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ANIMAL SCIENCE E-NEWS

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DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Grazing Management of Brassica

Kenny Simon, Program Associate – Forages

The decision of when to start grazing the brassica can be complicated. Although the leafy tops may reach a size adequate for grazing in 40 days after planting in fall, highest leaf yield and bulb production occur after 60 days. Resistance to frost damage varies among varieties with tillage radishes showing the lowest tolerance to freezing weather and Winfred rape showing the highest freeze tolerance among those tested. Cold tolerance is increased when temperatures cool gradually during fall allowing the plants to "harden". Sudden freezing temperatures without a cold acclimation period can cause serious injury to brassica forage.

Some producers have observed that livestock refuse to graze brassica forage at first turn-in. This is common with livestock that have never been exposed to brassica forage. To train the animals, allow access to a small area of brassica forage until they begin grazing. Provide hay or other feed to insure adequate nutrition. During the training period livestock tend to consume all other available forage before grazing the brassica. This transition period may take up to 4-5 days. Afterward the livestock will consume the brassica normally.

Brassicas may be managed for multiple grazings or managed for stockpiling. When managing for multiple grazings, it is important to leave tall stubble after the initial grazing, because regrowth is initiated from the crown. Grazing can begin when the plants have reached 14 - 16 inches tall and should end when the forage is grazed down to 6 - 8 inches in height. Re-growth may be grazed in as few as four weeks after the first grazing. During the second or final grazing allow the livestock to consume the entire plant, including the bulbs (for turnip and radish varieties). When managing for stockpiling allow the brassica to accumulate growth until the first frost. Minimum growth will occur during the winter. Due to the high moisture content of the plants, brassica need to be consumed by early January, to prevent significant yield loss from freeze damage.

Controlled grazing management is more important when grazing brassicas compared to grasses. Grazing large areas at a low stock density will increase trampling and waste of the available forage. Strip grazing, by using single-strand temporary electric wire, provides efficient utilization.

A back wire is not needed when grazing after freezing weather since the forage is dormant and not growing. The concept is similar to feeding hay but using an electric wire to control access to the forage. The fence protects the ungrazed forage and can double the grazing days per acre. Many producers prefer to move the electric wire to a new strip of pasture twice a week, but the interval can be as long or short as needed for the operation. It is best to start strip-grazing nearest the water source then advance the wire across the field.

Forage quality of brassicas is very good. However, brassicas are too low in fiber (NDF) for maintenance of proper rumen activity for cattle, therefore ruminant diets should not contain more than 75 percent brassica forage. Planting brassica with small grains can provide more fiber from the grass in the mixture. Alternatively, dry hay can be kept available free-choice or access can be provided to a stockpiled grass pasture while animals are grazing brassica pasture.

Turnip bulbs can provide a significant feed source with excellent crude protein and TDN content. Grazing livestock usually learn to graze bulbs as well as tops in late fall and winter.

Brassica crops can cause health disorders such as bloat, acidosis, or trace mineral deficiency in grazing animals if not managed properly. Risk from these disorders can be reduced by adhering to these basic management rules:

- Introduce grazing animals to brassica pastures slowly. Avoid abrupt changes from dry summer pastures to lush brassica pastures. Don't turn hungry animals that are not adapted to brassicas into a brassica pasture.
- Brassica crops should not constitute more than 75 percent of the animal's diet. Supplement with dry hay, plant brassica in mixture with small grains, or allow access to a stockpiled grass paddock if continually grazing brassicas.
- Livestock grazing brassicas should always have access to a complete trace mineral salt supplement containing iodine.

For more information refer to FSA 61 Brassica for Forage https://www.uaex.edu/publications/PDF/FSA61.pdf ■

Vesicular Stomatitis

Mark Russell, Associate Professor - Equine

Recently Arkansas has seen an outbreak of Vesicular Stomatitis (VS) in the northwest corner of the state. As of press time of this article, there were four confirmed locations in Benton County. Restrictions for moving horses in this area are ever changing and can be found at https://www.agriculture.arkansas.gov/livestock-poultry/vesicular-stomatitis-vsv-found-in-arkansas/.

Most horse owners are not familiar with this particular disease since it is not seen as frequently as some other illnesses. What exactly does VS look like and what can we do to prevent it? The American Association of Equine Practitioners (AAEP) offers information regarding the disease to horse owners:

Vesicular Stomatitis (VS) is a contagious disease that afflicts horses, livestock, wildlife and even humans. The disease is caused by a virus, which although rarely life threatening, can have significant financial impact on the horse industry. Vesicular Stomatitis is a reportable disease; in a suspect case, state and federal animal health authorities will be contacted by your veterinarian. When a case of vesicular stomatitis is confirmed, your state veterinarian's office will quarantine the affected farm or ranch. In an effort to minimize risk of spread of the disease, horses and other susceptible species will be confined to that location for at least 14 days from the onset of the last case on that property. Equestrian event organizers may also choose to cancel horse shows, rodeos, and other equestrian activities in the surrounding area. Interstate and international movement of horses may also be restricted.

Clinical Signs & Diagnosis

When vesicular stomatitis occurs in horses, blister-like lesions usually develop on the tongue, mouth lining, nose or lips. In some cases, lesions can develop on the coronary bands, or on the udder or sheath. When VS is suspected, an exact diagnosis should be obtained by testing the blood for virus-specific antibodies or by testing swabs from the lesions to identify the presence of the virus. Testing is necessary to rule out the possibility that the lesions are caused by photosensitivity (sunburn), irritating feeds or weeds, or toxicity from non-steroidal anti-inflammatory medications like phenylbutazone.

VS should not be confused with foot and mouth disease (FMD), which does not affect horses, and was eradicated from the U.S.A. in 1929. The incubation period for vesicular stomatitis – meaning the time from exposure until the first signs appear – ranges from 2 to 8 days. A fever may develop initially as blisters form on the tongue, gums, or coronary bands. One of the most obvious clinical signs is drooling or frothing at the mouth and potentially a reluctance to eat. This occurs following rupture of the blisters that create painful ulcers in the mouth. The surface of the tongue may slough. Excessive salivation is often mistaken as a result of a dental problem just as a horse that is not eating well may be suspected as having colic. Weight loss may be a secondary effect, as a horse with mouth ulcers finds it too painful to eat. If lesions form around the coronary band, inflammation within the foot may result in lameness or laminitis. In severe (but rare) cases, the lesions on the coronary band may cause the hoof to slough.

The disease generally runs its course within two weeks, although it may take as long as two months for the sores to entirely heal. Live virus can often be isolated from the lesions for up to a week after the lesions appear. During this time, the horse remains infective and the potential remains for the disease to spread to other animals.

Treatment

While a horse is suffering from vesicular stomatitis, feeding

soft feeds may reduce mouth discomfort. Anti-inflammatory medications may be used as supportive care help to minimize swelling and pain so a horse will continue to eat and drink. If the horse becomes dehydrated from not drinking enough water, your veterinarian may need to provide additional supportive care using intravenous fluids. Secondary bacterial infection of ulcerated areas is another concern. If fever, swelling, inflammation or pus develops around the sores, treatment with antibiotics may be required. Flushing the mouth regularly with a dilute antiseptic solutions, such as chlorhexidine in water, may reduce secondary bacterial contamination of the sores and speed healing. However, there is little more an owner or veterinarian can do but wait for healing to occur and take appropriate precautions to minimize the risk of spread of the disease to other horses and livestock.

Disease Transmission

There are still some questions regarding how vesicular stomatitis is transmitted and why it only occurs sporadically in the U.S. The disease is distributed only in North, Central, and South America, with a greater incidence in warmer regions. Due to the seasonal occurrence of VS during summer through early fall, it is believed that insects such as biting flies and midges contribute to maintaining the lifecycle of the virus. Black flies, sand flies, and midges are known to transmit the virus, but there may be other insect vectors that have not yet been identified. VS also can be passed from horse to horse by contact with saliva or fluid from ruptured blisters. Physical contact between animals, or contact with buckets, equipment, housing, trailers, feed, bedding, shared water troughs or other items used by an infected horse can provide a ready means of spread.

Prevention

- By observing the following guidelines you can help prevent the occurrence of VS:
- Healthy horses are more disease resistant so provide good nutrition, regular exercise, deworming and routine vaccinations.
- • Isolate new horses for at least 21 days before introducing them into the herd or stable.
- Observe your horse closely. Immediately isolate any horse that shows signs of infection and contact your veterinarian.
- Implement an effective insect control program. Keep stabling areas clean and dry. Remove manure and eliminate potential breeding grounds (standing water, muddy areas) for insect vectors.
- Use individual rather than communal feeders, waterers, and equipment.
- Clean and disinfect feed bunks, waterers, horse trailers and other equipment regularly.
- Be sure that your farrier and other equine professionals who come into direct contact with your animals exercise due care so as not to spread the disease from one horse or facility to the next.
- On farms where VS has been confirmed, isolate any animals with lesions away from others and handle healthy animals first, ill animals last. Handlers should then shower, change clothing and disinfect equipment to prevent exposing others.
- Anyone handling infected horses should implement proper biosafety methods, including wearing latex gloves and washing hands after handling animals with lesions.
- If you are sponsoring an event during an outbreak, require a more recent health certificate on every horse entering the venue and consider having a veterinarian visually inspect all horses at check-in. Work with your event veterinarian to establish isolation and response procedures that can be implemented quickly if a suspect case is identified at the venue.

Vesicular Stomatitis In Humans

Humans can contract vesicular stomatitis from infected horses. Therefore, it is important to follow proper biosafety measures when handling infected horses to protect yourself from contracting the virus. Precautions should include wearing latex gloves and avoiding direct contact with the horse's saliva or blister fluids. Special care should be taken to keep mouth, eyes and any open wounds from being exposed to infection. Horses may sneeze or snort infective secretions, so you should stand to the side to avoid being sprayed in the face.

Vesicular stomatitis in humans tends to cause severe flu-like symptoms such as headache, fever, muscle aches, and extreme fatigue. People rarely develop blisters in their mouths. However, if you experience influenza-like symptoms after working with a VS-infected horse, contact your physician immediately.

Vaccines And Disinfectants

Vaccines have been developed experimentally to help combat vesicular stomatitis, but none are currently approved for use in horses. There is considerable debate over the efficacy of vaccination in preventing or reducing the severity of an outbreak. The period of protection is thought to be fairly limited and once vaccinated, animals will test positive for long periods of time thereby incurring travel restrictions.

Sunlight and heat are known to quickly destroy the virus that causes vesicular stomatitis. Commercial disinfectants such as chlorine bleach (0.645%), Wescodyne (4 %), Roccal (1:200), Septisol (1:50), and cresylic acids (1 %) are also effective.

Working With Your Veterinarian

By working closely with your equine veterinarian, you can develop strategies to reduce the likelihood of a vesicular stomatitis outbreak, or to minimize the effects should one occur. Veterinarians and owners who suspect that an animal has vesicular stomatitis should immediately contact state or federal animal health authorities.

Information for the article was taken from the AAEP at https://aaep.org/horsehealth/vesicular-stomatitis-horses. ■

Alfalfa in Arkansas

John Jennings, Professor – Extension Forage Specialist

Many producers are evaluating their forage program and are contemplating whether to add alfalfa to improve hay quality. Alfalfa is one of the highest yielding and highest quality forages. Managed properly, stands can be very productive for 5-10 years. Stand persistence is directly dependent on site selection and attention to details for establishment and management.

Seasonal Overview: In Arkansas, alfalfa can usually be harvested four to five times per year. Varieties recommended for Arkansas go dormant in winter. Plants may retain green leaves in the crown throughout the winter even though they are not actively growing. Alfalfa will begin greenup and active growth in March. It grows rapidly through April and will reach early bloom and be ready for first harvest in late April to early May. Regrowth occurs rapidly after cutting under good conditions. Alfalfa grows well through summer as long as soil moisture is adequate. It's deep roots gives it drought tolerance, but it may go semi-dormant during excessive drought. It normally recovers well following rain and responds well to irrigation. Irrigation should be managed to avoid prolonged standing water in the field.

Planting: The preferred time to plant alfalfa is in fall from September to mid-October. Soils need to be well-drained with good fertility confirmed by a soil test before planting. The seeding rate should be about 20 lbs per acre.

Fertilization: Alfalfa (in combination with rhizobia bacteria) fixes enough atmospheric nitrogen that nitrogen fertilizer is not needed for high production. Therefore, fertility management emphasis is on phosphorus (P), potassium (K), boron (B), and soil pH. Soil P and K levels should be medium to high before planting and fertilizer applications should be managed to replace these nutrients removed in hay. Soil pH should be maintained at 6.5 or higher by application of ag limestone. Fertilizer can be applied in two split applications with the first application made after first cutting and the second application made after third cutting. Boron is recommended at 1-2 lbs/acre per year and can be applied with the P and K application.

Harvest management: Timing of the first cutting in spring will range from late April to early May. The recommended stage of growth for hay harvest is when the field averages about 10% bloom. Some varieties may reach harvest stage earlier than others and fields in south Arkansas will be ready to cut earlier than those in north Arkansas. The date of the first cutting sets the schedule for the rest of the season. Each successive cutting will normally reach early bloom on a 30 to 35-day interval. This can be scheduled on a calendar to facilitate planning. In fall, alfalfa should not be cut from September 15 to November 1 to allow time before going dormant for it to build root reserves for overwintering. After November 1, the last cutting can be cut taken for hay or silage or grazed as needed. Hay quality can exceed 20% CP and 65% TDN.

A well-established field of alfalfa.

Grazing: Alfalfa makes excellent pasture. Grazing should be managed to mimic hay cutting, in that it should be rotationally grazed to remove the forage in a week or less. This requires relatively high stock densities or staging the alfalfa early in the season to create a staggered grazing schedule across paddocks. Staging can be accomplished by beginning grazing the first paddock in spring at a height of 8-10" then rotating to the next paddock. If growth in some alfalfa paddocks gets ahead of the herd, those paddocks can be cut for hay to reset them in the grazing rotation.

Common insect pests: Many beneficial insects are found in alfalfa including ladybugs, lacewings, parasitic wasps, spiders, and many others. Regular scouting with a sweep net and careful field observation will help confirm presence of beneficials or pests when making IPM control decisions.

The three main insect pests of alfalfa in Arkansas are the alfalfa weevil, the potato leafhopper, and three-cornered alfalfa hopper. Blister beetles can occur during summer. This insect usually doesn't cause yield loss but can cause toxicity to horses if they are crushed and remain in hay during the harvest process. County extension agents can help ID these pests and make recommendations for control.

Weed management: Weed control is very important during alfalfa establishment. Either standard or glyphosate-tolerant alfalfa varieties are available so weed species of concern and herbicide availability must be considered before variety selection is made. A weed control plan should start well before planting and continue until the stand is well-developed. Alfalfa stands are very competitive after the first year and may need little weed control. As stands thin over time, older stands may need weed control to maintain stands.

Resources: Producers interested in alfalfa should check with their county extension office and ask for the fact sheets FSA 15 "Establishing Alfalfa for Forage" and FSA 3141 "Interseeding Alfalfa into Bermudagrass Sod". ■

2020 Arkansas 4-H Livestock Judging and Skillathon Contests held Virtually

The 2020 Arkansas 4-H Livestock Judging and Skillathon Contests were held in virtual formats on August 10 and 12. There were 67 4-H'ers from 13 counties who competed in the livestock judging contest and 55 4-H'ers from 11 counties who competed in the livestock skillathon contest. This was the first year for a junior division to be included in the skillathon contest. 4-H'ers judging 12 classes of breeding and market livestock, answered questions on one class, and gave 2-3 sets of reasons through JudgingPro.com. Livestock skillathon contestants utilized Microsoft Teams to compete in Breed ID, Equipment ID, Retail Meat Cut ID, Quality Assurance, Quiz, and Hay Judging individually. As a team, they also competed in Livestock Feeding Scenarios; Animal Breeding Scenarios; Management, Performance & Marketing Information Exercise; and Meat & Carcass Evaluation. Congratulations to all the winners! ■

ARKANSAS 4-H STATE LIVESTOCK JUDGING CONTEST JUNIOR DIVISION RESULTS

Top 5 Individuals
1. Anna S. - Hempstead Co.
2. Kiersten P. - Hempstead Co.
3. Rylie B. - Washington Co.
4. Katelyn R. - Carroll Co.
5. Vallie Y. - Madison Co.

Top 5 Teams
1. Hempstead Co.
2. Carroll Co.
3. Washington Co.
4. Madison Co.
5. White Co.

Top 5 Cattle Individuals
1. Vallie Y. - Madison Co.
2. Rylie B. - Washington Co.
3. Anna S. - Hempstead Co.
4. Bailey M. - Benton Co.
5. Cheyenne D. - Carroll Co.

Top 5 Cattle Teams
1. Carroll Co.
2. Hemspstead Co.
3. Washington Co.
4. White Co.
5. Madison Co.

Top 5 Swine Individuals
1. Anna S. - Hempstead Co.
2. Kiersten P. - Hempstead Co.
3. Rylie B. - Washington Co.
4. Katelyn R. - Carroll Co.
5. Olivia H. - Bradley Co.

Top 5 Swine Teams
1. Hempstead Co.
2. Carroll Co.
3. Washington Co.
4. Greene Co.
5. White Co.

Top 5 Sheep Individuals
1. Kiersten P. - Hempstead Co.
2. Jace G. - Benton Co.
3. Olivia M. - Bradley Co.
4. Anna S. - Hempstead Co.
5. Harold M. - Van Buren Co.

Top 5 Sheep Teams
1. Hempstead Co.
2. Bradley Co.
3. Washington Co.
4. Benton Co.
5. Carroll Co.

Top 5 Goat Individuals
1. Andrew R. - Carroll Co.
2. Kiersten P. - Hempstead Co.
3. Bailey M. - Benton Co.
4. Olivia K. - Carroll Co.
5. Anna S. - Hempstead Co.

Top 5 Goat Teams
1. Hempstead Co.
2. Carroll Co.
3. Stone Co.
4. Benton Co.
5. Greene Co.

Top 5 Reasons Individuals
1. Kiersten P. - Hempstead Co.
2. Jace G. - Benton Co.
3. Anna S. - Hempstead Co.
4. Gatlin P. - Hempstead Co.
5. Vallie Y. - Madison Co.

Top 5 Reasons Teams
1. Hempstead Co.
2. Benton Co.
3. White Co.
4. Bradley Co.
5. Greene Co.

ARKANSAS 4-H STATE LIVESTOCK JUDGING CONTEST SENIOR DIVISION RESULTS

Top 5 Individuals
1. Savannah J. - Hempstead Co.
2. Sara S. - Hempstead Co.
3. Alan M. - Bradley Co.
4. Jacey S. - Benton Co.
5. Wyatt J. - Benton Co.

Top 5 Teams
1. Hempstead Co.
2. Benton Co.
3. Bradley Co.
4. White Co.
5. Washington Co.

Top 5 Cattle Individuals
1. Molly P. - Hempstead Co.
2. Ericca C. - Bradley Co.
3. Tyler B. - Benton Co.
4. Wyatt J. - Benton Co.
5. Reagan A. - Benton Co.

Top 5 Cattle Teams
1. Benton Co.
2. Hempstead Co.
3. Bradley Co.
4. White Co.
5. Washington Co.

Top 5 Swine Individuals
1. Wyatt J. - Benton Co.
2. Braden H. - Bradley Co.
3. Martha G. - Washington Co.
4. Alan M. - Bradley Co.
5. Reid W. - White Co.

Top 5 Swine Teams
1. Bradley Co.
2. Benton Co.
3. White Co.
4. Hempstead Co.
5. Washington Co.

Top 5 Sheep Individuals
1. Jacey S. - Benton Co.
2. Braden H. - Bradley Co.
3. Savannah J. - Hempstead Co.
4. Tyler B. - Benton Co.
5. Haley M. - Bradley Co.

Top 5 Sheep Teams
1. Benton Co.
2. Bradley Co.
3. Hempstead Co.
4. White Co.
5. Washington Co.

Top 5 Goat Individuals
1. Sara S. - Hempstead Co.
2. Reagan A. - Benton Co.
3. Haley I. - White Co.
4. Kyra H. - Washington Co.
5. Savannah J. - Hempstead Co.

Top 5 Goat Teams
1. Hempstead Co.
2. White Co.
3. Washington Co.
4. Benton Co.
5. Bradley Co.

Top 5 Reasons Individuals
1. Reid W. - White Co.
2. Braden H. - Bradley Co.
3. Martha G. - Washington Co.
4. Ericca C. - Bradley Co.
5. Sara S. - Hempstead Co.

Top 5 Reasons Teams
1. Bradley Co.
2. White Co.
3. Benton Co.
4. Hempstead Co.
5. Washington Co.

ARKANSAS 4-H STATE LIVESTOCK SKILLATHON CONTEST JUNIOR DIVISION RESULTS

Top 5 Individuals
1. Kiersten P. - Hempstead Co.
2. Vallie Y. - Madison Co.
3. Austin F. - Madison Co.
4. Anna S. - Hempstead Co.
5. Bailey M. - Benton Co.

Top 5 Teams
1. Hempstead Co.
2. Madison Co.
3. White Co.
4. Sharp/Washington Co.
5. Benton Co.

Top 5 Evaluation Teams
1. White Co.
2. Madison Co.
3. Hempstead Co.
4. Sharp/Washington Co.
5. Sebastian Co.

Top 5 Identification Individuals
1. Vallie Y. - Madison Co.
2. Kiersten P. - Hempstead Co.
3. Bailey M. - Benton Co.
4. Madalyn J. - White Co.
5. Anna S. - Hempstead Co.

Top 5 Identification Teams
1. Madison Co.
2. Hempstead Co.
3. White Co.
4. Benton Co.
5. Sharp/Washington Co.

Top 5 Quality Assurance Individuals
1. Austin F. - Madison Co.
2. Kiersten P. - Hempstead Co.
3. Jewel C. - Washington Co.
4. Gatlin P. - Hempstead Co.
5. Natalie L. - Sharp Co.

Top 5 Quality Assurance Teams
1. Hempstead Co.
2. Sharp/Washington Co.
3. Madison Co.
4. Benton Co.
5. White Co.

ARKANSAS 4-H STATE LIVESTOCK SKILLATHON CONTEST SENIOR DIVISION RESULTS

Top 5 Individuals
1. Sara S. - Hempstead Co.
2. Jackson G. - Benton Co.
3. Jacey S. - Benton Co.
4. Elizabeth D. - Franklin Co.
5. Eva B. - Hot Spring Co.

Top 5 Teams
1. Benton Co.
2. Hempstead Co.
3. Franklin Co.
4. Carroll Co.
5. Grant Co.

Top 5 Evaluation Individuals
1. Kaitlyn W. - Carroll Co.
2. Sara S. - Hempstead Co.
3. Molly P. - Hempstead Co.
4. Savannah J. - Hempstead Co.
5. Jacey S. - Benton Co.

Top 5 Evaluation Teams
1. Benton Co.
2. Hemsptead Co.
3. Carroll Co.
4. Grant Co.
5. Hot Spring Co.

Top 5 Identification Individuals
1. Jackson G. - Benton Co.
2. Jacey S. - Benton Co.
3. Sara S. - Hempstead Co.
4. Eva B. - Hot Spring Co.
5. Kaitlyn W. - Carroll Co.

Top 5 Identification Teams
1. Benton Co.
2. Carroll Co.
3. Hempstead Co.
4. Franklin Co.
5. Grant Co.

Top 5 Quality Assurance Individuals
1. Elizabeth D. - Franklin Co.
2. Whitnee W. - Franklin Co.
3. Matti Kate W. - Carroll Co.
4. Kendal Smith - Franklin Co.
5. Hayden H. - Benton Co.

Top 5 Quality Assurance Teams
1. Franklin Co.
2. Benton Co.
3. Hempstead Co.
4. Carroll Co.
5. Grant Co.