Nutrient Tracking Tool

National Workshop on Water Quality Markets

September 17, 2015

NRCS is an equal opportunity provider and employer.
Nutrient Tracking Tool - History

- NTT was built to facilitate Water Quality Trading
- It employs a user friendly interface to access the APEX
- The initial version of NTT was linked to the NLEAP model but we transitioned to APEX
- NTT was prototyped by NRCS in 2008 - 2010
Nutrient Tracking Tool

- Built to reduce transaction costs
- Results are completely transparent
- The science, data, results and reports are managed nationally by USDA
Nutrient Tracking Tool -

• Currently NTT is envisioned as a planning tool for environmental outcomes and is in development to embed it in NRCS corporate planning tools
• NTT is also being used as the science tool behind water quality trading and functions as a USDA application
Nutrient Tracking Tool – Current Development - Strategy

NTT (Interface) Development
COMET-Farm integration
APEX Modeling
Parameterization
Nutrient Tracking Tool – Current Development

- NRCS is currently updating NTT to utilize the current APEX version
- Data provisioning is being automated based on Area of Interest (AOI)
  - 50 years of daily time step data
  - Soil information from web soil survey
  - Agronomic information from LMOD
- NTT functionality will be embedded in NRCS corporate planning tools
Nutrient Tracking Tool – Current Development

• OEM funded a Research Associate in Temple, TX to provide:
  – APEX coding expertise (.NTT files)
  – Assist in NTT results interpretation

• OEM funded ARS parameterization study focusing on:
  – Parameterization methodology review
  – Estimates for ARS to aid in Parameterization
Nutrient Tracking Tool – Current Development

• User Interface Development
  – Integrate GUI selection tool from CSU
  – Web Services data provisioning
    • HRDE – Climate
    • Web Soil Survey
  – LMOD connections for agronomics
  – Enhanced graphics on reporting
<table>
<thead>
<tr>
<th>Date</th>
<th>Year</th>
<th>Crop, grain</th>
<th>Operation</th>
<th>Amount</th>
<th>Depth</th>
<th>Edit</th>
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</thead>
<tbody>
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<td>May - 04</td>
<td>1</td>
<td>Corn, grain</td>
<td>Fert applc, surface broadcast</td>
<td>201.75</td>
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<td>edit</td>
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<td>Harvest, killing crop 50pct standing stubble</td>
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<td>3</td>
<td>edit</td>
</tr>
</tbody>
</table>
Nutrient Tracking Tool

Soils

LMOD

Climate

APEX 0806 Cloud App

NTT Reports Delta N, P, Sediment, Yield

- USDA
- TIAER/USDA

AOI Selection

Nutrient Tracking Tool

NTT
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