

COVER CROPS & NITRATE LOSS

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the CHALLENGE: reducing nitrate loss from agricultural land and improving water quality

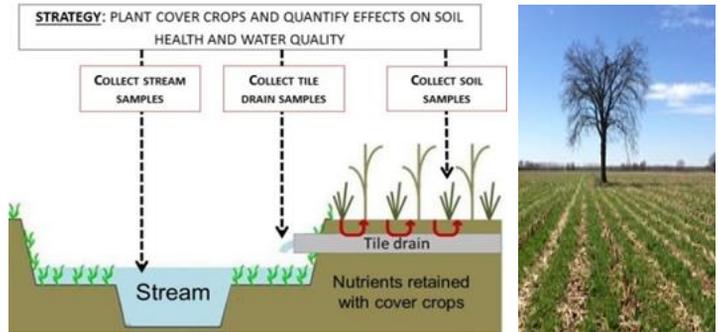
Agricultural streams and ditches export excess nitrogen (N), phosphorus (P), and sediments to sensitive downstream ecosystems. This contaminates drinking water, fuels algal blooms with “dead zones” and harms fish and mussels.

Excess fertilizer nutrients enter streams/ditches via tile drains, especially in Winter and Spring when fields are bare.

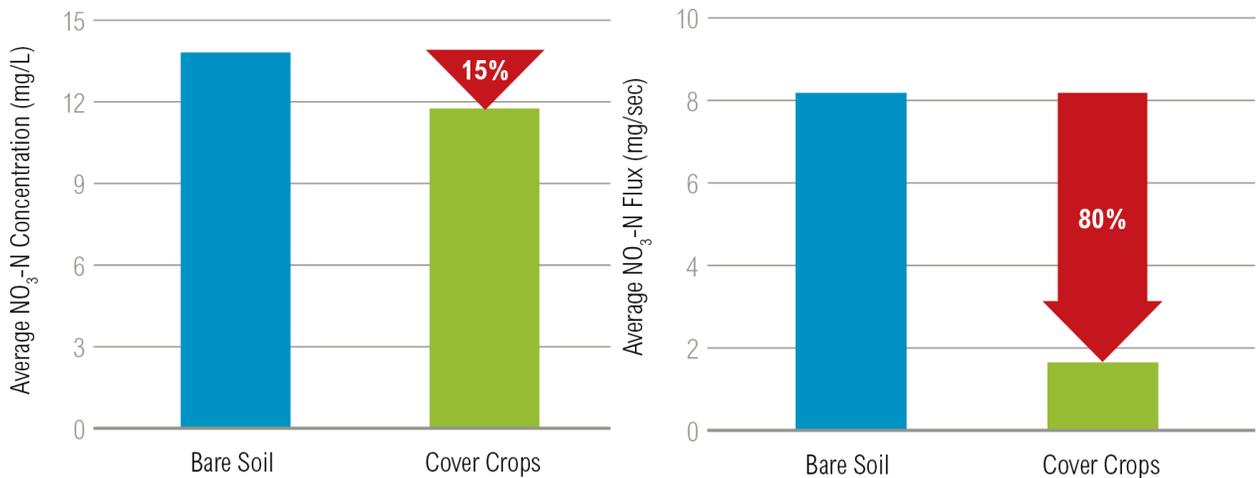
our STRATEGY

GOAL: Retain nutrients/soils on fields and reduce stream export.

Cover crops are planted after cash crop harvest and their growth coincides with critical times for nutrient export from tiles to streams/ditches. We are measuring their impact on tile drain nutrient loss and water quality in the Shatto Ditch.



Shatto Ditch RESULTS so far



- On average, after 3 years of planting, nitrate-N concentrations were 15% lower in tiles draining cover crops.
- Cover crops also reduce tile drain nitrate loss rates (as flux) by 80%. Reductions were most prevalent during Winter/Spring.

CONCLUSIONS: Cover crops provide a farmer-initiated solution to fertilizer management that reduces nutrient loss to tile drains, thereby improving water quality of adjacent ditches and streams.



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