Fixing tile blowouts: What you need to know!

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Tile Blowouts
Tile blowout development in agricultural landscapes can occur from a variety of means:

- Collapse of clay or concrete tiles from degradation over time
- Inadequate venting
- Expansion of tile system without adequately resizing main or sub-mains
- Outlet blockages
- Improper joint connections or junctions between old/new tile lines
- Contact of deep tillage equipment with shallow tile lines
- Animal burrows
Identifying Tile Blowouts

- Most easily performed in the late stages of spring snowmelt when soils typically have reduced surface cover.
- When identified, immediately mark with a stake and take a GPS position or photo if possible.
Farmers are allowed to fix their own tile blowouts, but there are several questions to consider:

1. **Is the tile system within a drainage district that is governed by county drainage boards?**

   If so, the local drainage board needs to be contacted prior to tile system maintenance. Cost-sharing for the tile system repair might be available through the drainage board. To determine if your tile system resides in a drainage district, visit the Wisconsin Department of Agriculture, Trade and Consumer Protection Drainage District Program at: [http://datcp.wi.gov/Environment/Drainage_Programs](http://datcp.wi.gov/Environment/Drainage_Programs) for a web map and additional information.
DATCP is aware of about 176 active drainage districts in Wisconsin. Of the 72 counties in Wisconsin, 31 of them contain one or more drainage districts. The majority of the drainage districts are located in the eastern and southeastern portions of the state.

Source: Seth McClure, WDATCP (2012)
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2. **Is the location of the blowout within a designated wetland?**

Contact your local United States Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS) field office for wetland determination. USDA benefits may be affected with non-compliance of rules:

Designated Wetlands (Swampbuster)

To maintain USDA benefit eligibility, producers must certify that they have not:

• planted an agricultural commodity on a converted wetland that was converted by drainage, dredging, leveling, or any other means (after December 23, 1985)

• converted a wetland for the purpose of or to make agricultural commodity production possible (after November 28, 1990).

Source: Wetlands and Conservation Compliance: What Every Wisconsin Farmer Needs to Know
Designated Wetlands

**Farmed Wetland (FW) and Farmed Wetland Pasture - (FWP)**

- Cropped or grazed prior to December 23, 1985, and are saturated for at least 14 consecutive days during the growing season.

- Drainage system may be maintained as originally constructed (prior to December 23, 1985). *May not be improved beyond the scope & effect of the originally installed system.* (Except with abandonment)

**Prior Converted Cropland (PC)**

- Saturated for less than 14 days but may exhibit wetland characteristics

- *No restrictions on drainage maintenance or improvements*, as long as adjacent wetlands are not adversely impacted.

- PC’s retain this label as long as they remain in agricultural use.

Source: Robert Weihrouch, USDA NRCS (2011)
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3. **What caused the blowouts to develop?**

   The cause of blowout formation is critical to prevent future formation of other blowouts. Tile age degradation, improper venting or undersized tile mains are common issues that will result in persistent development of blowouts. If tile system issues are not remedied in conjunction with the tile blowout, the problems will persist.
Always contact Digger’s Hotline prior to excavation for tile repairs.

Dial 811 or (800) 242-8511

www.DiggersHotline.com
Surface & tile sediment loss

Farm A: Chisel plow, injected  Farm B: grazed paddocks  Farm C: no-till, surface

Farm A: Tile: 240 lbs/acre/year average  Surface: 740 lbs/acre/year average  25% Surface Runoff, 75% Tile Flow

Farm B: Tile: 440 lbs/acre/year average  Surface: 15 lbs/acre/year average  97% Surface Runoff, 3% Tile Flow

Farm C: Tile: 35 lbs/acre/year average  Surface: 170 lbs/acre/year average  17% Surface Runoff, 83% Tile Flow
Surface & tile phosphorus loss

Farm A: Chisel plow, injected  Farm B: grazed paddocks  Farm C: no-till, surface
A new service for agronomists

- Develop maps of unknown tile system locations
- Identify tile blowouts to be fixed
Fixing Tile Blowouts: What You Need to Know

Tile blowouts in Wisconsin are becoming a common occurrence on older clay and concrete tile drainage systems. Proper maintenance of the lines is crucial to the long-term efficiency of the system. Blowouts can result in soil loss and damage to the tile system, causing it to malfunction. Blowouts can be caused by high flow rates in tile lines, erosion, and vegetation.

Causes of Tile Blowouts
- Collapsing of tiles from degradation
- Inadequate spacing of tiles
- Inadequate bed drainage
- Expansion of loose soil

Keys to Identifying Blowouts
- Look for signs of water infiltration in the area around the affected tiles.
- Check for gurgling or bubbling sounds near the affected tiles.
- Look for signs of water accumulation near the tiles.
- Check for signs of soil erosion or gullies near the tiles.

Tile Drainage in Wisconsin: Maintaining Tile Drainage Systems

Tile drainage systems play an important role in Wisconsin's agricultural productivity. To maintain optimal soil conditions, it is necessary to monitor and maintain tile drainage systems regularly. Proper maintenance of tile drainage systems can prevent soil erosion and improve crop yields.

The purpose of this publication is to:
- Provide information on inspecting and maintaining tile drainage systems.
- Present issues to consider when monitoring existing tiles or installing new drains.

"Tile drainage systems should be inspected annually, preferably at peak flow times that typically occur during spring melt and after heavy rainfall events."

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