Renovating Pastures or Hay Meadows Damaged by Flooding

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Abstract
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Renovating Pastures or Hay Meadows Damaged by Flooding

By Stephen K. Barnhart, Department of Agronomy

Spring flooding can damage pasture and hay meadows almost anywhere across the state of Iowa. While most forage will likely recover, other areas that are eroded or silt- or sand-covered will require some reseeding. The following considerations are guides to planning and management.

Fertilization. Fertilizer, particularly nitrogen, is the quickest way to increase grass production in pasture areas adjacent to the reseeded area. Research over the years has shown that, with good rainfall, a modest application of nitrogen (30-50 lb. N/A) on grass pastures in late spring can provide an economical increase in dry matter production and associated animal gain per acre.

To get the full benefit from nitrogen there must also be suitable soil pH, phosphorus (P) and potassium (K) levels, and soil moisture. Partial benefit is achieved where other fertility levels are deficient. Benefits from summer-applied nitrogen will be less without adequate and timely rainfall. Areas to be reseeded should be soil sampled, and needed lime, P and K incorporated during any seedbed preparation.

Re seeding. When deciding what to plant, consider what is compatible with the forage surrounding it. Ideally, this is something not very much different. For hay, plant something that will mature similarly, and if pasture, try to plant species that have similar palatability as the residual sod. The more difference, the less uniformly it will be grazed in the future. See ISU Extension bulletin PM - 1792, Selecting Forage Species for traits of various forage species and some suggested mixtures.

When designing your own mixture, consider using only two or three compatible and well adapted grasses and or legumes.

There are several methods for planting forage crops in the spring. The most costly is complete renovation, using a drill or broadcast seeder in a tilled seedbed. Refer to ISU Extension bulletin PM - 1008 Steps to Establish & Maintain Legume-Grass Pastures. Accumulated sand or silt may have to be spread to level the area before final seedbed preparation.

A slightly less expensive approach is using a no-till forage drill and planting into a killed sod or undisturbed surface, if conditions are suitable. For more on this method refer to ISU Extension bulletin PM -1097, Sod-seeding and no-till pasture renovation.

As with most of the pasture improvement alternatives, there are some additional issues to consider when contemplating a change in pasture species. Among those questions:

• Is seed of your selected forage species and varieties available?

• Are the weather patterns and soil moisture conditions suitable to provide for
establishment and stand development? Mid- to late-spring can be a challenging time for establishing shallowly-placed, small-seeded forage grasses and legumes. If soil moisture is not adequate and if timely rainfall for the remainder of the summer is uncertain, it would be best to delay planting until mid- to late-August or the first week of September. Weeds may grow on the flood-killed areas before you can accomplish the new seeding. Mowing closely before no-till seeding may be adequate; mowing and tilling may be necessary for seedbed preparation in some cases. There is a risk of delaying too late into the autumn. Late emerging new seedlings may not have enough time to establish sufficiently to survive the winter.

- Will weed competition be sufficiently controlled to provide for the successful establishment and persistence of the newly introduced species?
- Will grazing animals be kept off the newly seeded areas until the new seedlings are established?
- If the seeding activity leads to a temporary decrease in forage production, are there sufficient forage resources to support the existing animals until the forage improvements are realized?

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