

# KY 590 UPDATE



# 590 Working Group

- UK-Steve Higgins, Richard Coffey, Edwin Ritchey
- NRCS-Randy Smallwood, Tibor Horvath
- KYDOW-Pete Goodman
- KYDOC-Steve Coleman, Crystal Renfro
- ARS-Carl Bolster

# Background

- KY NRCS 590 must be in place by January 2013. Practice standards are updated nationally every 5 years.
- KY NRCS 590 is a planning tool for our planners to develop plans that provide guidance pertaining to the wise use of nutrients.
- 590 is based on the 4R's: right place, time, form, and right rate.
- Our 590 standard is referenced in the KY AG Water Quality Authority Act. Changes to the NRCS 590 affect state law.

# Nutrient Problems

- Once phosphorus reaches a high level in the soil, it is very hard to reduce even if hay or silage is taken from the fields.(UK farm example.)
- Phosphorus finds it way to our streams by way of leaching, erosion, and other forms.
- Filters are a temporary solution and become nutrient sources over time.
- Nitrogen can leach into water supplies. (California example.)

# Phosphorus leaving by erosion



# Phosphorus Index

- Must be used when AGR-1 crop recommendations are exceeded for the crop rotation. (For most crops that is 60lbs/ac.)
- Must be used when waters are degraded.
- Must include all potential Phosphorus losses from the field.
- Must be based on land grant university research.
- Must “zero” out at some point.
- Must be sent to Washington for approval.

# Phosphorus Index

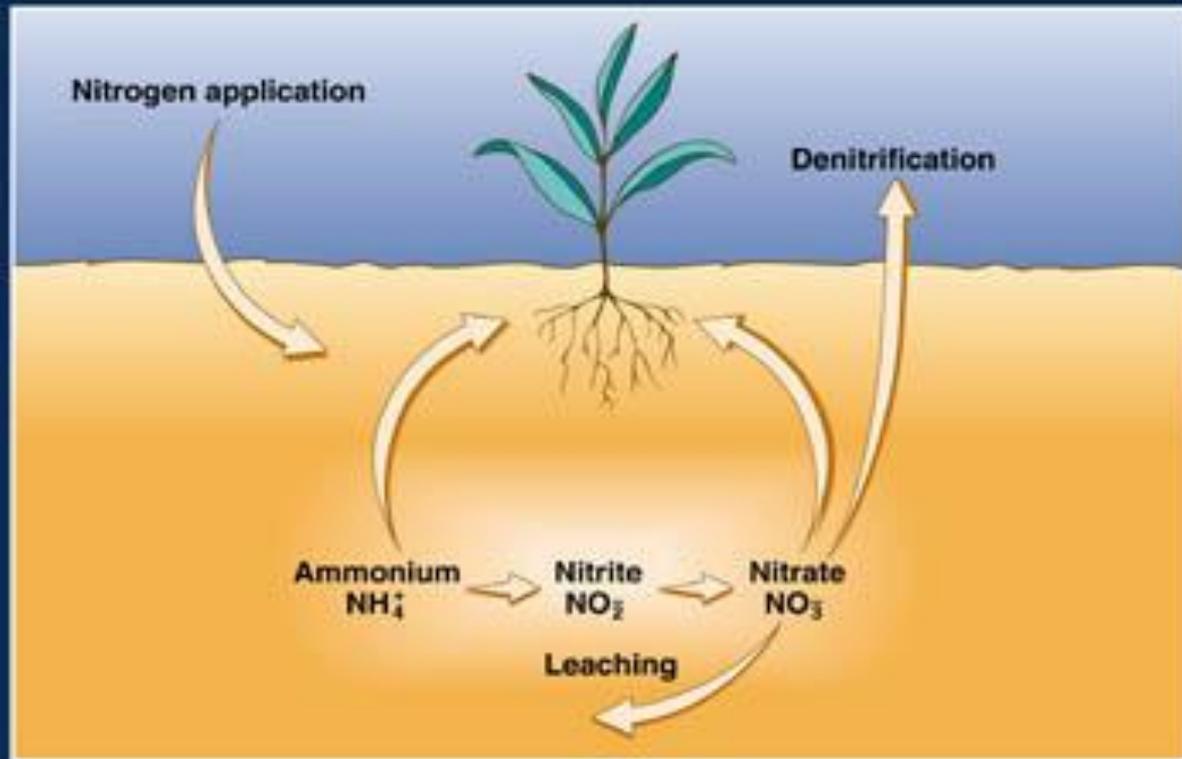
- If UK crop recommendations are followed and waters are not degraded then the P index does not have to be used. Plans will be based on Nitrogen crop needs.
- If UK crop recommendations are exceeded, the P index will need to be used in the planning process.

# Phosphorous Index

- **Low score** = nutrient applications can be Nitrogen based not to exceed 800lbs/acre or 2 times the environmental threshold of 400lbs/ac.
- **Moderate score** = plans become Phosphorus crop removal based. When P levels hit 600 then half rates are allowed until the 800lb cutoff.
- **High score** = application rates are P removal based but the cutoff is lowered to 600lb/ac or 1.5 times the environmental threshold.

# Nitrogen Losses

## *Nitrification process*



# Nitrogen Leaching Index

- Determines the risk of Nitrates leaching through the soil to the ground water.
- Sandy and Karst areas may be affected
- Tibor Horvath is working with ARS (California) to develop this tool.
- We hope to incorporate it into the P index so planners just need to input information once to determine nutrient risks.

# Manure Application Setbacks

AWQA will review and/or provide setbacks for:

- Liquid Manure CAFO
- Liquid Manure Non-CAFO
- Solid Manure (Poultry)
- Solid Manure (Beef /Dairy)

# Deadlines

- **September, 2012-** update AWQA
- **October, 2012-** Present draft to producer group leaders.
- **November, 2012-** Present to producer groups and ask for feedback.
- **December, 2012-** Make needed revisions.
- **January 1, 2013-** Completed 590 with functioning risk assessment tools and manure application setbacks.

# **NRCS 340**

## **Cover Crops in KY**

Popularity-? EQIP 2012 \$1.1 million (17,300 ac)



# NRCS 340

## Cover Crops in KY

What are the functions of a good cover crop?

- Prevents soil erosion
- Scavenges unused nutrients
- Adds biomass/green manure
- Reduces compaction and improves soil health
- Weed suppression

# **NRCS 340**

## **Cover Crops in KY**

Added benefits:

- Wildlife winter food source
- Aesthetics
- Soil microbial function
- Water infiltration

# NRCS 340

## Cover Crops in KY

History: Small grain production vs cover crops

- UK Hessian Fly Concerns-can travel miles with weather events
- Safe wheat/barley cover crop planting dates are after frost.
- What part of KY doesn't grow wheat for grain?
- NRCS doesn't want to enable a pest to cause crop failures
- Standards are developed in coordination with UK research.

# NRCS 340

## Cover Crops in KY

- Cereal Rye/legume - erosion control, nitrogen scavenging, nitrogen building.
- Cereal Rye/diakon radish - compaction reduction, nitrogen scavenging
- Cereal Rye, diakon radish, and 2 legumes.(Soil Quality mix)
- Organic cereal rye mixes.
- Summer mixes can be substituted.

# NRCS 340

## Cover Crops in KY

Questions from the field:

- Why just Cereal Rye? *Why not.*
- Annual Ryegrass? *Weed potential is high in KY.*
- Wheat? *Hessian Fly free date is Oct 15 for most of KY. Leaves us with a small window of opportunity to plant cover crop.*
- Barley? *Hessian Fly uses is as a host as well.*
- Oats? *It can winter kill.*
- Why did NRCS require minimum kill dates in EQIP? *Promoting Soil Health and maximizing benefits for every EQIP dollar.*

# NRCS 340

## Cover Crops in KY

### Changes for 2013:

- Kill dates will be removed as a requirement for regular cover crop scenarios due to RMA concerns with crop insurance. A certain growth stage before spring burn-down may still be required.
- We are looking at other viable small grain options with regional partners in NRCS Appalachian Regional cost team.
- May add a 344 residue management payment for Soil Health cover crop management. Kill dates will become a growth stage before seed head forms so these participants can be eligible for crop insurance.

# NRCS Regional Payment Schedules

- **FY2012**- 10 practices, practice costs to install and the associated payment rates were developed regionally.
- **FY2013**-All other practices are scheduled to have this process completed by November 2012.
- KY is in the Appalachian payment schedule region with TN, NC, VA, WVA.

# NRCS Regional Payment Schedules

- National Scenarios have been developed for the teams to use as a starting point.
- Scenarios are limited nationally. (5 for Cover Crop)
- Costs for practice components are developed based on National Cost team. That information is specific to each state.
- Our team makes sure the scenarios are correct for our states. We all must agree on the scenarios for the region. We make adjustments to the amounts or add needed components.
- Provides more uniformity in payments between states for the same practice.

# Questions?

