Agriculture and Drinking Water, How it affects YOUR operation

presented by:
Eric Fuchs
My (Eric’s) “Operation”
Sheep Operation
The Water PROBLEMS

- DBP - Disinfection By-Products
- Atrazine
- Nitrates
- Phosphorus
- Algal blooms
- Dead Zones
History/Past Lawsuits

- Atrazine
- Hannibal
- Des Moines
- Who is Next??
Non point
2013 Nitrate Concentration Record on Raccoon and Des Moines Rivers

Raccoon River: 24 milligrams per liter (mg/L)
Des Moines River: 17.87 mg/L
Not Just Nitrate

* Cyanotoxin detected in Des Moines finished drinking water in August 2016
* Same toxin found in Toledo’s water supply in August 2014

Toledo, Ohio, August 2014
New Hampton MO

- 130 Connections
- 279 Population
- $917,000 upgrade costs
- $3286.00 Per person
- 36lbs ammonia discharge per year
1 Acre Corn Field

- 200lbs Actual Nitrogen Average per acre
- 30-50% Nitrogen efficiency
- 100-140lbs per acre lost to the environment
- 90 million acres of corn in the US
Nutrient Efficiency

Nitrogen Efficiency:
• 30-50% conventional
• Increase to 80-90% with Cover Crop & No-till

Phosphorus Efficiency:
• 50% conventional
• Increase to 80-90% with Cover Crop & No-till

Healthy Soils are FERTILE Soils
Healthy Soils mean Clean Water
Soil and Water Quality Issues
Water Quality Issues Around The U.S.

- Very Little No-Till
- Extended periods where ground isn’t covered
- Huge Disconnect between Ag and Water Quality (Drinking Water)
- Huge Disconnect between Water and Consumers

© Missouri Rural Water Association
Current Solutions

- Grass Water Ways
- Terraces
- 4 R’s
- Bio Reactors
4 R’s

- Right Source
- Right Rate
- Right Time
- Right Place
Plant available Nitrogen, exactly what we want...right???
Reduce N losses

- Nitrate mineralized from crop residues and soil OM is highly soluble through the winter
- N Leaching can exceed 50lb/ac. even without a fall N application.

“Catch and Release” Nutrients
Comparisons
The Future

* More Regulations
* More Consumer Input
* Costly Upgrades
* More Expertise
The Government’s Solution
Rule to live by

*Do unto those downstream as you would have those upstream do unto you