are one option of control. They live in the roots of the weed during the winter and emerge during the spring. The microscopic mites feed on field bindweed, preventing the production of flowers and seeds. The leaves of the infested plant thicken and turn yellow or brown, causing the plant to die.

Becky Paulsen, Dawes County weed superintendent, said that the best way to stop bindweed growth is to keep the mites in a concentrated area until establishment is confirmed. The infested bindweed can then be manually moved or can spread during mowing. The mites are not harmful to animals or humans, and the only other plant the mites could affect is morning glories.

Proof of the success of the bindweed mite can be seen at Chadron's Solid Waste Agency of Northwest Nebraska (SWANN). Colorado State Department of Agriculture shared the mites, which were introduced three years ago into the compost piles at the waste agency. Paulsen, who has watched the progress over two years, said that a big difference can be seen this summer. "One can tell where the mites have spread by the areas of yellow," Paulsen said. "The yellow leaves and stems on the bindweed show that the plant is sick and dying."

Bill Melton, supervisor of SWANN, has also noticed a big improvement. He mowed the weeds every other week and aided the mites to expand to cover five acres. He also introduced mites into his yard where soon after, the bindweed turned brown.

For more information, contact Becky Paulsen or your local weed superintendent. Paulsen also encourages people in the community who have had positive or negative experiences with the bindweed mites to contact her.

This yellowed bindweed shows the damage caused by mites.

Learning from Experience

Nancy Adler, PRIDE Intern

In mid-July, after spending every minute of my spare time for 30 days with Michelle Wendell of GOATS Company and her 500 "kids", the PRIDE grant with NRCS ("Intensive Grazing on The Upper Niobrara River") has concluded. The sixth and final grazing is complete. Landowners have given their comments in a survey. Biological control insects have been added to two properties. Grass seed has been scattered over every landowner's project area. The final bills are being paid, reports are being written...and PRIDE knows one thing...this has been a learning experience.

When we barely met the grant application deadline, we assumed that participants would be contiguous with enough invasive weed problems to warrant grazing. Then the goats could easily be walked from site to site. Wrong. Upon hearing that we successfully got the grant funds, we were off to find the landowners that were willing to have the grazing and pay a cost share to be part of the project. In a perfect world, these landowners would have all been neighbors, and all of them would have been on board for all six grazings. Wrong. The first two years of the project involved drought, which meant there was not enough weeds, or any plant growth, to sustain grazing by 500 goats! Not good. Another challenge was moving between landowners. PRIDE members work five days a week, and we assumed goats could be moved Monday through Friday. Wrong. The goats don't care what the calendar says when they are ready to move. It might be Saturday or a holiday, but they still needed to be loaded and hauled to the next smorgasbord to do their job of gobbling up tasty forbs such as Canada thistle, houndstongue, poison hemlock and wild licorice, and leaving the grass species behind for someone else to enjoy.

PRIDE members rose to the challenge, and even though county weed superintendents changed and NRD employees changed, we stayed on task. As a result, the landowners who did participate have been pleased with the project and its results. One landowner requested that the project be extended. However, PRIDE works on new and different projects with each grant, so the completion of the grazing project will lead us to something new and different!

All projects that PRIDE members work on have an educational component, and the grazing project will soon be highlighted on a DVD produced for us by Chris Kelly. In addition to watching the goats in action, viewers can see PRIDE members and read landowner quotes.

Following are my top seven reasons why this has been a great experience for me:

- Landowners receive great benefits from grant funds.
- PRIDE members and the intern have made new friendships with the landowners.
- I saw noxious and invasive weeds disappear right before my eyes.
- The goats can graze in areas that have fallen timber and branches, and they consume weeds in what is usually considered inaccessible areas.
- Fertilizing happens naturally.
- Competitive grasses are growing to compete with the noxious invaders.
- The "kids" are so darn cute.

As the intern that PRIDE chose to work on this project, I would like to thank the landowners, PRIDE, Upper Niobrara White NRD, and NRCS for providing the funds for this successful grant project. It was a great pleasure to work with Michelle, Angie and Jerry – the graziers. Scientists call it research...we call it learning from experience.

A River Winds Through It

Stephanie King – NRCS

Niobrara is a Ponca word meaning ***"water spread out horizontal".*** Before the Niobrara River dumps into the Great Missouri, it stretches approximately 430 miles from eastern Wyoming to eastern Nebraska. The Niobrara drops 8 to 10 feet per mile while draining 12,600 square miles of one of the most arid sections of the Great Plains. A prime example of a Great Plains river, the Niobrara is home to over 500 plant species – but for how long?

An invasive species is growing in numbers and threatening other strong native species, such as cottonwood and willows, in their historical habitat along the Niobrara. What is this you may ask? It is the Russian olive (*Elaeagnus angustifolia*), a small, deciduous, thorny tree that can grow 15 to 30 feet tall. It is usually found along streambanks, lakeshores, roadsides, open fields, and dry draws. It is easily identifiable due to its dull green to gray leaves and short, crooked trunks.

The Russian olive tree was put on the Nebraska Watch List in 2006. The Upper Niobrara White NRD will no longer be promoting it for use in windbreaks. Control is difficult at best because of the tree's ability to produce root crown shoots and "suckers". Simply cutting down these trees will not affect them as it is a vigorous resprouter. Russian olive trees are also resistant to fire and usually are quick to colonize a burned area. Cutting Russian olive trees, removing the cut material, and spraying the stumps immediately (within 15 minutes) have so far proven to be the most effective way to attempt eradication. Currently, there is no biological control available.

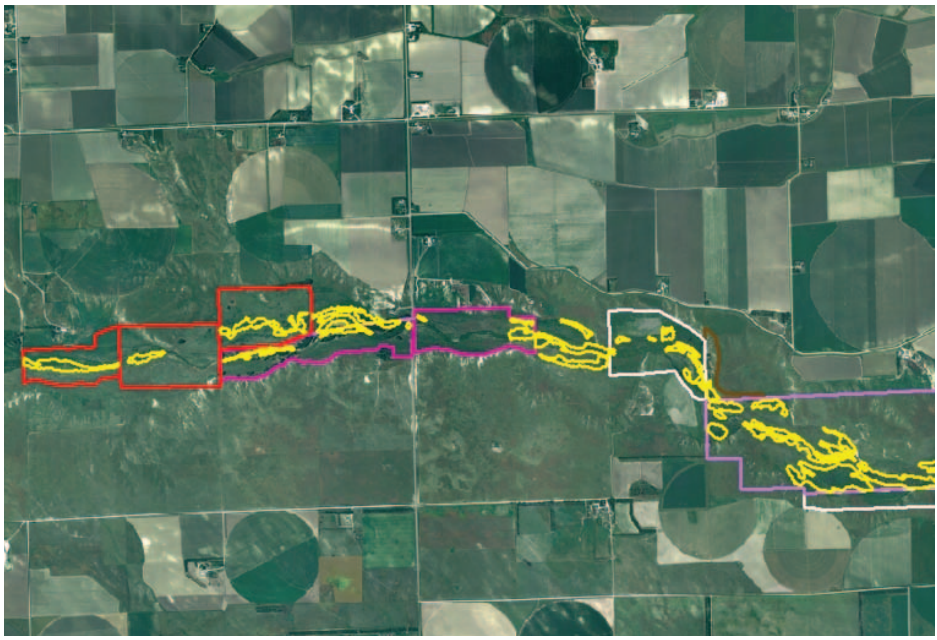
One area of increasing concentrations of Russian olive trees is located along the upper Niobrara River south of Hay Springs. Landowners along this stretch of the Niobrara have witnessed dramatic changes in the hydrology of the river and the corresponding ground water table. Expansive flats adjacent to the river were once productive subirrigated meadows, producing reliable annual hay crops. In the past several decades, the upper Niobrara River has cut deeper to an extent that subirrigated meadows have become drier sites, losing plant diversity and becoming susceptible to drought and erosion. Another result of the shift in hydrology is the current infestation of Russian olive trees, ranging from several trees per acre to dense stands.

Russian olive invades rivers and riparian areas across Nebraska.

Recently, it was determined that 802 acres along 10 miles of the Niobrara River were either covered or otherwise affected by the invasive trees. In January, a group of concerned landowners and conservationists met to discuss sustainable solutions that would restore the native vegetation to the entire 10 miles. As a result of the leadership effort of six landowners having a long-term view of the river resource, a partnership developed between several conservation organizations including Nebraska Game and Parks Commission (NGPC), Rocky Mountain Bird Observatory (RMBO), U.S. Fish and Wildlife Service (FWS), Natural Resources Conservation Service (NRCS), Panhandle Research Integration for Discovery Education (PRIDE), Sandhills Task Force (STF), and the Upper Niobrara White NRD (UNWNRD). Throughout this spring and early summer, the landowners and conservation groups worked together to write a plan. This plan included using Global Information Systems (GIS) to produce a map, obtain bids from several contractors, and develop an individual agreement with each landowner. In addition, the partnership raised funds from several sources including successful grant application written by PRIDE.

The project work will take place in September and is expected to last for approximately 20 days. Each tree will be mechanically cut at ground level, followed immediately by a chemical treatment of the stump. Removed trees will be taken to central locations and piled to be burned when conditions permit. Research and previous projects have proven that some regrowth of trees the following years should be expected. To ensure that this year's effort is not undermined, participating landowners will have access to herbicide treatment of regrowth for the two years following the initial mechanical removal. In addition, a monitoring plan has been established by the NRCS and Sheridan County Extension consisting of photo points and individual site evaluations. Several of the landowners plan to adopt a grazing system, that will allow the limited grazing along the river and promote the return of native shrubs and willows.

Everywhere you go in the West you will find Russian olive trees, and little if anything can compete with it. It will displace the understory, and become the overstory – and that's our story.



Sheridan County Russian olive removal project.

PRIDE serves as a cornerstone to build and maintain partnerships between the many cooperators in invasive weed management and education. With this collaborative effort a more efficient and successful approach to invasive weed management and awareness is achieved. PRIDE's efforts in pooling of funds and resources from contributors will result in a compounding of investments and rewards.

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New Partnership Program Available to Fight Invasive Weeds

Kristin Miller – NRCS, Sidney, NE

Several organizations are joining forces to continue the battle to reduce invasive plants along many of the river corridors in the western two-thirds of Nebraska.

The USDA Natural Resources Conservation Service (NRCS) is offering $1.5 million statewide in cost-share assistance to landowners who have recently had riparian corridors sprayed for invasive weed control or who will soon have such work completed. Landowners in five targeted river basins have recently signed the first contracts of this type. Funds are coming through the NRCS Environmental Quality Incentives Program (EQIP) or Wildlife Habitat Incentives Program (WHIP).

Landowners in the North and South Platte River basins are eligible to participate in this new partnership program. Also eligible are landowners along with other areas of the state that are deemed fully or over-appropriated basins for surface and/or groundwater,

The NRCS office in Sidney is partnering with the Nebraska Department of Agriculture and seven Weed Management Areas, including the High Plains Weed Management Association, to enhance weed-control actions. Recently, the state NRCS office has been leading actions to control noxious weeds along many river corridors.

The funds are coming to the state as a new option in the 2008 Farm Bill, called the Cooperative Conservation Partnership Initiative (CCPI). This initiative allows federal funds for individual landowners to be leveraged with partner agencies, organizations, or tribes to address natural resource concerns. The $1.5 million is for this year. However, similar amounts are projected to be available each of the next two years of the three-year project. In future years, there will be a continuous sign-up available to landowners and producers.

"The funds through NRCS will be an additional tool for landowners and the Weed Management Areas for invasive vegetation removal," said Greg Ibach, director of the Nebraska Department of Agriculture. The removal of invasive vegetation helps with stream flow, water management, and water conservation. It also adds recreational options and improves value of the land for agriculture or forestry purposes, he said.

Some of the invasive plants being targeted include Russian olive trees, phragmites (a grass that can grow 15 feet tall in river channels), and saltcedar (a perennial tree or shrub that spreads easily). All three species displace native species and use more water than native species.

For more information about CCPI, contact any NRCS office or county weed commissioner. Information is also available on the Nebraska Department of Agriculture web site at www.agr.ne.gov. Additional information on the 2008 Farm Bill programs including EQIP, WHIP, and CSP is available on the NRCS national web site at www.nrcs.usda.gov/programs or the Nebraska NRCS web site at www.ne.nrcs.usda.gov.

Russian olive removal by High Plains Weed Management Association.

Opinions Vary Regarding Russian Olive Trees

Paul Beaver – High Plains Weed Management Association

In my short time with High Plains Weed Management Association, I have discovered that the Russian olive tree (*Elaeagnus angustifolia* L.), a species native to southeastern Europe and western Asia, is the catalyst for more debate than any tree I personally have been exposed to. Of course, our objective here at High Plains WMA is to eliminate as many Russian olives trees as we possibly can while we have the funding available. With a very generous grant from the Nebraska Environmental Trust, we have made a pretty good start. To date, roughly 3,400 acres of Russian olive trees have been cleared from the North Platte and many of its tributaries. Some landowners have chosen to remove eastern red cedar trees as well.

The wildlife/hunting aspect gets most people excited when speaking of Russian olive trees, and these tales range as far as the trees themselves. To some, Russian olive trees provide the best cover and habitat for whitetail deer. The next landowner will boast of all the deer they have since the Russian olive trees left their landscape. Our feathered friends are not forgotten, and it seems the wild turkey reigns supreme when it becomes ruler of the roost in the canopy of the trees. There is also talk of ducks and geese actually landing in the trees. I do not know if there is any truth to all these stories, or maybe they are all true to a degree. I am pretty sure that each story is a delight to listen to. It is the richness in personalities that has always drawn me back to western Nebraska.

The fact remains that High Plains WMA is still taking applications for both removal and regrowth treatment of Russian olive trees. So if your management plan calls for a reduction in Russian olive trees, call us at our office in Scottsbluff (308-633-1264). Who knows – maybe your story or opinion will be a new one that we have not heard yet. But I guarantee that your input will always be welcome. We look forward to hearing from you and discussing your future riparian improvement project.

Weeds to Watch for on Your Property in Nebraska

Amur Honeysuckle

Autumn Olive

Caucasian Bluestem

Crown Vetch

Dalmation Toadflax

Damesrocket

European Buckthorn

Garlic Mustard

Hoary Cress

Hoary Allysum

Hairy Whitetop

Livestock Grazing Management – An Important Part of Noxious Weed Management

Lora O'Rourke – US Forest Service

Healthy rangelands can fight against noxious weeds. Identifying your rangeland plants (grasses, forbs, and shrubs) is the first step in evaluating your ranch's general rangeland health. Also, understanding how they respond to grazing pressure and how to keep them healthy will help you develop an overall plan to fight against noxious weed invasion, competition, and establishment.

Your rangeland needs to remain healthy and producing the greatest amount of forage for long-term livestock production. This occurs when rangeland contains plant species such as western wheatgrass, sideoats grama, big bluestem, and threadleaf sedge. What plants exist largely relates to your livestock grazing management system.

All plants respond differently to livestock grazing pressure. The grasses that livestock prefer are called "decreasers" because they decrease over time with grazing pressure. If these grasses are grazed over and over and are not allowed to regrow, produce seed, and store root reserves, then they eventually die out. They are replaced with "increasers" – plants such as red threeawn, broom snakeweed, bottle brush squirreltail, and cactus. These plants, which are undesirable to livestock and most wildlife species, will increase with grazing pressure. Noxious weeds fit in the "invader" category. Invaders are plants that invade areas of rangeland where the native vegetation has been disturbed or is no longer productive, overgrazed, or in a weakened state such as being heavily grazed during a long-term drought. Invaders can increase rapidly in deteriorated rangelands.

To remain healthy, rangeland grasses must be allowed to retain enough leaf material to carry on photosynthesis. This is required for them to grow, build root reserves, and reproduce. If desirable grasses are grazed by livestock repeatedly and continuously throughout the growing season, the grass plants will try to replace grazed leaves through regrowth, which uses stored root reserves. If sufficient root reserves are gone once fall and winter come, the plant will die. The desirable plant will be replaced by "increasers" or "invaders". Once these become established, it is very costly or impossible to get rid of them and restore the once-productive rangelands.

Cattle grazing sideoats grama grass.

Livestock rotation grazing management practices help keep native rangeland grasses healthy by removing cattle from a given pasture during a part of the growing season. Many types of grazing rotation systems exist, including short-duration grazing, deferred rotation grazing, and rest rotation grazing. Many ranchers have been practicing these types of grazing systems for years, adjusting and modifying the system to fit their specific livestock numbers (stocking rate), rangeland productivity, terrain, and vegetation types.

Short-Duration Grazing

Short-duration grazing emphasizes improvement of range condition by using high grazing pressure to increase uniformity of forage use with sufficient non-grazing time for plants to regrow following grazing.

Short-duration grazing involves rotationally grazing three or more pastures and moving cattle frequently according to forage availability and management goals. Each pasture is grazed once during the grazing season. Ideally for this area, the season lasts from June 1 to October 10. In addition, each pasture is in a rotation system, so it is not grazed at the same time of the growing season every year. These practices allow grasses to recover and regrow after the grazing period. Many landowners may be tempted to use the pastures more then once in a growing season. However, this will result in the good plants being overgrazed. Eventually they will die out and be replaced by non-favorable plants.

A modified short-duration, high-intensity grazing system uses higher livestock numbers, or stocking rate. Cattle spread out over the pasture and utilize all available forage more evenly. With fewer larger pastures, cattle tend to overgraze the more accessible areas near water and underutilize the far corners of the pasture or steeper terrain.

However, short-duration grazing is more labor and management intensive. It requires more fencing and sometimes more water development. Pastures must be checked frequently because damage can be done quickly if livestock are allowed to overgraze a pasture.

Deferred Rotation Grazing

Deferred rotation grazing involves rotating four or five pastures with each one being grazed only once during the growing season. The last pasture in the rotation is not grazed (it is "deferred") until the end of the season when plants have reached full growth. Every fourth or fifth year a different pasture is deferred and allowed to gain vigor following several consecutive years of being grazed during the growing season. The rotation of the other pastures is staggered as well. Of course, each operation is different; adjustments should be made according to topography, water, accessibility, class of livestock, and current range condition.

Rest Rotation Grazing

Rest rotation grazing allows one year grazing in a pasture with that pasture totally rested the following year. This system allows degraded rangeland to recover more quickly. Rest rotation works well in rugged terrain where livestock distribution is a problem.

Points to Keep in Mind

- Periodically resting pastures promotes plant succession, increases desirable species, reduces and improves sacrifice areas, improves forage harvest efficiency, and reduces animal selectivity.
- Stocking rates should be adjusted according to the carrying capacity of the rangeland.
- Livestock should be moved out of a pasture once utilization levels reach 50%.
- For more information on calculating stocking rates or setting up a livestock rotation plan for your ranch, contact your local Natural Resources Conservation Service or county Extension Educator.

Remember – by properly managing rangelands, you reduce the possibility of the introduction or spread of noxious and invasive plants.

*For more information about **The Weed Watch,** or to obtain extra copies, contact Kristi Paul at Sheridan County Weed Control, 308-327-5629.*

Weed-Free Forage on National Forest Lands

Leslie Stewart-Phelps – US Forest Service

The North American Weed Management Association started administering the Weed-Free Forage program in the late 1990s. The goal of the program is to reduce the spread of noxious weeds. The Nebraska National Forest has adopted the principles of this program to reduce the introduction of weed seeds in animal forage products that are brought onto National Forest lands.

Requirements of the Nebraska National Forest

The Nebraska National Forest requires users of horses, llamas, and other recreational livestock to use only certified weed-free forage while on Forest lands. In Nebraska, this area includes much of the Pine Ridge south and west of Chadron, the Soldier Creek Wilderness west of Fort Robinson, the Oglala National Grasslands north and northwest of Crawford, the Bessey Ranger District near Halsey, and the McKelvie National Forest near Valentine. Specifically, the order prohibits the following:

> "Possessing or storing any hay, hay cubes, straw, grain, or other forage or mulch product, without original and current documentation from a state certification process which meets or exceeds the North American Weed Free Forage (NAWFF) or comparable certification standard."

It goes on to say, "Tags, twine, or other certification marking is required on all individual bales, containers, sacks, etc. as required or provided for by the product's state of origin."

How to Certify Weed-Free Forage

The requirements for certifying weed-free forage across the nation are extensive. For more information, see the website www.weedfree.org/Program_Information/. In Nebraska, 54 noxious weeds must not be present in a seed-bearing or propagative state when the forage is harvested. The certification process starts by calling county weed superintendents. They are listed on the front of this issue of *Weed Watch*. Typically, the county weed superintendent inspects the field within 10 days of harvest and certifies that noxious weeds are not present or that they have been controlled in the proposed field. The inspection is not designed to certify that no weeds are present, just the 54 listed weeds. After the field is harvested, certificates of inspection and bale tags are issued. The tags are a visual indicator that the bales are certified. Transit certificates are issued as needed. These certificates show that the forage has been certified and that a specified amount of forage may be transported using that transit certificate.

How to Obtain Weed-Free Forage

The best way to find out who has weed-free forage to purchase is to call the county weed superintendents (listed on the front page). They typically have a list of local forage producers whose feed has been certified. Another contact is the Nebraska Weed-Free Forage Coordinator, Jan Bruhn (308-487-3755).

Other Considerations

Other states use different designs of tags or various colors of twine to designate certified feed. People traveling to Nebraska National Forest lands, regardless of where they purchased their forage, should be able to show that it is certified, preferably by carrying the transit certificate while on Forest lands.

Not only animal feed is required to be weed-free. Bedding material such as straw must similarly be certified.

Feed remains in animal digestive systems for up to 48 hours, and not all weed seeds are killed by the digestive processes. Therefore, although it is not required, animals should be eating weed-free forage for several days before coming onto Forest Service land.

Other federal or state lands may also have requirements for using only certified weed-free forage. Before taking your animals onto any state or federal property, call to see if these requirements are in place.

For more information about the weed-free forage program, see the following website: http://www.nawma.org/.

Weed Control Alternatives for Organic Farming Situations

Jan Bruhn – Box Butte County Weed Superintendent

Being an "organic" producer does not excuse that producer from controlling noxious and invasive weeds. The Nebraska Noxious Weed Control Act is very explicit in stating, "It is the duty of each person who owns or controls property to effectively control noxious weeds on such property."

Summer is giving way to cooler temperature and shorter daylight hours. That can mean an end to the fresh garden produce and fresh field crops. But it doesn't mean an end to weed-fighting efforts. Fall preparation for spring planting includes eliminating or at least controlling the spread of weeds whether in fields or gardens. By looking at some of the methods of weed control offered and used by "certified organic" producers, we may pick up some timely tips for weed control without using herbicides.

A distinction should be made between ordinary weeds (plants out of place) and noxious weeds. Ordinary weeds can be troublesome – even difficult to control. But noxious and invasive weeds are those that require a determined and planned effort at control. Noxious weeds are named to a state's noxious weed list because they present an economic or aesthetic threat. Nebraska noxious weeds are musk thistle, plumeless thistle, Canada thistle, spotted and diffuse knapweed, leafy spurge, purple loosestrife, saltcedar (aka tamarisk), and phragmites. None of Nebraska's noxious weeds are native to the state. Counties may add other weeds that are especially problematic within their counties. **Several Panhandle counties have added bur ragweed, scotch thistle, houndstongue, and bindweed.**

Understanding growth patterns of the weeds – whether annual, biennial, or perennial – will help determine the method or practice that will most effectively gain control. Annual weeds are relatively simple to control. Removing the growing point, the root system after plant emergence, or the seeds (before emergence and after flowering) controls the plant. Mowing or tilling at the proper time usually controls annual weeds.

Noxious weeds are most often either biennial or perennial and are more difficult to eliminate. As the name implies, biennial weeds require two years to complete their life cycle. They develop from seeds and usually establish rosettes during the first year's growth. Biennials then bolt and send an elongated flowering stem that produces seeds during their second year. Musk and plumeless thistles and spotted and diffuse knapweeds fall into this category. When controlling these biennial weeds, the seeding process must be stopped by digging the plant, collecting all seeds, and disposing of the entire plant. Routine spot checks must be made to keep biennial weeds from becoming established as seed may become established after being transported.

Perennial weeds can be especially problematic. Perennials are those that can live for three or more years – recurring year after year from rootstock. They reproduce from both seeds and roots. Nebraska's noxious weeds in this category are Canada thistle, leafy spurge, purple loosestrife, and phragmites. Perennial weeds can be controlled by stopping the seeding process and reducing the root system. For small areas, black plastic or similar material can be placed over the entire weed patch when the plants are very small. Care must be taken to cover more than the weed patch so the weeds do not send out new sprouts. Research shows that tilling perennial plants every 10 days during the growing season will greatly reduce the plant population. This process may need to be continued for 3 years. (Remember to clean tillage equipment before leaving the infested area to prevent the spread of plant parts.)

Another alternative for noxious weed control is biological agents such as insects. Several organic operations in the Panhandle have successfully controlled certain noxious weeds with these agents. As weed control professionals acquire and establish more biological control agents for different noxious weed species, they will in turn be able to share more information. Check with your county weed superintendent for more information.

Being an organic producer offers many rewards, but it also has great challenges, one of which is controlling weeds without herbicides. It is definitely possible to do so. One thing is certain, however. Control of noxious weeds is not an option; it is the law, even for organic farmers.

Kids' Page

Dilemma

While walking on a local trail, you picked a bunch of wildflowers because you thought they were pretty. Now you are not so sure you should have picked them and you are tired of carrying them anyway. What should you do?

__ A. Throw them down next to the trail out of sight.
__ B. Carry them to the nearest trash can and throw them in the trash
__ C. Offer them to your friend. Pretend you picked them for her.
__ D. Other

Answer below.

Wildflowers

Leafy Spurge

HIDDEN WORD FIND – Conservation stewards know that responsible landowners and other land users take pride in their management efforts to control weeds on public and private lands in order to protect our environment. Sometimes the greatest challenge is to identify noxious weeds before they spread, and apply the best tools for each situation. Find the weeds among the resources and assemble the tools for success. Need help? Create a task force!

Words are arranged horizontally, vertically, and diagonally, forwards (left to right) backwards (right to left) and top to bottom or bottom to top. Good luck! Have fun and enjoy!

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N	M	R	S	A	U	Q	P	O	T	E	T	I	H	W	C	I	N	A	G	R	O	L	B
D	O	I	T	N	C	L	X	U	I	P	L	P	Z	A	N	O	I	T	A	C	U	D	E
O	M	P	G	N	O	I	N	T	E	N	S	I	V	E	M	A	E	B	L	O	G	L	V
W	U	A	M	C	O	N	S	E	R	V	A	T	I	O	N	C	P	O	R	M	Q	I	I
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Awareness
Bindweed
Bio-control
Broadcast
Canada thistle
Cattle
Competitive
Conservation
Cooperators
Cropland
Education
Fire
Flowers
Galls
Grassland
Grazing
Goats
Habitat hero
Houndstongue
Insect
Intensive
Invasive
Landowners
Latura
Management
Mites
Mullein
Noxious
NRCS
Organic
Partnerships
Prevention
PRIDE
Poison hemlock
Rangeland
Riparian
Research
Russian olive
Scotch thistle
Seeding
Stewards
Success
Task force
Tortoise beetles
Vegetation
Website
Weed free forage
Weed Watch
Wild licorice
White top
Youth

Answer to Dilemma: B.

Noxious Weed Prevention

We invite our young readers to submit articles about invasive plants and their control. Our first contributor is 13-year-old Adrian Thomson.

Adrian Thomson

Have you ever wondered why those little burrs called houndstongue stick to your clothes just as you get out of the truck to go hiking and when you are further into the mountains you don't see as many? They are noxious weeds. They stick to clothing to go from place to place to spread the species everywhere. Houndstongue are found along the roadsides because of soil disturbance which allows for the weeds to get established, so the further from the road less plants are found. Other weeds spread pollen through the air to travel long distances. Others expel their seeds from a capsule which soar several feet from the main plant. Vehicles are another way weeds travel. Diffuse knapweed acts as tumbleweed and gets entangled in the vehicles frame when run over. This paper is about different kinds of noxious weeds and how I'll spread the word about them.

Noxious weeds are harmful plants that usually come from different parts of Asia to North America either accidentally, purposefully, or just because they look unique. Even though they look pretty or were thought to be beneficial at one time, they wipe out entire fields by stealing nutrients from other plants growing around them, drive woodland creatures off their once fertile habitat to look for native species, and make domesticated animals sick or sometimes even kill them. You see, noxious weeds can become a real problem if they are not controlled. Many people are affected by noxious weeds; ranchers whose cattle can die from noxious weeds or have poor nutrition from eating the weeds are concerned as well as farmers whose crops are decreased by the weed invasion. Persons who enjoy observing/hunting wildlife are concerned as well. Noxious weeds invade and take over native plants that wildlife thrives on.

When noxious weeds need to be controlled there are several methods to use. One method is herbicides, or chemical poisoning. The best time to spray the herbicide is before the plant matures and produces seeds. Herbicides need to be handled and used with extreme caution. Biological is a method that uses insects. The insects usually destroy the weed. One way they destroy the weeds is by laying eggs inside the plant stem, seed head, or roots where the larvae eat the inside of the plant after they hatch. Insects also irritate the plant to the point that it breaks out in galls. A gall is a type defense that the plant uses. Another method is mechanical, which means to actually remove and destroy the weeds. Some ways of doing this are disking, cutting or mowing. This is usually done when the weeds are widespread and take up a large area.

The first step on the path to control noxious weeds is education. If you identify houndstongue or other noxious weeds you can be a contributor to weed control. Something as simple as pulling a familiar noxious weed out of the ground can contribute to the need of protecting our natural resources. Become familiar with the different types of noxious weeds in your area so you can recognize and prevent them from spreading. These areas can even be your backyard, fields and open spaces in towns and cities. Contact your local agencies (County Extension, Bureau of Land Management, Forest Service, etc.) for noxious weed prevention, the internet or the CWMA (Cooperative Weed Management Area) to find out what different kinds of noxious weeds look like. By getting more people who enjoy, recreate or manage their land to get involved with weed identification, a balanced ecosystem can be obtained.

All in all, noxious weeds will always be a problem, but with continued efforts of dedicated individuals and agencies, we can keep them at bay. The noxious weeds I am familiar with are houndstongue, Dyers woad, henbane, white top, pepperweed, and diffuse knapweed. Sometimes you can gather Dyers woad for a fee, paid by the county. So the next time you come across a noxious weed, pull it out and dispose of it properly.

The ABC's of Successful Fall Weed Control

By Kristi Paul, Sheridan County Weed Superintendent

A. Most research and information available will agree that herbicide control of noxious and invasive weeds is most successful just before a hard frost, when the plant is pulling nutrients down into the root system to try to survive the winter. Applying herbicide at this time will get the product right down into the roots.

B. Recent work done by Robert Wilson of the University of Nebraska Panhandle Station found that even at hard frost, thistles that were sprayed resulted in excellent control. Canada thistle does not die until the temperature stays at 21 degrees for several hours.

C. Dow AgroScience's Milestone herbicide is excellent for all types of thistle, especially Canada thistle, musk thistle and Scotch thistle.

D. Plateau herbicide, made by BASF, is excellent for controlling leafy spurge, houndstongue and cheat grass.

E. What many folks don't realize is that Milestone doesn't touch leafy spurge, and Plateau doesn't do anything to control thistles! Each product was made with a certain weed species in mind to control.

F. Thousands of hours and millions of dollars are spent to create just one herbicide. Scientists have done the work and put all the valuable information on the label for you, so always read and follow the label directions. The label is the law.

G. If your recent weed control efforts are not very successful, maybe you need to try a different herbicide, with a different mode of action. Weeds can become tolerant to the same herbicide used year after year, so think about "switching up". The University of Nebraska EC-130 Guide to Weed Management recommends several options for herbicides that can be used to control each noxious or Watch List weed. Your County Extension Office has the EC-130, and for a few dollars, it is a great source of information.

H. Once your crop is harvested, fall is an excellent time to get the noxious weeds controlled on your center pivot.

I. Of course the most important step to obtain success is just quit making excuses and "get 'r done"!

Good Neighbors Control Noxious Weeds!

Nebraska's Noxious Weeds

Canada Thistle

Diffuse Knapweed

Musk Thistle

Leafy Spurge

Phragmites

Plumeless Thistle

Purple Loosestrife

Saltcedar

Spotted Knapweed

It is the duty of each person who owns or controls land in Nebraska to effectively control noxious weeds on such land.