



Managing Flood-Damaged Crops

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Invariably, floods occur somewhere in Vermont almost every year often on lowland crops. Many times, this occurs early in the season and may cause replanting issues. However, when flooding occurs later in the season, growing crops can vary in their damage and must be assessed for potential feeding problems. Based on past experiences, the following are a series of questions often asked about what to do with flood situations.

Q: What precautions should I use when handling flooded forages?

A: *Use a dust mask.* These flooded forages contain fine silt, fungus spores, bacteria and more things that **ARE BAD TO BREATHE**. Use a dust mask from a hardware store that will filter out these dust particles.

Q: I was ready to a cutting of hay off this field and then it flooded. What should I do?

A: Based on experience with previous floods, feeding heavily silted material to livestock can cause health problems, production problems, and/or reproduction problems. Generally, this material should be considered debris and avoided as feed if possible. However, if you haven't already, try to get this standing material off the field as soon as possible to encourage regrowth. Use a mask or filtered cab so you are not breathing this dust.

Q: Can I put this flooded forage into my silo?

A: To be safe, avoid making silage out of heavily silted forage. It may contain Clostridia organisms that can lead to poor fermentation or even some serious diseases such as botulism. If you do decide to ensile the forage, keep it separate from the rest of your unflooded silage (ag bag, separate silo, baleage, etc.). Chop at a proper moisture content for your silo and pack as much as possible.

Inoculate silage with a reputable lactic acid bacteria inoculant and follow the directions for correct rate. Buffered propionic acid preservatives may also be useful to limit mold and yeast growth, especially in drier silage, but may not reduce risk clostridial fermentation. Apply at rate of 3-4 lbs acid per ton of forage.

Q: Can I graze flooded pastures?

A: Be cautious. Soil disrupted by the flood and decaying organic matter can expose your animals to clostridial organisms that can lead to some serious diseases. The safest approach would be to clip the contaminated pastures and then wait to graze the regrowth. But don't

graze it too closely - avoid letting your livestock get down into the old dead material. Watch your livestock closely. If any of your animals appear sick, call you vet immediately. If you loose any animals, you may want to request an autopsy.

Q: My corn was flooded. Can I harvest it?

A: It depends on when the flood occurred. If the flooding occurred in June or July when the corn was in the vegetative stage before tasseling, then the plants will probably pollinate normally and have normal ears. If that happens to your crop, go ahead and chop it normally. You might still consider storing separately from the rest of your corn silage to reduce the risk of contamination. Picking for ear corn might be another option if the season allows it.

Check for debris before chopping. Raising your chopper head as high as possible to avoid the lowest silted leaves might help. Adding a *lactobacillus* inoculant will improve your chances of a good fermentation. There may be an increase in stalk rot resulting in more lodging. The stalk rot fungus can move inside the plant and it could infect the ear.

If flooding occurred after pollination, check the ears for mold and silt. In one flood in 1995, a field of corn was flooded above the ears and the water receded slowly such that the corn was upright but heavily loaded with silt (about 19% silt on a dry matter basis). If heavily silted and there are signs of mold, do not store and feed. Mold in the ear is bad- both feed value wise and for potential mycotoxins. The best place for corn with moldy ears is left in the field.

Q: My wrapped round bales got flooded, what do I do?

A: Flooded wrapped bales are apt to spoil. We have seen wrapped round bales that were flooded, the plastic was not torn, and there was still silt inside the plastic. If they looked OK soon after the flood, you may want to check a few bales in about a month to see if there has been any changes. You certainly do not want to wait and be surprised just as you are ready to feed them.

Q: Should I feed flooded forage?

A: Your profitability is closely tied to your forage supply and quality. Can you afford to take chances? If you do decide to feed it, you might consider diluting it with other forage. Be sure that you have it tested for nutritional value. With added silt, you may find a higher dry matter and ash content and a lower protein and energy concentration. In the Lamoille River Flood of 1995, flooded corn silage (27 samples) averaged 0.68 megal/lb NEL compared to the state average of 0.73. Once you start feeding any flooded material, watch your animals closely. You may want to also think about mycotoxins and other potential pathogens.

Q: What about mycotoxins in the hay or corn?

A: Mycotoxins are poisons that are produced by certain fungi under certain conditions. Even some non-flooded forages in Vermont contain mycotoxins. Mycotoxins can cause production problems, reproduction problems, intake problems, and possible irreversible damage to cows'

organs- like the liver and kidneys. You may want to test your forages for mycotoxins. Test after complete fermentation but soon enough that you would still have time to obtain other feed if you do have a problem. If you find mycotoxins, talk with your veterinarian and feed person. Remember that 'the dose makes the poison.' If you can mix the poorer feed with good feed, you may be all right. Your veterinarian might prescribe a mycotoxin absorbent such as bentonite - some farmers have found this to 'tie up' the mycotoxins, others have seen no effect.

Q: I think I will be real close on feed for this winter. What should I do?

A: Take inventory of what flooded and unflooded feed you do have. Estimate how much feed you will need this winter and whether you can get away without the flooded second cut. Now and this fall is the time to be doing the figuring. If you find you will have to borrow money to buy feed, talk to a banker early- it will show you are doing some planning which is good.

Q: Who can I contact about my situation?

A: If you have additional questions, please contact one of your UVM Extension specialists. You should also document damage to fields and contact your local USDA - Farm Service Agency to report crop damage. You are strongly encouraged to take photos of damage. Such information may be critical in federal emergency determinations and eligibility for such programs.

Credits:

Information for this article was modified from an original document, "1998 Flood - Forage and Feeding Concerns" by Prepared by Dennis Kauppila, Sid Bosworth and Alan Gotlieb.