retaiN

Clare Lindahl, Executive Director
Conservation Districts of Iowa

&

Jamie Benning, Water Quality Program Manager,
Iowa State University Extension and Outreach
retain seeks to give farmers the tools and information they need to make the best conservation decisions on their land, starting by helping farmers test for, understand and retain their nitrogen.
• State Soil Conservation Committee Research and Demonstration Grant Program Request for Proposals
• Consider funding a pilot project that could be scaled up statewide that would ultimately result in farmers being able to test their own tile water
• Tim Smith
  “I always thought I was doing everything pretty good in terms of nitrogen stewardship, but it turned out I had room for improvement” Smith said.
• Interest by farmers to know where they are at, how practices impact
• retain is a collaboration between Conservation Districts of Iowa and Iowa State University Extension and Outreach and Iowa Learning Farms with support from the Iowa Department of Agriculture and Land Stewardship, Division of Soil Conservation and Water Quality
Simple kits make testing tile water for nitrogen easy & provide solutions for retaining nitrogen on the farm.
Kit contents:
Nitrate/Nitrite Test Strips
Kit contents:

Booklet

- How N is lost
- Using the strips to test the water
- Reading your results
- Retaining your N
- Practices that retain N
  - Practice descriptions
  - Average reductions in the loss of N
  - Farmer input on practices
- Log for results
- Project supporters
Cover Crops

Thousands of farmers in Iowa have begun using cover crops, plantings that cover the soil during the 6+ months it is otherwise bare after crops are harvested. Farmers report improved soil health and yields, decreased soil compaction and erosion and nitrogen retention. Livestock producers get an additional economic benefit with opportunities for grazing and forage production.

31% AVERAGE REDUCTION in the loss of N

“I use cover crops for soil health, to reduce compaction, improve water infiltration, increase organic matter and biological activity. The increased soil health from my cover crops and strip tillage have reduced costs and increased yields on my farm, a net gain.”

Bob Lynch, Farmer, Humboldt County, Iowa
www.retainiowa.com

RETAIN

HELPING
FARMERS
RETAIN
THEIR
NITROGEN

instructional video | contact information | resources for those distributing kits
Kit Distribution

Nutrient Reduction Strategy Water Quality Initiative Demonstration Watershed Projects

Soil and Water Conservation Districts | Iowa State University Extension and Outreach | Agribusiness Association of Iowa Certified Crop Consultants (CCCs) | Iowa Soybean Association | Iowa Corn Growers Association | Individual Farmers | Others
Next Steps

incorporate feedback

Farmers & Conservation Staff

NRCS
Next Steps

add videos of conservation practices

cover crops | no-till | drainage water management | precision conservation systems | saturated buffers | prairie strips
Next Steps

make and distribute more kits
Next Steps

add calculator for determining flow, N loss over a period of time, loss costs and potential cost savings of practices.
Next Steps

add calculator for determining flow, N loss over a period of time, loss costs and potential cost savings of practices

<table>
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<th>time</th>
<th>gallons</th>
<th>lbs of N</th>
<th>lbs of N per acre</th>
<th>cost per acre</th>
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<tbody>
<tr>
<td>seconds</td>
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</table>

10 seconds to fill
5 gallons of container
20 mg/L of N
10 acres field drain to tile
$0.40 cost of N per lb

* Ag Decision Maker – Iowa State University Extension and Outreach
Next Steps

connect to local data

www.programs.iowadnr.gov/maps/watermonitoring

www.iwqis.iowawis.org
Next Steps

make information on additional testing available

NRCS

Iowa Soybean Association
5 minutes | tests soil and water for nitrogen | portable
Soil Health Buckets

- **Physical properties**
  - Infiltration test
  - Bulk density
  - Soil temperature
  - Organic matter

- **Chemical properties**
  - pH
  - Nitrogen
  - Phosphorus

- **Biological properties**
  - Solvita (respiration) test biological activity
Additional tools available

- **Trailer rainfall simulators** (Area Offices in Fort Dodge, West Union and Fairfield)
- **Tabletop rainfall simulator** (set of 2 per 2 field offices)
- **Penetrometer** – soil compaction (every office)
- **Soil moisture probe** (area offices)
- **Slate test** – aggregate stability (every office)
- **Solvita test readers** (area offices)
- **Amoozemeter** - run measurements of saturated hydraulic conductivity, how well water infiltrates (5 in Waverly Soil Survey Office)
- **Thermometers that can be buried** (each field office has 3 but they are in area offices)
Thank you!

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