



Boulder County Small Acreage Management Newsletter

Fall 2013

<http://www.extension.colostate.edu/boulder/acreage.shtml>

In this Issue:

From the SAM Coordinator

I hope that this finds all of you safe and secure. If you have suffered loss of homes and property, you have our deepest sympathy. Please take care of yourself and your family first.

The local Natural Resources Conservation Service office (NRCS), Longmont and Boulder Valley Conservation Districts and St. Vrain and Left Hand Water Conservation Districts and Extension are working together to provide resources for all affected landowners. Please feel free to contact us with any land based questions. Extension's Family and Consumer Science agent can help with issues in the home and family.

This issue will cover some questions landowners may have following the floods. The main concern will be for those properties that actually experienced flooding from creeks, ditches and rivers not just the heavy rain. This is not an all-encompassing information source. I have attached links to further information. Our access to information will continue to expand as time goes on. This is only meant to begin to give you some tools for recovery.

Thank you,
Sharon Bokan

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SAM Newsletters Online

View previous newsletters via the SAM link above.

SAM Email Listserv

If you are receiving this newsletter for the first time and are not subscribed to the boco_small_acreage@colostate.edu listserv, you may request subscription on the SAM website (linked in header above). This quarterly e-newsletter and other timely info will be distributed via this email listserv.

Subscribers may use the listserv also as a SAM info gathering mechanism. For example, you may inquire about who is available in the area supply hay, to perform swathing/baling, etc. The listserv is not a marketplace, however. Because it is hosted on the CSU server, **NO COMMERCIAL EMAILS ARE ALLOWED. DO NOT ATTEMPT TO SELL ANYTHING VIA THE LISTSERV – THANK YOU.** Use the newsletter ad section for these purposes.

Currently, there are 216 subscribers to the listserv

Flood Recovery Assistance

If your property has been affected by flooding, you should register with the Federal Emergency Management Association (FEMA). If you do not register and money becomes available, you will not be eligible to receive any of the money. You can sign up with FEMA online at www.disasterassistance.gov or 1-800-621-3362 or at the Disaster Assistance Centers at Twin Peaks Mall in Longmont or the center in Boulder at the northwest corner of Arapahoe and 55th behind the Premier Credit Union.

Make sure that you take photos of the damage before you start doing anything. If you do any work make sure that you document with photos and receipts.

Well water quality and testing

If your well experienced flooding either from the heavy rain or from a stream, ditch or river, it is best to have it tested for bacterial contamination. The best sources for this are the Colorado Department of Public Health and Environment <http://www.colorado.gov/cs/Satellite/CDPHE-EPR/CBON/1251645971558> Boulder County Health Department <http://www.bouldercounty.org/env/water/pages/drinkingwater.aspx>. Boulder County is now offering free water testing.

Garden Produce Contamination from Flooding

For those of you with vegetable gardens, please see the information at the CSU Flood page prior to harvesting your produce. <http://www.ext.colostate.edu/pubs/drought/flood.html>

Pastures and grazing after heavy rains and flooding

There are several considerations for using a pasture after heavy rains or flooding. Do not do anything in the pastures until they have dried out sufficiently.

First, if you are practicing good grazing management, you should not have your livestock on the pastures at this time anyway. Livestock should not be on the pastures while they are muddy to reduce soil compaction. They also should not be on the pasture now to allow the grasses time to store energy for the winter. The animals should be off the pasture until the grasses are dormant which is normally around November. Prior to allowing your animals back out on the pasture, walk the pasture looking for debris that could injure the animals and make sure that your fences are in good condition. If you have experienced any erosion, check the area to make sure that the area is safe for a 1500# animal.

The rule of thumb is 30 - 45 days off pasture for the pasture to dry up and the pathogens to decrease assuming that there is sunlight to destroy them. As I mentioned before, you should be off the pastures at least this long to allow the grasses to prepare for winter. Mowing the old forage that may now be moldy and waiting for regrowth is also advisable. Obviously, you can't do this until the ground dries and you have assessed the area for safety. Don't let animals graze too low (no lower than 4") and get back into the old moldy forage. Keep an eye on livestock for any signs of sickness.

Another concern is the possibility of an animal accessing poisonous plants. If good forage is covered by water or soil, livestock may resort to grazing plants they might not normally graze including poisonous plants. Prior to allowing the animals out to graze, walk your pasture and

make sure you don't have any poisonous plants. If you need help identifying plants please contact us. You can either bring in the plant for identification, e-mail a photograph or we can come out.

You may have experienced deposition of soil or gravel on your pastures. The grasses can recover from some deposition (up to 2") but you may need to do some light tillage or replanting. You may also have to re-level the land if too much deposition occurred. This determination is really a case by case situation so if you need help, please let us know.

Others of you may have experienced erosion due to the flood waters. Once the waters recede, assess these areas for safety concerns such as undercutting. Report any ditch, head gate or diversion structure damage to your ditch company. We don't have clear answers for stream erosion and stream channel changes right now. We are trying to get answers and putting together a resource list that will help direct you to the right group for assistance.

You can also expect weeds to take advantage of the damage to get a foothold. As you can get out onto your properties, start surveying your land for new invasions. This will be particularly important next year. Most of the weed seeds will not germinate until next spring and summer.

Livestock Health Following Flooding

Please see attached files for information on handling your livestock after a flood and potential diseases to be on the lookout for.

Wet forage and feed

If you have stacks of hay that got wet due either to the heavy rains or flooding, you need to get them dried out as soon as possible. For hay that was exposed to flood waters, it is best to not

use this hay. You have no idea what was in the flood waters that may have an adverse effect on your animals.

For hay that was just exposed to rain water, take hay stacks apart and separate dry hay from wet hay. Recover the dry hay to keep it dry. Wet hay has the potential to start composting and self-combust so you need to try to get it dried out or at least separated to limit the fire potential. Separate the bales so that air can move around the bales. With larger bales, it may only be the exterior of the bale that is wet. If you can, remove the wet layers and use the dry hay first. Wet and moldy hay can be composted or chopped up and spread out as mulch. Break up the moldy hay when composting and monitor the temperature to prevent a fire hazard. When handling moldy bales, wear a dust mask and gloves to be safe. Check bales periodically to see if they are drying out, decomposing or molding.

Measuring the temperature of bales is the best way to determine if you have a problem and potential fire hazard. The best method is to use a temperature probe (a compost thermometer would work). If you don't have a temperature probe use a 3/8 to 1/2 inch metal rod into the hay and leave it 10 to 15 minutes. If you can comfortably hold the rod in your hand after removing it from the bale, the temperature is below 130°F. If you can hold it but it is uncomfortable, the temperature is between 130 and 160°F. If you cannot hold it in your bare hand, the temperature is above 160°F and fire is imminent. A temperature above 175°F, you may already have a fire started. Do not attempt to open up the stack on your own! Contact your local fire department.

Here is some additional information from the forage specialist at CSU.

"Millions of these microbes exist in all hay and they thrive when extra moisture is abundant, he

explains. As the metabolic activity of these organisms increases, temperature of hay rises. Hay with only a little excess moisture probably will get no warmer than 120 degrees F. Wetter hay can quickly get as warm as 150 degrees F. Hay that gets this warm nearly always becomes discolored and nutritional value is reduced. If hay temperature rises above 170 degrees F, chemical reactions can produce enough heat to quickly raise temperatures and cause fires.

General guidelines to hay temperatures and precautions:

* 125 to 150 degrees F: This extra heat is generated by respiration of bacteria and spoilage fungi. At these temperatures chemical processes called the Maillard reaction causes hay to turn brown, protein digestibility decreases and the hay is said to be "caramelized."

* 150 to 175 degrees F: Check temperature daily. The caramelizing Maillard reaction continues. Consider reducing the volume of the warm hay by spreading the hay out. Caution! It may be dangerous to move hotter hay without fire department assistance.

* 175 to 190 degrees F: Check temperature every two to four hours. Alert the fire department of the situation and work with them on your management strategy. Chemical reactions which occur at these high temperatures begin to dominate the continued rise in temperature. Avoid addition of extra oxygen into the hot hay pile. Hay or silage that reaches these temperatures are often nearly black and have a much lower feeding value.

* 190 to 210 degrees F or more: Have the fire department present when hay is being removed. Spontaneous ignition is possible.

If you are concerned that hay may have been baled at too high a moisture content, monitor

the internal bale temperature twice daily for the first six weeks after baling. For safety reasons, you must work with a partner when checking the temperature of stacked bales. One of you stands atop the bales to measure the internal temperature while the other observes. The person testing the hay should wear a harness and a lifeline that is attached to a secure object. In the event of an emergency, such a system allows the observer to pull the person checking the temperature out of the hay. Due to the potential dangers of this situation, this task should not be assigned to youth workers.

You can use a commercial thermometer to test the temperature of baled hay, but commercial thermometers are not always the appropriate length to monitor the interior zone of baled hay. If a commercial thermometer does not meet your needs, you can fabricate a probe from a 10 ft. length of 3/4 in. iron pipe. Drill eight holes that are 3/16 in. in diameter about 3 in. from one end. Hammer that end of the pipe to form a sharp edge with which to probe. Insert the probe into a hay bale, and use a piece of light wire to lower a thermometer down into the end of the pipe. Alternatively, you may use a piece of 3/8 in. pipe that is 8 to 10 ft. long to test the temperature of hay.

To test the temperature of the hay, place wooden planks or plywood across top of the bales so that the weight of the person standing on the hay is distributed evenly and he or she will be at less risk of falling into a burned-out cavity. Drive a commercial thermometer or a homemade probe into the bale of hay. If you use a fabricated probe, keep the thermometer in the probe for approximately 10 to 15 minutes to obtain the temperature reading. If you use a 3/8 in. pipe, leave the pipe in place for 20 minutes. When you remove the pipe from the hay, if the pipe is too hot to hold in your hand, then you should remove the hot hay."

From Joe Brummer,
Associate Professor/Extension Forage Specialist
Dept. of Soil and Crop Sciences, Colorado State
University

References:

http://www.bae.uky.edu/ext/Hay_Storage/PDFs/HayFiresUT.pdf

For additional hay resources check the Colorado Department of Agriculture's hay directory at http://www.colorado.gov/cs/Satellite/ag_Markets/CBON/1251627561153

Pests after a flood

Not only do weeds take advantage of the disturbance of a flood and heavy rain but so do insects.

See attached pdf file.

Flooding and West Nile Virus (WNV)

Here is the latest information from concerning the likelihood of an increase in WNV due to standing water.

"Thankfully, this much rain should eliminate any mosquito issues. Larval habitats for nuisance *Aedes* mosquitoes likely were totally scoured and flushed by the storms. There may be some outlying areas that haven't seen water in a year or two that could still have un-hatched *Aedes* eggs, so not totally safe from those sorts.

Culex mosquitoes typically don't like the sorts of habitats we'll be seeing as the water resides. Also, the *Culex* females have mostly stopped blood feeding at this point and are stocking up on nectar to survive the winter. It will be interesting to see what happens next spring."

From Dr. Chester Moore, CSU CVMBS
Microbiology, Immunology & Pathology Dept.
Faculty

If you have concerns and want to vaccinate your horse for WNV, contact your veterinarian for assistance with this.

Here is the latest information on West Nile Virus.

State Veterinarian's Office Update on WNV:

Eight WNV-positive cases diagnosed in Colorado during 2013

Eight equine cases of West Nile Virus (WNV) have been diagnosed in Colorado as of September 12th, 2013. The WNV positive horses are from Delta, Larimer, Montezuma, Morgan, Teller, and Weld counties.

The incidence of WNV disease varies from year to year and depends on a number of factors, including mosquito numbers. The West Nile virus can be carried by infected birds and then spread locally by mosquitoes that bite those birds. The mosquitoes can then pass the virus to humans and animals. Horses are a dead-end host and therefore infected horses pose no threat to public health but they can be severely affected and they are an indicator of the presence of the virus in mosquito populations.

Important information for horse owners:

1. Contact a veterinarian if horses exhibit clinical signs consistent with WNV so that a proper diagnosis can be obtained – clinical signs include head tilt, muscle tremors, lack of coordination, weakness of the limbs or partial paralysis
2. Be aware that clinical signs of WNV are consistent with other important neurological diseases such as equine encephalitis, rabies, and equine herpes virus so work with your veterinarian to get an accurate diagnosis through laboratory testing
3. Consult a veterinarian on appropriate prevention strategies
4. Mitigate the mosquito populations and possible mosquito breeding areas on your property
5. Take precautions to develop methods to repel mosquitos from biting your horse

6. Vaccinate your horses for WNV as it is a very effective prevention tool

7. Protect yourself by using appropriate WNV preventive activities suggested by public health experts (see web sites below)

For more information concerning WNV and the number of Colorado counties that have confirmed test-positive horses, visit the following sites:

www.colorado.gov/ag/animals

<http://www.fightthebitecolorado.com/>

<http://www.cdphe.state.co.us/dc/zoonosis/wnv/>

For more information on West Nile Virus, visit the Boulder county Public Health website at www.BoulderCountyMosquito.net

Dealing with animal deaths after flooding

Hopefully we will not have many livestock or wildlife deaths from the flooding. In case you do suffer the loss of some livestock or you find wildlife carcasses from the flood at this point there are 2 options for disposal, composting and burial.

The state statutes are as follows:

The Colorado Statutes for dead animals is 25-1-612

Dead Animal Disposition Penalty

No person shall put any dead animal or part of the carcass of any dead animal into any lake, river, creek, pond, road, street, alley, lane, lot, field or meadow, or common or in place within one mile of the residence of any person, unless the same and every part thereof is burned or buried at least two feet underground.

In summary, the rest of the Statute states this is a misdemeanor punishable by a fine and/or time in the county jail. You will also be charged with additional offenses and fines for every 24 hours the animal is there.

The Longmont City Ordinance 9.04.030 reads:

It is unlawful for any person to dispose of a dead animal within city limits. Such animals shall be taken beyond the city limits and disposed of at a rendering plant or at some other suitable facility.

County Laws

The rules governing each county are different. Contact the Health Department in your county.

There are several options available:

1. Burial
2. Rendering

Burial

Things to consider are: How do plan to dig the hole? Some are fortunate enough to have friends and neighbors with a backhoe or a front-end loader. Trying to get a commercial excavation company may be difficult at this time.

How big and deep should it be? For a 15 hand, 1000 lb. horse the hole should be approximately 10'x10' x 8' deep. Gauge your hole for smaller animals based on this. One side sloped down like a ramp makes it easier to ease the carcass into the resting place. Other considerations when burying a large animal is the proximity to water, especially wells, and the depth of the water table (underground water). According to State Law CRS 25-1-612 there should be a minimum of 5 feet between the animal and water table and 150 feet down gradient from any ground water supply. These are critical factors to prevent ground water contamination. State guidelines also suggest sprinkling lime over the animal to facilitate decomposition.

Composting

There are some good resources available if you would like to compost carcasses. You must be very careful in doing this so that you achieve appropriate temperatures to kill pathogens. Please refer to these resources prior to attempting composting.

References:

Livestock Mortality Composting

<http://msuextension.org/publications/AgandNaturalResources/EB0205.pdf>

<http://jackson.ifas.ufl.edu/newsletters/2012/09/28/livestock-carcass-composting/>

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Email Sharon Bokan for more details

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