

The Concept Defined

For years, talk of the “Dead Zone” in the Gulf of Mexico pinned a large portion of ecological blame on agriculture production in the Midwest.

For decades, thousands of farmers with sloping and steep ground diligently used conservation practices and techniques to reduce soil erosion, minimize nutrient loads and improve water quality.

There now is a way for producers with essentially flat ground (1 percent and flatter) to join the fight against excess nitrate runoff and use this new water quality solution on their farms.

DWM is an NRCS-approved conservation engineering practice. Eligible landowners who install DWM systems may receive technical and financial assistance through the Environmental Quality Incentives Program (EQIP).

DWM works in Missouri. It improves water quality and it may increase crop production as well.

Does this sound like an option for your operation? Call your local NRCS office or visit www.mo.nrcs.usda.gov to learn more.

Water and Drainage

Farmers know how water works -- there's often too much of it or not enough. They need a way to fine-tune water delivery on THEIR terms.

DWM simply holds water in root zones when crops need it and drains it when there's too much.

It might be time to consider adding Drainage Water Management to your operation. Talk to NRCS today. See how well DWM techniques could work for you!

DWM Benefits

- Reduce loading of nutrient pathogens and pesticides into the drainage system and off the farm.
- Improve crop productivity and profitability.



Make drainage tiles work **BOTH** ways:
Take excess water off or
hold it back for later.

Drainage Water Management

Tile Systems with Dual Functions



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Looking Back

Historically, subsurface tile drainage made profitable crop production possible on flat fields. One unwanted by-product of this process is excess nutrients -- nitrates and phosphorous -- that ultimately enter creeks and streams through tile drain water and negatively impact the environment.

The Big Question

How can we better use existing tile lines in a way that makes them part of the **solution** and not part of the **problem**?

According to the Natural Resources Conservation Service (NRCS) and university researchers, agricultural producers can use concepts like Drainage Water Management, or DWM.

What is DWM?

DWM manages the timing and amount of water discharged from agricultural drainage systems. The process is based on the premise that identical drainage intensity is not required at all times during the year.

Water quality benefits are possible by minimizing unnecessary tile drainage and reducing nitrate amounts that leave farm fields. DWM systems can also retain water needed for late season crop production.

DWM systems work best on very flat ground, and are not an option for farms with steep or sloped ground. However, many Missouri landowners could benefit.

These are the producers that NRCS conservation specialists can assist by developing Drainage Water Management Plans.



Have local Missouri contractors install DWM structures on your ground.

How Does it Work?

Operators manage water table levels by simply retrofitting existing tile systems with **water control structures**. Each structure controls an elevation-defined area, based on lay of the land and the tile system layout already in place. Structures are small, reasonably priced, and simple to operate:

- 1 Remove riser boards to drop water table levels about 10 days before planting.
- 2 During the growing season, stack riser boards to raise the water table high enough to provide capillary water to the crop root zone.
- 3 Remove boards to lower the water table 10 days before harvest.
- 4 After harvest, raise the water table even further -- near ground surface -- to hold nutrients in the soil over winter.

DWM is an approved NRCS conservation practice.

