

Central Washington Animal Agriculture Team Central Washington Round-Up



Spring health concerns

Coccidiosis

This parasitic disease can happen year round, but it mostly affects young animals and these are usually born in the spring. Coccidia organisms are species specific, which means that they don't spread between pigs and cattle, for example. They are also extremely hardy, which means that once a premise experiences a case of coccidiosis, the premise should be considered perpetually infected.

Signs of coccidiosis vary between species. Typical signs include poor growth, rough hair coat, pot-bellied appearance, failure to thrive, loose to bloody stool and even death. Diagnosis is by fecal sample analysis.

Animals can be affected from about one to 12 months but most typically those that show signs of illness are animals about weaning age. Affected animals may be permanently stunted and become poor do-ers. Coccidiosis is rare in adults due to immunity that eventually develops.

Coccidia are protozoa and are not killed by routine dewormers. Clinically ill animals need to receive treatment either through a water source or by oral drenching for several days in a row. The good news is that this disease can be prevented. Medications can be added to grain mixes, salt source or minerals to provide a low-level of coccidiosis prevention during the period of concern. Good manure management and sanitation practices also have a place in control of coccidiosis. NOTE: Do not feed medications with coccidiosis preventative medication (e.g. monensin) to any members of the horse or poultry families.

For more information:

<http://osuxtra.okstate.edu/pdfs/F-9129web.pdf>

<http://www.oznet.ksu.edu/library/LVSTK2/MF2209.PDF>

--Dr. Susan Kerr, WSU Extension

Grass tetany

Grass tetany or grass staggers is another common springtime disease of livestock, especially cattle. The cause is debatable. For simplicity, this condition will

be described here as low blood levels of magnesium in affected animals due to low levels or low availability of magnesium in feed or poor absorption by the animal.

Lush spring growth may have low magnesium content and therefore be associated with this disease. However, grass tetany can occur if cattle are ingesting too much potassium, are deficient in salt or the diet is changed rapidly from hay to lush pasture.

Animals with abnormally-low blood magnesium levels may appear fine until stressed by calving, movement or transportation. Mildly affected animals will twitch their face and ears, carry their tail up, walk with a stiff "goosestep" and act more wary or wild than usual. As the condition worsens, animals become more excited. They may bellow, stagger and appear blind. Without treatment, affected animals go down and begin a repetitive, stiff-legged paddling motion with all four legs. Death is likely without prompt treatment and down animals may do serious secondary injury to themselves. Indeed, most livestock producers realize they have an "outbreak" of grass tetany when they find dead animals that have paddled into the dirt before they died.

Treatment consists of intravenous magnesium preparations. Due to potentially-fatal cardiac complications, treatment should be administered by a veterinarian. Restraint is critical because unlike the near-coma induced by milk fever, grass tetany cows can be hyperexcitable and dangerous.

To prevent grass tetany, supplement winter hay and early spring pasture with magnesium oxide in salt, mineral or grain mixes. Make sure that every animal ingests about two ounces of magnesium oxide each day. Molasses magnesium blocks are specifically made to prevent grass tetany; they are handy but expensive. Also feed hay before animals are let out on lush spring pastures to transition them over to pasture slowly.

For more information:

<http://www.caf.wvu.edu/~forage/3216.htm>
<http://www.oznet.ksu.edu/library/lvstk2/MF976.PDF>
<http://edis.ifas.ufl.edu/DS137>
<http://www.agric.nsw.gov.au/reader/cattlehealth/a0959.htm>

--Dr. Susan Kerr, WSU Extension

White Muscle Disease

This nutritional disorder can also happen at any time of the year, but again it mostly affects young animals and these are usually born in the spring.

In most parts of the U.S., soils are deficient in the mineral Selenium. One of Selenium's roles is as an anti-oxidant to help stabilize cell membranes, particularly muscle cell membranes. If animals do not ingest enough Selenium, either through grazing or supplements, they can exhibit signs of Selenium deficiency.

Signs of deficiency vary with age. In adult animals, signs are subtle and may include poor reproductive performance, retained placentas, chronic infections and poor immune system function. The signs are much more dramatic in young stock: poor growth rates, weakness, pneumonia and/or death. Animals with *in utero* deficiency may be premature, lightweight, weak or stillborn.

Selenium deficiency is diagnosed through physical examination, blood testing, liver biopsy, response to treatment or necropsy. At necropsy, hamstring, tongue, heart and throat muscles lack their healthy red color and are instead soft and pale (hence the name "White Muscle Disease"). This is because the cell membranes have been damaged and the muscles have degenerated. If cardiac muscles are affected, the disease can be fatal.

All livestock in our area need some sort of Selenium supplementation. Supplementation through mineral or grain mixes may be sufficient for adult animals at maintenance. Growing and pregnant animals will probably need at least one injection of a Vitamin E/Selenium product. Ask your veterinarian for advice about how, when, how often and how much to give your animals.

For more information:

<http://eesc.orst.edu/AgComWebFile/EdMat/PNW157.pdf>
<http://cru.cahe.wsu.edu/CEPublications/eb1607/eb1607.html>

--Dr. Susan Kerr, WSU Extension

Founder

Founder or laminitis are names for the inflammation of tissues that connect an animal's hoof to the bone beneath it. Although this disease could happen in any hoofed species, it is most common in horses and dairy cattle.

The sensitive layers of tissue that connect the hoof to bone can become inflamed whenever an animal has a high fever, overeats carbohydrates, is exposed to a toxin or experiences strong and repetitive concussive forces to the feet. In horses, too rapid cooling of a hot animal is another predisposing factor. Sources of excess carbohydrates include high-grain rations, molasses tubs, dropped apples, grain spills, grain bags or unlimited lush spring pasture.

Affected animals walk with a slow and hesitant gait but they usually do not favor one leg over another. They may lie down and be reluctant to move. Their hooves will be hot and the arteries that serve the foot will be throbbing.

A veterinarian should be consulted immediately for the best long-term outcome for the animal. Recommended treatments include removal or cessation of the causative factor, cold water soaks for the affected feet and administration of anti-inflammatories and other medications. More extreme treatment measures may be needed in individual cases. For horses, corrective shoeing methods can aid recovery and animal comfort.

To prevent founder, monitor animal health closely; control carbohydrate consumption; limit access to lush spring grass; provide sufficient bedding; do not force horses to travel on hard surfaces; feed bicarbonate with high-grain diets; and cool horses slowly after work. Some horses are perpetually prone to founder and may need to be kept on a dry lot and only fed hay.

For more information:

http://ohioline.osu.edu/b762/b762_30.html
<http://www.ces.purdue.edu/extmedia/VY/VY-30.html>
<http://www.oznet.ksu.edu/library/lvstk2/mf2070.pdf>

--Dr. Susan Kerr, WSU Extension

West Nile virus

West Nile virus (WNV), a flavivirus, was first identified as a cause of infection and fatal encephalomyelitis (inflammation of the spinal cord and brain) in horses and people in Egypt, Uganda and France in the early 1960's. WNV infection was first diagnosed in horses in the U.S. in 1999. Washington had its first cases late in 2002 when the disease was confirmed in two birds and two horses. There were no further cases of WNV in Washington until the fall of 2005, when two positive mosquito pools were detected and a horse and bird case were confirmed in Yakima County. It is difficult to predict with any certainty what will happen in Washington in 2006. So, don't get lax about protecting your horses. WNV vaccinations are the primary protection for equine against this serious disease.

West Nile virus is transmitted by mosquitoes. Mosquitoes become infected by feeding on infected

birds and pass the virus to other birds, animals, and people. Both horses and humans are considered to be "dead-end" hosts of WNV meaning that while infected, they do not spread the infection. Infected horses are not a risk to other horses or humans.

West Nile virus should be considered a serious threat. Most horses are not affected by the virus and do not show clinical signs of the illness. However, death occurs in approximately 33% of clinically affected equine. Most animals eventually recover completely. Data supports that about 40% will exhibit some residual affects, such as neurological or behavioral abnormalities for at least six months.

The incubation period for WNV in horses appears to be 3 to 15 days. Clinical signs of WNV infection in horses may include: fever, weakness of limbs, difficulty in walking, falling, convulsions, muscle twitching (typically on the face, neck and forelimbs), hypersensitivity, head tilt or drooling.

There are currently two vaccines that are available to provide protection against West Nile virus for horses, mules and donkeys. Fort Dodge Animal Health's West Nile Innovator approved by USDA in 2002 and Merial's Recombitek Equine West Nile Virus vaccine approved in 2004. Both vaccines must be obtained from a veterinarian and must be administered by or under the supervision of a veterinarian with a valid veterinarian/client/patient relationship. The vaccines are given intramuscularly and require a two dose initial series three to six weeks apart. Following the initial vaccinations, an annual booster is required in the spring during the early part of the mosquito season. Work with your veterinarian to develop the best plan for protecting your equine against WNV.

For more information:

<http://wnv.wsu.edu/>

--Jean Smith, WSU Extension

New, Safer, Feed-Through Fly Control Products for Horses and Cattle

It's springtime and you notice the first few flies land on your fence, barn, or cow. You utter a low growl and begin pondering about how to fight the war against flies this year. Fortunately there are new solutions to managing these pesky companions of livestock. This month I will discuss the new chemical products that may be added to feed or mineral rations which go through the animal, passing out with the manure to control developing fly larvae. Feed through fly control is not a new method for use in livestock, but new products have been developed with chemicals that are safer, less toxic alternatives to organophosphates such as tetrachlorvinphos, found in feed-through products such as the Rabon® block.

The fly goes through a life cycle consisting of different stages in this order: egg, larva (maggot) stages, pupa, adult (see Figure 1). Molting occurs between larval stages during which the fly must shed its "skin", also known as the cuticle. On freshly deposited manure, adult flies lay eggs which hatch into larvae soon thereafter. Once in the manure, feed-through chemicals work to prevent the development of fly larvae so that they will not become adult flies. There are at least three chemicals that have been formulated into feed-through products. The chemical methoprene is classified as an insect growth regulator because it interferes with the normal function of a hormone called juvenile hormone which regulates the progression through the different life stages. Two other chemicals, diflubenzuron and cyromazine, are classified as chitin synthesis inhibitors because they interfere with the manufacture of chitin which is the major component of cuticle. All of these chemicals effectively halt the molting process of insects which puts a big kink in the insect's life cycle, and the fly larvae die before reaching the adult stage. Because humans and livestock do not have insect growth hormones or chitin, they are very safe to use and apply.



Figure 1. Fly life cycle.

(Photograph by: Jim Kalisch, University of Nebraska – Lincoln)

Feed through fly control products for horses that are currently available include SimpliFly™ (Farnam) which contains 0.24% diflubenzuron and Solitude IGR™ (Pfizer Animal Health) which contains 2.12% cyromazine. (Solitude IGR™ was called Serene™ (Triad Specialty Products), a product available only through veterinarians, before it was sold to Pfizer AH). Both products target house flies and stable flies. SimpliFly™ should be top dressed with the normal grain ration to each horse individually at a dose of 6.8 mg diflubenzuron per 100 pounds body weight. That amounts to giving your typical 1000 pound horse one ounce of SimpliFly™ daily.

Solitude IGR™ should also be a top dressing to the normal ration fed to each horse individually, at a dose of ½ ounce containing 300 mg of cyromazine daily. Studies with Solitude IGR™ have shown that this product is safe for horses, other mammals (including humans), beneficial insects, and other nontarget organisms such as minnows and birds. For best results, you should start feeding either of these products just before the beginning of fly season (late March) and continue to feed until the first hard frost in the fall. Application of either product should be integrated with a fly management program that includes removal of manure, old hay and feed spills, and wet bedding from horse barns/stables, all of which could serve as potential fly breeding grounds.

There are numerous feed through fly control products available for beef and dairy cattle; the new formulations of interest contain (S)-methoprene, an insect growth regulator that mimics a substance called juvenile hormone. Look for products containing Altosid® IGR (Wellmark International) which are labeled for horn fly control on all cattle, including breeding and lactating cattle and calves. Note that there are other branded products that contain (S)-methoprene; I am providing information on one particular brand. Altosid® IGR comes in different formulations; some are designed to be mixed with mineral supplements. For effective horn fly control, the recommended dose is 34 mg of (S)-methoprene per 100 pounds of body weight per month. For best results, begin feeding this product just before the beginning of horn fly season (late March to early April). These feed through products should be used in conjunction with a regular manure

management and sanitation program in the pastures and feedlots. Sometimes, there will be considerable migration of adult flies from neighboring untreated herds, and Altosid® IGR does not kill adults. Cattle may need to be treated with an approved chemical to kill adult flies if fly numbers exceed 200 per animal.

I have used a number of brand names throughout this article to make it easier to find these new products at your local feed store or pharmaceutical supply. However, always read the label before purchasing and using because manufacturers change labels frequently. For more information on the products mentioned above, go to these web sites:

www.altosidigr.com
www.simplifyfeedthru.com
www.pfizerah.com

Disclaimer: Always read the product label. Use pesticides with care. Apply them only to plants, animals, or sites listed on the label. When mixing and applying pesticides, follow all label precautions to protect yourself and others around you. It is a violation of the law to disregard label directions. If pesticides are spilled on skin or clothing, remove clothing and wash skin thoroughly. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock. does not kill adults. Cattle may need to be treated with an approved chemical to kill adult flies if fly numbers exceed 200 per animal.

--Dr. Holly Ferguson, Extension IPM Coordinator
Specialist, WSU-Prosser

Pasture/range focus

Pasture fertilization

Adding needed nutrients to pastures in the spring is best done when plants break dormancy. But before any nutrients are applied, a representative soil test should be done. Soil tests usually cost around \$40. But that \$40 investment may prevent the loss of hundreds of dollars in unnecessary fertilizer inputs.

It is tempting to take a shovel or probe and take just enough soil to fill a soil sample bag. But again, that shortcut can leave your pasture yield and subsequent animal gain a disappointment. A proper soil test is composed of 20-30 cores from randomly selected areas of the entire pasture, collected in a zigzag pattern. If there are knolls or other geologic features that may indicate different soil types, these should be sampled as well.

Figure 2. Soil probe.



The idea is to get a clear representation of the pasture's needs to maximize the economic potential of the animals harvesting the forage. Request a test for nitrogen (N), phosphorous (P), potassium (K), sulfur (S), boron (B), zinc (Zn) and pH. If the pH is below 6.0, consider liming to provide calcium and magnesium and to help maintain sensitive legumes.

Proper interpretation of soil tests to determine when and what nutrients to apply are equally important. In many Eastern Washington established pastures, (P) and (K) levels may be adequate as animal urine and manure contain good levels of both. However, if ppm P is below 12, one should add 60 pounds/acre of P₂O₅, and if ppm K is below 150, one should add 80 pounds/acre of K₂O. Both P and K are required for good root growth and persistence of grasses and legumes. The sulfur (S) demand is greater for legumes than for grasses. If soil sulfate-sulfur is below 10 ppm, one should add 20 pounds/acre of S.

Eastern Washington legumes often respond to Boron and Zinc fertilization. If soil B is below 0.5 ppm, one should add 2 pounds of B. If soil Zn is below 1.5 ppm, one should add 15 pounds of Zn.

It is possible for intensively grazed irrigated Eastern Washington grass pastures to utilize up to 350 pounds of N annually. However, spring applications of N should be moderate. If soil tests show less than 100 pounds of available N, one should add 80 to 100 pounds/acre. Large amounts of N applied at one time could lead to losses from leaching and could also contribute to nitrate poisoning of livestock if the grass undergoes stress conditions such as drought or frost. The remaining nitrogen requirement should be applied throughout the growing season with 80 to 100 pounds of N after each grazing cycle.

--Dr. John Kugler, WSU Extension

Spring Turnout – When?

How do we decide when to start grazing our livestock in the spring? Let me count the ways:

1. When the snow is off the ground.
2. When the snow is just covering the peak of "Old Baldy" Mountain.
3. The Monday after Easter.
4. March 1, hell or high water.
5. Whenever the hay runs out.
6. June 1, grass or no grass.
7. Whenever the BLM, Forest Service, timber company, or landowner will let you.
8. Don't have to turn out, because they are out all year anyway.
9. Don't have to turn out, because you raise enough hay to feed them all year.
10. Observe grass growth in the spring and wait

until there is enough growth to withstand grazing pressure without damaging the grass plants.

Now I hope you don't identify with all but one of these, but sadly all of these happen. There are many reasons why 1-9 happen. Most livestock producers know why they should gauge their turnout on number 10, but they can find all kinds of excuses to use the other methods to determine when to turn livestock out on spring pasture. Usually it comes down to "That's the way it was done in the past." Just remember, "If you keep doing what you have been doing, you will keep getting what you have been getting."

When it comes to pasture, this can often mean overgrazing, weed problems, or forage decline. Along with these problems comes the anti-grazing lobby. By keeping your own house in order, you can ward off the attacks by the anti-grazing lobby.

Well managed grazing means that the producer has control over when and how much the grass is grazed. In order for the grass to have the ability to complete photosynthesis, it must have leaves. This means holding off on turnout until the grass plants have enough leaf growth to withstand grazing and still have enough leaves to power regrowth. If turnout is too early, the grazing pressure will never allow the grass plants to have enough strength for good regrowth. Eventually the roots die back, regeneration is prohibited, and the plant dies. Then the weeds come.

So how much grass growth is needed before turnout? Well, it depends. It depends on what species of grass you have, what condition the pasture is in, and what species of livestock will be grazing. Generally 4-6 inches of growth is adequate for turnout. If it is a predominantly cheatgrass pasture, 3-4 inches is enough. If you wait too long, cheatgrass will head out and lose its value. Orchardgrass, brome, and timothy should be allowed to reach at least 6 inches. Wheatgrasses and Kentucky bluegrass can be grazed at 4 inches. (*Editor's note: Bluebunch wheatgrass on rangeland should be either grazed lightly in early spring or wait until after seeds are mature.*)

Animals should be rotated off when the grass height is grazed down to 2-4 inches, again depending on the grass species. Remember the "take half, leave half" rule. The worst thing for the grass plant is for it to get that second bite before it has had a chance to regrow.

On new seedings, delay initial grazing until you cannot pull the newly established plant out of the grounds (roots and all).

So a good start in the spring followed by good management will result in a healthy pasture for many years to come. It's like the old saying, "First impressions count the most", so don't turn out and

begin grazing too early or your grass will suffer in the long run.

--John D. Fouts, WSU Extension

Markets

National animal identification

Livestock producers should be aware of developments in the national animal identification system, currently a voluntary program. The objective of implementing a national ID system at both the state and national levels is to enable rapid traceback or traceforward of individual animals or groups of animals in the event of a reportable disease outbreak. The USDA has removed previously announced dates for mandatory implementation.



Voluntary premise identification is available today through WSDA (http://agr.wa.gov/FoodAnimal/Animal_Premise/default.htm) as part of the Northwest Pilot Project, a proactive effort in Washington, Oregon, Idaho, Utah, Nevada, California, and Hawaii to "develop, implement, and test a process that will allow tracing a livestock animal through multiple livestock industry segments, across state and national borders, to its herd of origin within 48 hours in an efficient and cost effective manner" (<http://www.northwestpilot.org/>).

Premises are currently defined relatively loosely to refer to the property under one operator's control. If a rancher leases several properties, these can be treated currently as one premise with the same number, not requiring reporting movement between owned or leased pastures. The important data is which animals moved where, especially

under circumstances when they will be commingled with a new group of animals, such as to a fair, feedyard, auction market, etc.

USDA on March 3 authorized issuance of individual ID numbers. Tag manufacturers will be responsible for adhering to the following partial list of performance standards:

- The tag must be designed for one-time use and be tamper-evident.
- The printing on the tag may not readily be altered and should include the 15-digit AIN and U.S. shield.
- The AIN number must be readable at a distance of 30 inches.
- The tag must function and remain affixed to the animal for the expected lifetime of the animal.
- On average, not more than 1 percent of tags applied may be lost in the years following application.

USDA announced in early April the release of a draft implementation plan that includes database standards, funding for local programs, and steps toward full participation by 2009. The plan is available at <http://animalid.aphis.usda.gov/nais/index.shtml>.

Participation in the Northwest Pilot Project is compatible with the national ID program so that participants need not "sign up" for something else. Interested Washington producers may contact Jack Field, Washington Cattlemen's Association (509-925-9877) or WSDA (360-725-5493).

--Tip Hudson, WSU Extension

A weekly markets newsletter is available through WSU, a member of the Livestock Marketing Information Center – to sign up, send an email to Tip Hudson: (HUDSONT@WSU.EDU).

Editor: Tip Hudson

Central Washington Animal Agriculture Team members' contact information and publications can be found at <http://animalag.wsu.edu>.