



- College of Agriculture, Food Safety, and Natural Resources
- ND Agricultural Experiment Station
- NDSU Extension Service

### General Disaster Information

#### Drought

#### Flood

#### Winter Storm

#### Especially for Extension Educators

## Salvaging Crops After Flooding

### Recovery of Alfalfa, Irrigated Pastures and Hay

Many factors affect the extent of crop damage after a flood. Seasonal temperatures can be a major factor. A July flood, for example, is often much worse for crop survival than a spring flood. The warmer mid-summer weather increases the rate of damage and death to submerged plants. During spring flooding, temperatures are colder and plants can survive longer under water.

Plants that encounter flash-flooding along creeks where the water rises and recedes quickly are most likely to survive. They will experience less oxygen depletion than submerged plants. Other factors for survival include water movement and plant height. Standing water is more harmful than moving water. Plants with some leaves protruding from the water are more likely to live.

Restoration of alfalfa, irrigated pastures, perennials and hay will depend heavily on all of these factors. But it also depends on the steps you take toward recovery.

### Alfalfa

Alfalfa can withstand submersion for a limited time, depending on its stage of growth. Dormant plants may withstand submersion for as long as seven to 10 days. Growing plants can usually withstand submersion for less than three to four days without damage.

Alfalfa can recover from moderate silt deposits. Silt deposits of over 2 to 3 inches will weaken the stand, and you may need to regrade and re-establish in places.

Limit reseedling of established fields to silted patches within the field. If the entire field is silted, rework and reseed the field. Where alfalfa stand is over two years old, overseed with temporary crop and reseed alfalfa at

least one month after having reworked the field.

You can reseed small areas with fast-growing grasses. This will help provide forage until the entire field can be reworked. In old fields, seeding to annual crops such as ryegrass will provide some hay and also will help control weeds.

### **Irrigated Pastures**

You probably can restore irrigated pastures without serious production losses if silt deposits are not over 2 inches and erosion is minimal.

Recovery usually depends on the type of legume. Alfalfa probably will recover from moderate silting better than white clover varieties. White clover will not survive silting that covers the ends of the growing stems or stolons. Ladino clover, however, will fill in stands from a few surviving plants if the area is not too large.

Grasses such as ryegrass, orchardgrass, fescue and meadow foxtail will probably grow through a moderate silt deposit, and can stand several days of flooding without injury. Tall fescue will tolerate more water than ryegrass or orchardgrass. Meadow foxtail and reed canary grass can stand longer submersion than other perennial grasses.

Subsurface water saturating the root zone of deep-rooted crops such as alfalfa can damage the plant as much as surface water. To take care of excess soil moisture, open drainage ditches as soon as possible.

### **Overly Mature Perennials**

Some overly mature alfalfa or clover grass can be partially salvaged by mixing with less mature forage and ensiling the crop. Although nutritional value will be low, this is a fast method of removing the crop to ensure a good second cutting.

Ensilage perennials in either conventional upright or temporary trench silos.

To make a trench silo:

Locate the trench where drainage is good.

Design the trench for efficient feeding. A long, narrow, deep trench results in less feeding loss than a wide, shallow trench.

To make the silage:

Direct cut or wilt to 65 to 70 percent moisture.

Chop fine.

Pack thoroughly.

If available, add 100 to 200 pounds of corn and cob chop per ton of ensiled nutrients. This will improve fermentation, quality and palatability.

## Hay

To minimize damage to flooded hay crops:

Remove old growth from fields that have not been harvested. This will encourage a good aftermath crop.

Make this crop into hay or silage.

If crop is silt-damaged, chop it uniformly back onto the field. Then topdress immediately with fertilizer. You also may want to apply nitrogen to stimulate legumes as well as grasses. Check with an agronomist for recommended application rates.

On fields harvested just prior to the flood, make crop into hay or silage. Then topdress field with fertilizer. Check with your county agricultural agent for specific recommendations.

If growth is short or yellow, topdress immediately.

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