



United States
Department of
Agriculture

Natural
Resources
Conservation
Service

June, 2008

This information is applicable to most spring flooding of Indiana soils and cropping conditions and covers broad application.

Indiana NRCS Guide Sheet

HEL Compliance – 2008 Flood Reclamation

The catastrophic rainfall and flooding events in 2008 have left many Indiana fields in a state of demolition. Upland fields may be riddled with gullies, rills, tile holes, and surface crust. Even fields under well managed conservation cropping systems may have extensive rills and ephemeral gullies that occurred along planting tracks, planter markers, nitrogen knives or other field operations.

Many of these fields are classified as Highly Erodible Land (HEL) and the damages are so severe and widely affected that the entire field will need to be treated by grading gullies and severe rills, and leveling the remaining areas with a field cultivator or finishing tool to facilitate replanting.

In response to this need, NRCS in Indiana is offering a temporary conservation compliance variance for any replanted fields in counties federally declared and recognized by FSA due to excessive rainfall and flooding for 2008, including contiguous counties - <http://www.in.nrcs.usda.gov/programs/EWP/EWPhomepage.html>.

Details of this variance include:

1. This variance applies only to fields needing replanted or repair work completed post-harvest in 2008 **due to excessive rain** prior to the 2009 crop year.
2. Producers must maintain documentation and make it available to NRCS during any future Compliance Status Review. Documentation should include:
 - a. The dates of, the cause of, and the extent of damages to fields
 - b. Spring/Summer repair work dates and repair methods
 - c. Replant dates and site preparation methods
 - d. Dates and degree of additional repair work completed post-harvest in 2008.
3. The following guidance, designated as **required**, must be followed for the post-harvest and spring 2009 cropping activities.

Upland fields with damage from excessive runoff:

Short Term Suggestions - now through summer

1. Inspect Conservation Practices. Some of the most common occurrences are:
 - a. WASCOSBS, Terraces or Diversions may have over topped or undermined.
 - b. Grassed Waterways may need to be regarded and seeded.
 - c. Grade Stabilization Structures need to have wing walls and weirs checked for scouring
 - d. Pipe structures should be cleared from drift and debris.
 - e. Rock chutes may need to be re-graded or shaped.
 - f. Many ponds and dams have been over topped or washed out. Check spillways for debris and vegetation for scour.
2. Evaluate crop stand to see if replanting is necessary
 - a. For replanting, where possible, use a no-till system to preserve remaining moisture. Water will likely be the most limiting factor for late planting.
3. Extensive rills and ephemeral gullies may have occurred (erosion may follow planting tracks, planter markers, nitrogen knives or other tillage operations).
 - a. Some of these fields are so severe and widely affected that the entire field may be treated by grading gullies and severe rills, and leveling the remaining areas with a field cultivator or finishing tool.

- b. For gullied areas that will require a permanent erosion control practice, grade as needed so it will be possible to cross it for harvest **and seed to a temporary cover or double seed it with the replant operation.**
- c. For areas that rarely have visible erosion but need repair for replanting or so fields can be harvested, grade to a flat bottom to spread future runoff and reduce velocity **and seed to a temporary cover or double seed it with the replant operation.**

Fall and post harvest:

Recommended:

- 1. Conduct a fall soil test.
- 2. Apply nutrients (**P & K only, Nitrogen applications in the fall/winter are not recommended due to potential losses**) - deep banding or incorporating is preferable to avoid nutrient losses.
- 3. Address additional identified soil quality problems such as sand deposition, compaction, loss of organic matter, loss of biological organisms, etc.
 - a. A subsoiler, or large offset disc plow may be needed break hard pans and further incorporate deposits.
 - b. Adding manure or compost may help build organic matter, nutrients, and feed biological growth.
 - c. Select a cover crop(s) which offer qualities specific for restoring soil function.
- 4. A final leveling with a land leveler or finishing tool may be needed.

Required:

- 5. **If the above activities leave crop residue below acceptable levels, Seed a winter cover crop to further address compaction, rebuild soil structure and provide protection for the loosened soil condition.** This will provide adequate residue cover when further fall tillage operations are needed to repair damages.
- 6. **Repair any other conservation practices that are required in your compliance plan** (as described in the Short Term Suggestions above).

Following season(s):

Required:

- 1. **Resume the approved conservation compliance cropping system in place prior to the 2008 disaster.**
 - a. Even if not required for compliance purposes, consider a No-Till or Mulch-Till cropping system to offer continued soil protection and structure building. Including a perennial grass/legume mix to your rotation will significantly increase the restoration of soil structure and productivity.

Recommended:

- 2. Scout for pests. Catastrophic flooding and erosion can introduce new threats and/or remove natural defense organisms.
- 3. Continue a close monitoring of nutrient needs and placement. Banding below the damaged surface will increase season long availability.
- 4. Continue monitoring and inspecting the drainage systems.
- 5. Additional year(s) of Cover Crops will be very beneficial to restoring the soil functions and productivity along with trapping crop residues and protecting the soil from erosion.

Through each step, follow a defined path to improving the soil quality and function...As with most important decisions, following the basic planning process will serve you well!