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Restoring a Flood-damaged Lawn

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Figure 1. Complete submersion of turfgrass, if prolonged, can result in death of the plants. (Photo: Kenneth Clayton, University of Kentucky)

Flooding across Kentucky has been an increasing problem in recent years and has caused significant damage to many properties, including home lawns. The deterioration or death of turfgrass is often caused by grass being smothered with silt and sand deposits left from the flood or grass being submerged under water for prolonged periods (Figure 1). Lack of oxygen to the plant can cause death when submerged, and the rate of death is often worse with higher water temperatures. Repairing these areas is important for reducing chances of erosion as well as allowing a return to the regular use of the lawn.

Repairing Flooded Lawns

When flooding has killed the grass, reseeding is often the most economical way to repair a lawn. Species selection may be the most important part of the process. In Kentucky, turf-type tall fescue is the best adapted species for our growing conditions. It is more drought resistant than Kentucky bluegrass and is quite tolerant of flooded conditions. Turf-type tall fescue germinates quicker than Kentucky bluegrass and will stand a better chance of providing a quality lawn in years to come with relatively low maintenance requirements. Perennial ryegrass can be used when extremely quick germination is needed, but in the long term it will not hold up well in this climate.

When reseeding a flooded area, you want to ensure good seed-to-soil contact while avoiding planting too deep. Seed should be planted between ¼" and ½" deep. Planting deeper than ½" will reduce the amount of germination achieved. If you are seeding into an area that has been covered with silt or sand, you may only need to lightly rake or drag the seed bed after broadcasting the seed to get the proper planting depth. If you are seeding into a dead area still covered by plant material, you will have better success using a machine such as a slit seeder. A slit seeder will place the seed in direct contact with the soil, where it can remain moist. Slit seeders have blades that dig shallow furrows into the soil and drop seed directly into the slits, which should give better and more consistent results than simple broadcast seeding. These machines are often available at rental companies.

Seeds must have adequate water to germinate. Water frequently to prevent the seeds from drying out, but not so much as to wash seeds off-site. Continue watering daily until the grass has germinated and begun to mature. With sufficient water, the seed should germinate in about 10 days. As the root system develops and gets deeper, the frequency of watering can be reduced. If access to water is limited, germination will be improved by the addition of a light coating of straw or grass hay.

Figure 2. Standing water damaged this area in the turfgrass and weeds will quickly invade the bare areas. (Photo: Kenneth Clayton, University of Kentucky)

Adding 1 lb. of nitrogen per 1,000 sq. ft. will promote quicker recovery and establishment of new grass. It is best to complete in two applications at ½ lb. of nitrogen each time to reduce the potential for tip burn on new seedlings. Slow-release forms of nitrogen fertilizers have the least potential for damaging new seedlings, but other sources can be used successfully. Try to apply at a time when the air temperature is not very high (<80°F), and then water the fertilizer in immediately following the application to reduce burn potential. Ideally, submit a soil sample from the area to be planted to your local Cooperative Extension Office to determine if the addition of lime, phosphorus, or potassium are warranted and to determine the recommended amounts needed. If the flooding left deposits of mainly sand, the addition of these nutrients may be required.

September is the best time to seed grass in Kentucky, but earlier or later seedings can be successful. The cooler temperatures and shorter daylight hours of September (and fall in general) favor grass establishment because the seed zone stays moist for longer periods than in the summer. Fall seedings typically have less weed competition than spring seedings (Figure 2).

With new seedings, there is no need to wait for extended growth of 4 to 5 inches before mowing. Aim to mow when the grass is approximately ⅓" higher than the desired mowing height. With fall plantings, winter annual broadleaf weeds can become highly competitive with new seedlings. Many herbicides are available to control these weeds. Waiting until after the third mowing before herbicide applications will ensure the new grass has matured enough to handle the application. With all herbicides, always read the label closely to ensure you will not damage the new stand of grass.

For additional information please see UK Extension publications:
AGR-50: Lawn Establishment in Kentucky
http://www2.ca.uky.edu/agcomm/pubs/agr/agr50/agr50.pdf
AGR-51: Renovating Your Lawn
http://www2.ca.uky.edu/agcomm/pubs/agr/agr51/agr51.pdf

Keys to Success

- Select a turf-type tall fescue seed.
- Plant at a depth of ¼" to ½" to ensure good soil-to-seed contact.
- Maintain adequate moisture to achieve maximum germination.
- Apply approximately 1 lb./1,000 sq. ft. of nitrogen to promote growth.

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