NC STATE EXTENSION

Dealing with Pasture, Hay, Feed and Animal Health Issues During Recovery from Hurricane Helene

As a result of Hurricane Helene, lower lying areas along creeks, streams and rivers received flood waters and extensive damage to infrastructure and existing agricultural crops. Farmers will be assessing damage to fields and property once they are out of danger and they can get around, and we are getting many questions about the likely impact on hay, pastures, feed and cattle/livestock health. This information is intended to help farmers impacted by the storm that experienced damage to their pasture-based production systems.

Livestock That Died During the Event

Any animals that died specifically as a result of the storm need to be documented as soon as possible. Photos and a written affidavit to document the losses will be needed to apply to the Livestock Indemnity Program (LIP;https://www.fsa.usda.gov/programs-and-services/disaster-assistance-program/livestock-indemnity/index).

Damage to Hay

Pasture-based livestock producers need to assess and document loss of hay as soon as it is safe to do so. If a producer lost hay they should take photos of the bales (if bales are still on the property), or the place the bales were stored. Make sure to write down the number of bales, type and quality of hay, and the estimated weight (or the size i.e. 4 x 4, 4 x 5, etc.). Contact the FSA office and visit them with this information as soon as possible. Eligible hay losses will be covered under the Emergency Assistance for Livestock, Honeybees, and Farm-Raised Fish Program (ELAP; https://www.fsa.usda.gov/programs-and-services/disaster-assistance-program/emergency-assist-for-livestock-honey-bees-fish/index).

To qualify for the program, hay had to be baled, and the program may not cover hay that was cut and on the ground (not likely in this event due to the very wet conditions that preceded Helene). Also, this program only covers hay purchased to feed or hay cut to feed. It does not cover hay that was cut to sell, or purchased for resale so producers will likely need to document that they do own livestock and planned on feeding the hay that was lost. Farmers need to file a "notice of loss" to the FSA office within 30 days of the loss.

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Feeding Damaged Hay

After Hurricane Floyd in 1999 we went to the flood zone after the water receded to determine the impact on hay that had either been flooded (totally or partially submerged in water) or that had been on higher ground out of the flood, but still impacted by 10-15 inches of rain in a 24-hour period. In Matthew (2016) we also inspected hay that had been flooded to various extents to see how much hay was left that was useful for feeding.

Hay that had been flooded in more than 1 foot of water was found to be severely damaged with little usable forage remaining. The amount of rotted hay, mold and possible contaminants in this flooded hay makes it of little practical value, and potentially a hazard to livestock. Hay that didn't go under flood waters was in remarkably good shape with only a couple of inches of damage to the outside of bales which was consistent with what you see in normal outside storage. Hay that only had a few inches of flood water on it was damaged more than upland hay, but had some hay that was ok to feed.

Our best advice on flood hay is that if it was in at least 1 foot of water for one day then it is likely in very poor shape and should not be fed, but rather counted as a loss. If the flood water was less than 1 foot up on bales, especially if it came up and went down quickly, then it is likely that some of the hay can still be fed. It is appropriate to feed the dry part of the hay that was not damaged by flood waters, as long as cattle are not forced to consume the wet and rotting portion of the bale.

Due to this difference between hay that went under water and hay that was on high ground, it is critical that producers carefully document hay that was flooded, relative to hay that was simply heavily rained on. It would be good to have an extension agent or other official verify these losses in person. However, given the number of producers impacted and difficulty traveling in the flood zone a producer affidavit with photos is the immediate need. Still it is a good idea for producers to call their extension agent to tell them their situation and to get advice, and then get them to visit when possible to help document losses incurred.

Hay that was flooded in storage barns should be removed as soon as possible because it will start to heat and spontaneous combustion is a real possibility. This hay could be used for erosion control or composted, but likely will have little usable feed value, depending on how much water it absorbed. Any hay that was severely damaged by flood and determined to not be suitable for feeding should be disposed of by burning or composting.

Baleage (wrapped fermented hay) should be more resistant to rain and flood waters than dry hay, but because of the potential for listeria and botulism if the plastic is perforated beyond repair it should not be fed. In general, the suggestion for dry hay (less than one foot of water for less than one day) would be suggested for baleage as well, and the expected damage would be less. If wrapped haylage or hay floated away from its original storage location it should be considered a complete loss.

Pastures

Many bottomland pastures were flooded and likely will be severely impacted. Again, based on our experiences following Floyd, Matthew and Florence we would expect fescue and mixed cool-season pastures likely will not survive more than a couple of days of submersion. In many upland locations the water receded quickly, so drowning damage may not be a problem. Winter annuals that were seeded before the hurricane are unlikely to survive flooding, but in many cases the annuals had not been planted. Once it is possible to get back into the fields it will be critical to remove the forage residue by cutting and baling, and then to get the winter annuals drilled in so that they can contribute to winter feed needs as planned.

It is important to remove excessive residual forage so that the seeded annuals can emerge and grow without a lot of shading and competition for nutrients. Depending on the extent of damage it might be possible to graze off the residue, but producers should be aware that there will be issues with dirt and other contaminants that came with the flood on the standing forage, and livestock are unlikely to readily eat it. Setting cutters very low (1-2 inches) will be important because much of the existing vegetation will be lodged. If there is not a great amount of residue and it is very flat on the ground, then drilling through the residue is possible.

The ELAP program will also cover losses to pasture, but given that the water is receding quickly it is not clear how that will be determined. At a minimum, producers should have reported pasture acres to the FSA office, will need to show on an aerial map where the flood waters reached, and show some proof that livestock had to be removed.

Again, making notes on a map and keeping a log of the timeline of when flood waters receded and the days of grazing lost is important. If the use of the pastures is lost for the season, then grazing days lost would be at least the number of days between the date of the storm and the end of the normal grazing season. If you had stockpiled grass to graze into the winter, then the number of grazing days lost might be much higher. Your extension agent or other advisor can help you determine how many grazing days were lost. Grazing days are reimbursed at a rate of $1.75/day regardless of the livestock species.

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Physical Damage to Fences and Grazing Lands

Removal of debris, repair of land, and repair of fences may be covered by the Emergency Conservation Program (ECP; https://www.fsa.usda.gov/programs-and-services/conservation-programs/emergency-conservation/index). This program is designed specifically for dealing with the cleanup following a storm and the repair of damage that occurred. A field inspection by FSA is recommended to determine eligibility for that program. It is critical that producers experiencing the loss take good pictures and document the number of feet/miles of fence, roads and other infrastructure that were lost.

Loss of Commercial or Commodity Feed.

Feed that farmers had on hand (including commercial feed and harvested commodities) will be covered by the ELAP program. Farmers need to document the amount and type of feed that was damaged. Flood damaged feed, commodities, and crops are considered adulterated and need to be considered a complete loss unless the damage is minimal and the farmer wishes to submit a diversion plan to the NCDA&CS Food and Drug Division.

Alternative feeds. We have had several questions about feeding alternatives given that many pastures are impacted and some producers also have little no hay or silage to feed this winter. Cows can be fed on concentrates but need some forage or other fiber source to stay in good digestive health. Cows can be fed up to 15 lbs of whole shell corn or other concentrates, and about 2 lbs of a protein supplement along with 5 lbs of hay. If trying to limit-feed hay, the hay should be put out in such a way that all animals can eat at the same time (by dispersing square-baled hay, or unrolling round bales. Sheep, goats and horses also may be fed limited hay rations as well, but horses should receive a minimum of 10 lbs of hay, while sheep and goats should receive a minimum of 2 lbs of hay daily, plus concentrates to meet the remainder of their requirement.

Some producers have swine or poultry feed on hand that they may wish to give to their livestock, but be aware that **Swine and Poultry Feeds Should NOT be Fed to Grazing Livestock** unless the company manufacturing the feeds can attest that they do not contain ruminant meat and bone meal (for all species but horses), and that they don't contain any antibiotics or other drugs not approved for cattle or horses. Unfortunately, most commercial poultry and swine feed will contain something that can't be fed to cattle, horses, sheep or goats.

Note: As mentioned above, any feed, commodity, forage or an unharvested crop damaged by flood waters is considered adulterated until it is tested for possible contamination by the NCDA&CS Food and Drug Division. For more information on how to manage flooded feed refer to the feed division at NCDA&CS.

Maintaining Health of Grazing Livestock

It is too early to know how many cattle, horses, sheep and goats were lost as a direct result of the storm, but regardless of that chronic health problems with livestock will be likely as the winter progresses. Death loss as a result of the storm needs to be documented with photos and reported to FSA as part of an application to the Livestock Indemnity Program (LIP).

Following previous storms, we documented in the weeks following the floods severe dermatitis in some animals, and that is thought to be due to contact with the flood waters, and potentially to the ingestion of poisonous plants. During the winter months we also observed animals in poor body condition, animals that had very weak calves, and higher than normal sickness and death loss. These conditions can be blamed to some extent on chronic malnutrition during the aftermath of the storm. Once it is possible, start feeding animals to regain the body condition they lost during the event. Pregnant animals will need a good supply of protein and energy for normal fetal development, so especially pay attention to them.

Be aware that feeding levels for animals that have been short on feed for several days or a week need to be higher than normal maintenance rations usually fed this time of year. Animals that have lost significant body condition due to feed restriction will need to gain weight significantly and are likely to need supplemental concentrate in addition to good quality hay or pasture. Make sure that a good quality mineral supplement is being provided and that the cattle eating it. These are always our recommendations going into winter, but this year it will be especially important given the elevated level of stress on the livestock.

Livestock will be vulnerable to a number of diseases following a flooding event, including respiratory disease, clostridial diseases (like black leg), leptospirosis, and infections due to cuts and loss of integrity of skin and hooves as a result of prolonged exposure to standing water or wet conditions. These diseases may result from either increased environmental exposure to the pathogens in question, or due to comingling with other livestock that carry the diseases. Livestock on a good health program will have been vaccinated for most of these diseases, improving the likely outcome when they undergo stress and pathogen exposure. If the animals impacted by the storm have not been on a good health program (including vaccination for clostridial diseases,

leptospirosis and respiratory diseases) should be vaccinated once they have been contained and have received adequate feed for several days. Developing a relationship with a local veterinarian is an incredibly important part of a livestock management program. If a producer does not enjoy that kind of relationship, they are encouraged to identify a veterinarian and develop a proactive health program. Remember, maintaining an adequate nutritional plane of impacted animals is a key to development of a high level of immunity to disease when vaccines are administered.

Summary

Farmers experiencing damage to livestock and livestock production systems need to document losses as soon after the event as possible and provide a "notice of loss" to their local Farm Services Agency county office. Most damage to forages (hay and pasture), feed, and infrastructure will be covered by one of the FSA programs available. Nutritional management of impacted animals is critical to a positive outcome in the months following the event. For more help with the issues described in this communication contact your local Cooperative Extension Agent, veterinarian or other advisor. In addition to the assistance programs described here it is likely that additional sources of relief funding will be obtained. The best thing farmers can do now is to clearly document their losses so they will be able to apply for those funds when they become available.

Note: During the aftermath of this type of unprecedented event there are likely to be new programs developed, and changes to the existing programs will be implemented to help victims as much as is possible. The programs described here are current programs that are already in place, so visit those websites for details.

No matter what future programs might be, if you clearly document your losses now it will be helpful in obtaining insurance benefits, existing disaster assistance, and any future assistance programs that may be developed. As changes occur this document will be updated to provide the most current information.

Look for the latest version on the NC State Extension disaster site: https://ncdisaster.ces.ncsu.edu.

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