

**Registry**

- TSP Registry
- Business/Agency Registry

**TechReg Resources**

- Admin Reports
- Categories & Criteria Options
- Categories & Criteria Options (Expired)
- Conservation Activity Plan Options
- State Conservationists
- State TSP Coordinators
- TechReg Program Web Site

**Utilities**

- User Maintenance

**Feedback**

- Comment to TechReg Team

Certification State:

Resident State:

TSP Status:

Category:

Name:

**18 certified**  
**2 soon to be certified**  
**1 under review for re-certification**

25 TSPs found.  
[View/Print TSP List](#)

TSP List						
< Previous Next >						
Name	TSP Number	TSP Status	Phone	Email	Last Change Date	
BERKLAND, MARK W	TSP-03-2117	Certified	8434758164	mberkland480@gmail.com	4/23/2014	
COLTRAIN, RAYMOND D	TSP-04-3949	Certified	7046428918	rdcoltrain@carolina.rr.com	4/15/2014	
CONRAD, DANIEL	TSP-05-4946	Under Review	6143063940	DanConrad@yahoo.com	5/22/2014	
CUMMINS, RONAN	TSP-04-4400	Certified	2703131101	ronan@agronomyone.com	4/3/2014	
DONALDSON, JOHN CORDELL	TSP-03-1042	Certified	9312619967	Jdonaldson@info-ed.com	4/1/2013	
DUCKWORTH, HAROLD	TSP-03-2123	Certified	8592296506	hducklight@hotmail.com	3/26/2014	
GODAR, DENNIS J	TSP-03-2005	Certified	2176224199	godar@manplan.net	12/31/2013	
GREENE, LEE Y	TSP-03-1695	Certified	2567732304	leesr@leegreene.com	10/31/2013	
HAELZLE, JASON J	TSP-03-2016	Deferred	5198840510	jhaelzle@craworld.com	9/29/2008	
Johnson, Ken R	TSP-11-7756	Certified	2706709931	ken.johnson@npdi.us	3/19/2013	
KANN, RICHARD	TSP-10-6911	Deferred	5638802168	kannr@validussservices.com	9/26/2013	
Klee, David	TSP-11-7944	Certified	5023162897	kleconsult@gmail.com	6/17/2014	
Koostra, Benjamin Kent	TSP-14-9694	Incomplete	8595594662	ben.koostra@limestonecooper.com	2/19/2014	
LALLY, JOSEPH J	TSP-03-2472	Certified	7122639729	jotbud1@gmail.com	4/9/2014	
LANGENBACH, HAROLD	TSP-09-6173	Certified	9193676312	hlangenbach@agriwaste.com	3/11/2013	
MOSLEY, CHRISTOPHER	TSP-06-5596	Certified	9193676311	cmosley@agriwaste.com	3/19/2013	
Oldham, William J	TSP-13-9294	Incomplete	2706255273	boldham@mchsi.com	2/2/2003	
ROGERS, KENNETH	TSP-03-2551	Expired	3348876210	kmrogers@bellsouth.net	5/5/2014	
SAGE, JACK P	TSP-03-2256	Certified	6166334933	sage77@sirus.com	5/22/2014	
Stephens, Gregory L	TSP-13-9513	Deferred	5024352497	greg.stephens50@att.net	11/19/2013	
Trebolo, Stephen	TSP-13-9458	Certified	5028637325	strebolo@bellsouth.net	6/9/2014	
Warden, Angela L	TSP-11-7713	Certified	6154802929	awardenconsulting@gmail.com	12/24/2013	
WILHELM, KURT P	TSP-05-4875	Certified	3148622210	kurt@thefarmclinic.com	7/22/2014	
Wilson, Paul Douglas	TSP-14-9727	Certified	8595888154	dwilson2boys@yahoo.com	3/26/2014	
Workman IV, J.T.	TSP-10-6884	Certified	2702540088	workman_22@hotmail.com	8/28/2013	

### Technical Service Provider Registry

Welcome **Tibor Horvath**  
 TechReg State: **Kentucky**

**Search USDA**  
 **Go**

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Certification State: **Kentucky** ▾  
 Resident State: **Kentucky** ▾  
 TSP Status: **All Status** ▾  
 Category: **CAP - CNMP (102)** ▾  
 Name:   
**Go**

## 7 Kentucky based certified planners plus 2 soon to be certified

10 TSPs found.  
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Johnson, Ken R	TSP-11-7756	Certified	2706709931	ken.johnson@npdi.us	3/19/2013
Klee, David	TSP-11-7944	Certified	5023162897	kleiconsult@gmail.com	6/17/2014
Koostra, Benjamin Kent	TSP-14-9694	Incomplete	8595594662	ben.koostra@limestonecooper.com	2/19/2014
Oldham, William J	TSP-13-9294	Incomplete	2706255273	boldham@mchsi.com	2/2/2003
Stephens, Gregory L	TSP-13-9513	Deferred	5024352497	greg.stephens50@att.net	11/19/2013
Trebolo, Stephen	TSP-13-9458	Certified	5028637325	strebolo@bellsouth.net	6/9/2014
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# Kentucky N & P Index Version 4.5

## Dairy Farm with high soil test phosphorus results

Kentucky Nitrogen Index 4.5 | Phosphorus Index

Navigation

Phosphorus Index

Soil Test Phosphorus	<input type="text" value="493"/>	Mehlich-3 STP (lbs P/ac)
Fertilizer Phosphorus	<input type="text" value="0"/>	lbs P2O5/ac
Average annual erosion rate	<input type="text" value="1.5"/>	tons/ac/yr
Curve number	<input type="text" value="71.5"/>	
Sediment Delivery Ratio	Receiving slope length <input type="text" value="0 feet"/>	
Distance to receiving water body	Distance to receiving water body <input type="text" value="0-30 feet"/>	
Slope	Slope <input type="text" value="0 - 2%"/>	
Best management practices	Best management practices <input type="text" value="Buffer/Filter strip 20-75 feet wide"/>	
County	Kentucky Counties <input type="text" value="Taylor"/>	

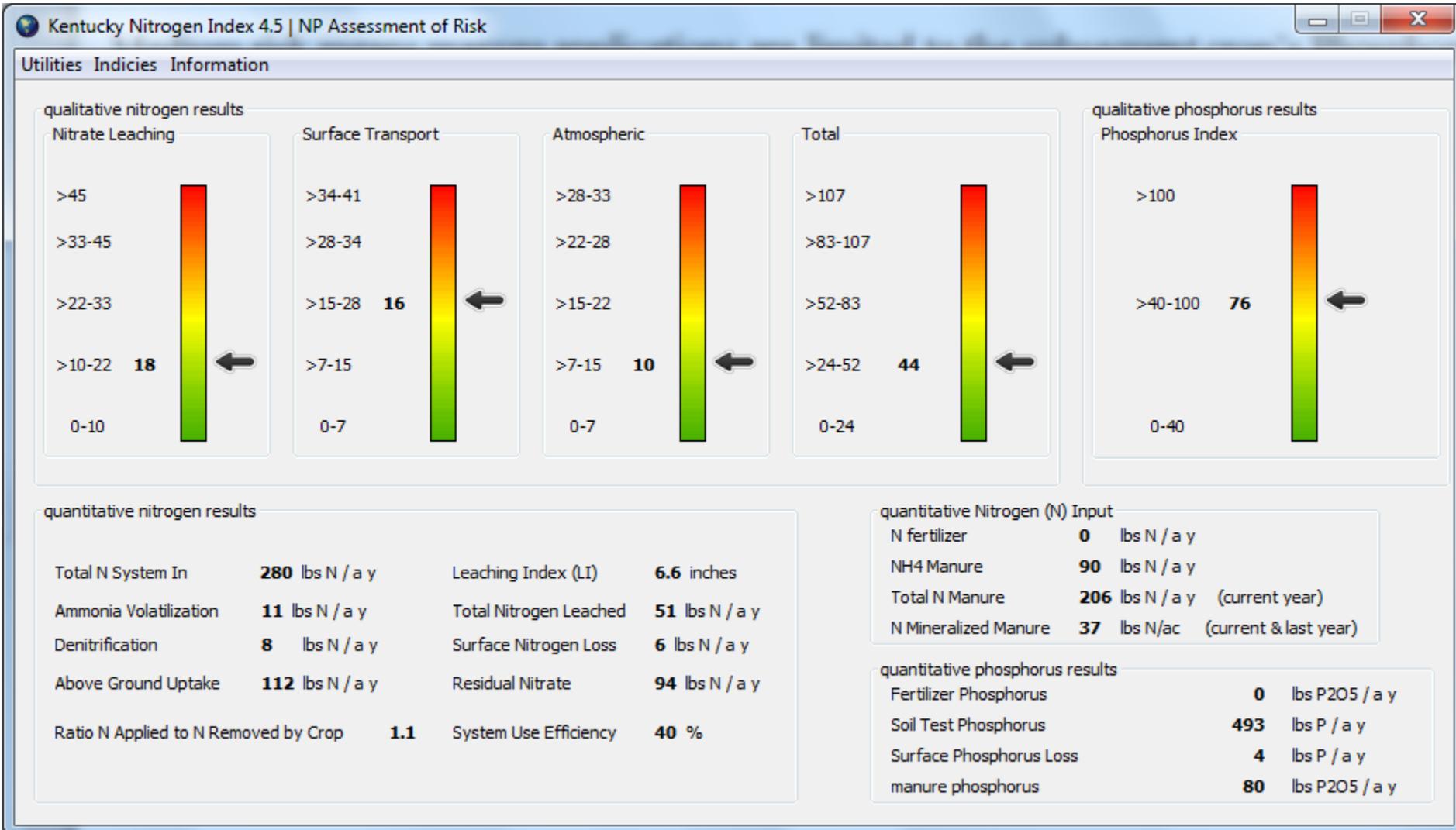
Application factors

- Fertilizer application  
Surface applied, not incorporated Mar, Apr, Nov
- Dry manure 1 application  
Surface applied, not incorporated May-Oct
- Dry manure 2 application  
Banded or injected >2 inches
- Wet manure 1 application  
Banded or injected >2 inches
- Wet manure 2 application  
Banded or injected >2 inches

If the distance to receiving water body is 0 – 30 feet, the P Index risk category is **Medium (76)**

Medium risk means manure applications are limited to the subsequent crop's Phosphorus need

**Crops:** corn silage and winter wheat green chopped



If the same field would be 151 – 300 feet away from the water body, the risk for P runoff would be reduced to **Low** and the farm could apply manure based on the subsequent crop's Nitrogen need

Kentucky Nitrogen Index 4.5 | Phosphorus Index

Navigation

Phosphorus Index

Soil Test Phosphorus	<input type="text" value="493"/>	Mehlich-3 STP (lbs P/ac)
Fertilizer Phosphorus	<input type="text" value="0"/>	lbs P2O5/ac
Average annual erosion rate	<input type="text" value="1.5"/>	tons/ac/yr
Curve number	<input type="text" value="71.5"/>	
Sediment Delivery Ratio	Receiving slope length <input type="text" value="0 feet"/>	
Distance to receiving water body	Distance to receiving water body <input type="text" value="151-300 feet"/>	
Slope	Slope <input type="text" value="0 - 2%"/>	
Best management practices	Best management practices <input type="text" value="Buffer/Filter strip 20-75 feet wide"/>	
County	Kentucky Counties <input type="text" value="Taylor"/>	

Application factors

Fertilizer application	<input type="text" value="Surface applied, not incorporated Mar, Apr, Nov"/>
Dry manure 1 application	<input type="text" value="Surface applied, not incorporated May-Oct"/>
Dry manure 2 application	<input type="text" value="Banded or injected &gt;2 inches"/>
Wet manure 1 application	<input type="text" value="Banded or injected &gt;2 inches"/>
Wet manure 2 application	<input type="text" value="Banded or injected &gt;2 inches"/>

If the same field would be 151–300 feet away from the water body, the risk for P runoff would be reduced to **Low** and the farm could apply manure based on the subsequent crop's Nitrogen need

**Crops:** corn silage and winter wheat green chopped



If the farm reduces the soil loss to 0.7 Tons/acre/year from 1.5 Tons/acre/year with no-till or cover crop or conservation crop rotation, the P Index risk rating goes down to **Low (39)** and the farm could apply manure based on the subsequent crop's Nitrogen need.

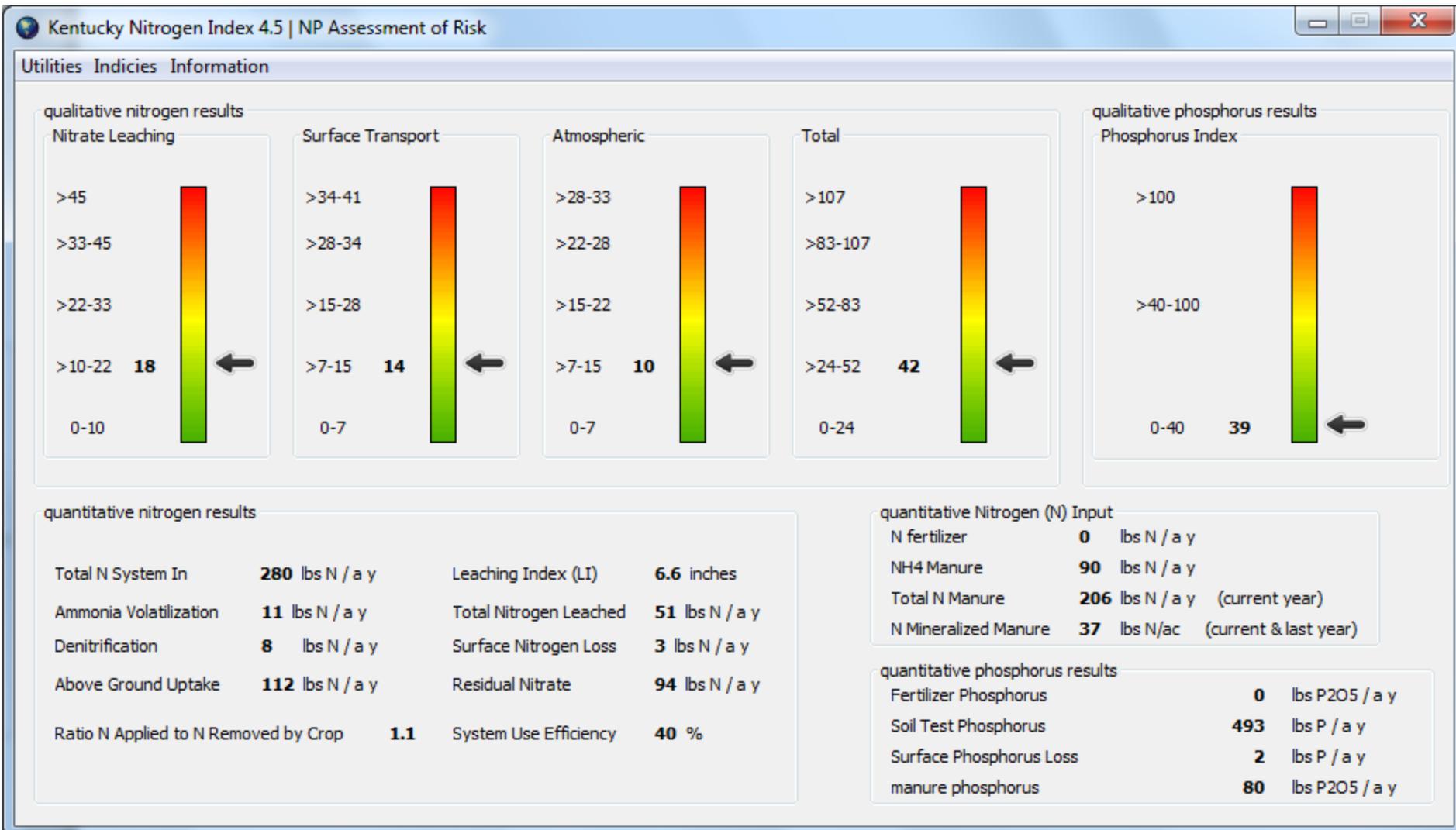
The screenshot shows a web application window titled "Kentucky Nitrogen Index 4.5 | Phosphorus Index". The interface is divided into two main sections: "Phosphorus Index" on the left and "Application factors" on the right. The "Phosphorus Index" section contains several input fields and dropdown menus. The "Application factors" section contains four dropdown menus for fertilizer and manure applications.

Parameter	Value	Unit/Description
Soil Test Phosphorus	493	Mehlich-3 STP (lbs P/ac)
Fertilizer Phosphorus	0	lbs P2O5/ac
Average annual erosion rate	0.7	tons/ac/yr
Curve number	61	
Sediment Delivery Ratio	0 feet	Receiving slope length
Distance to receiving water body	0-30 feet	Distance to receiving water body
Slope	0 - 2%	Slope
Best management practices	Buffer/Filter strip 20-75 feet wide	Best management practices
County	Taylor	Kentucky Counties

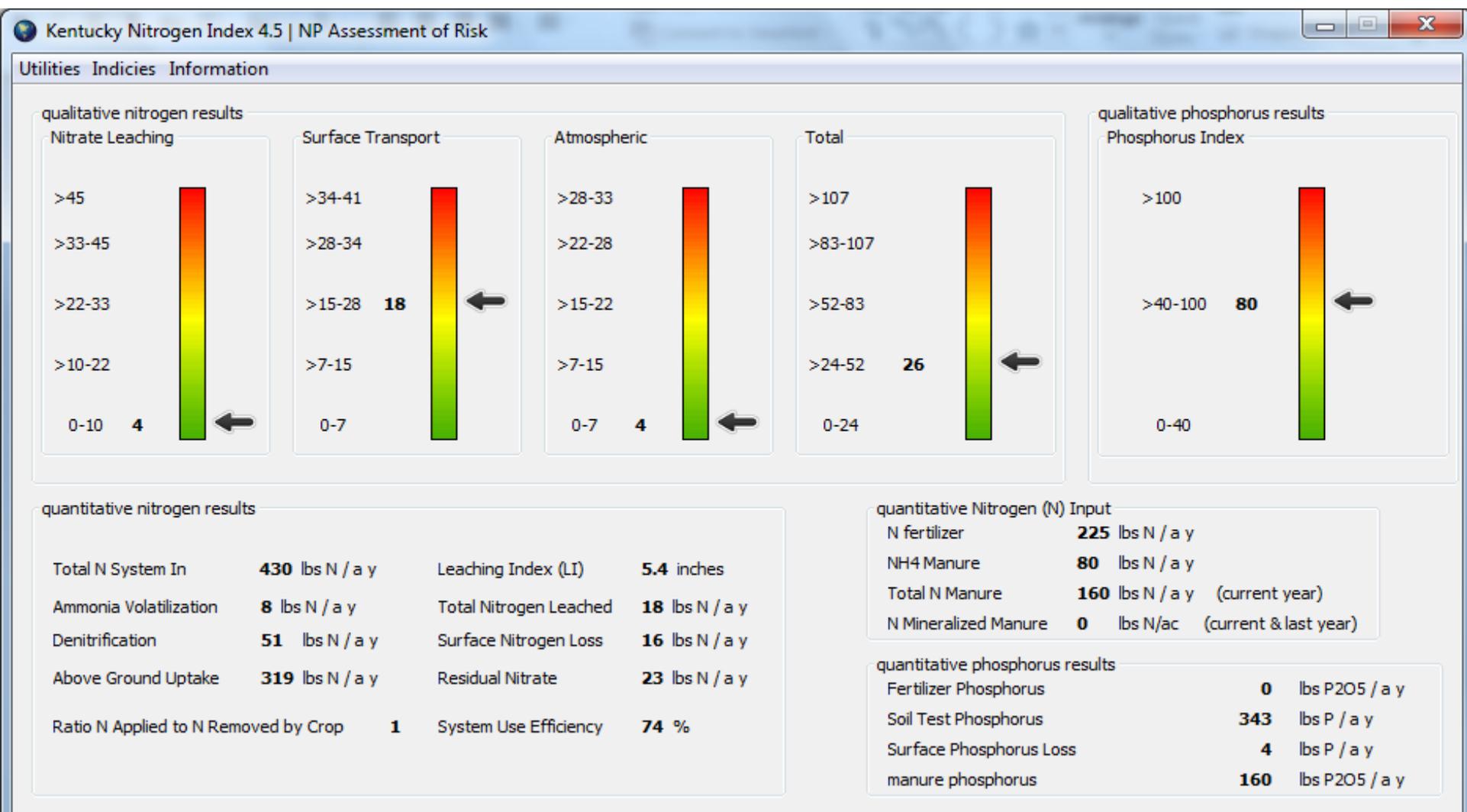
**Application factors:**

- Fertilizer application: Surface applied, not incorporated Mar, Apr, Nov
- Dry manure 1 application: Surface applied, not incorporated May-Oct
- Dry manure 2 application: Banded or injected >2 inches
- Wet manure 1 application: Banded or injected >2 inches
- Wet manure 2 application: Banded or injected >2 inches

If the farm reduces the soil loss to 0.7 Tons/acre/year from 1.5 Tons/acre/year with no-till or cover crop or conservation crop rotation, the P Index risk rating goes down to **Low (39)** and the farm could apply manure based on the subsequent crop's Nitrogen need



**Example dairy is applying 40,000 gallons of dairy lagoon manure to Corn silage and wheat haylage field. These two crops remove 133 lbs of Phosphorus. If no change is made in management the farm would have to cut back on manure application to match the crop removal.**



# New Kentucky Phosphorus Index Risk Categories and Limitations

Range	Category	Interpretation
0-40	Low	Phosphorus can be applied at rates greater than crop requirement not to exceed the nitrogen requirement for the succeeding crop. <i>If the soil total Phosphorus level is 800 or higher no P application of any kind allowed.</i>
40-100	Moderate	Phosphorus can be applied not to exceed the crop requirement rate. <i>If the soil total Phosphorus level is 600 or higher no P application of any kind allowed.</i>
>100	High	Phosphorus can be applied not to exceed the crop removal rate if the following requirements are met: <ul style="list-style-type: none"><li>• A soil phosphorus drawdown strategy has been implemented, and</li><li>• A site assessment for nutrients and soil loss has been conducted to determine if mitigation practices are required to protect water quality.</li><li>• <i>If the soil total Phosphorus level is 400 or higher no P application of any kind allowed.</i></li><li>• Any deviation from these high risk requirements must have the approval of the Chief of NRCS.</li></ul>

# Kentucky State Phosphorus Thresholds

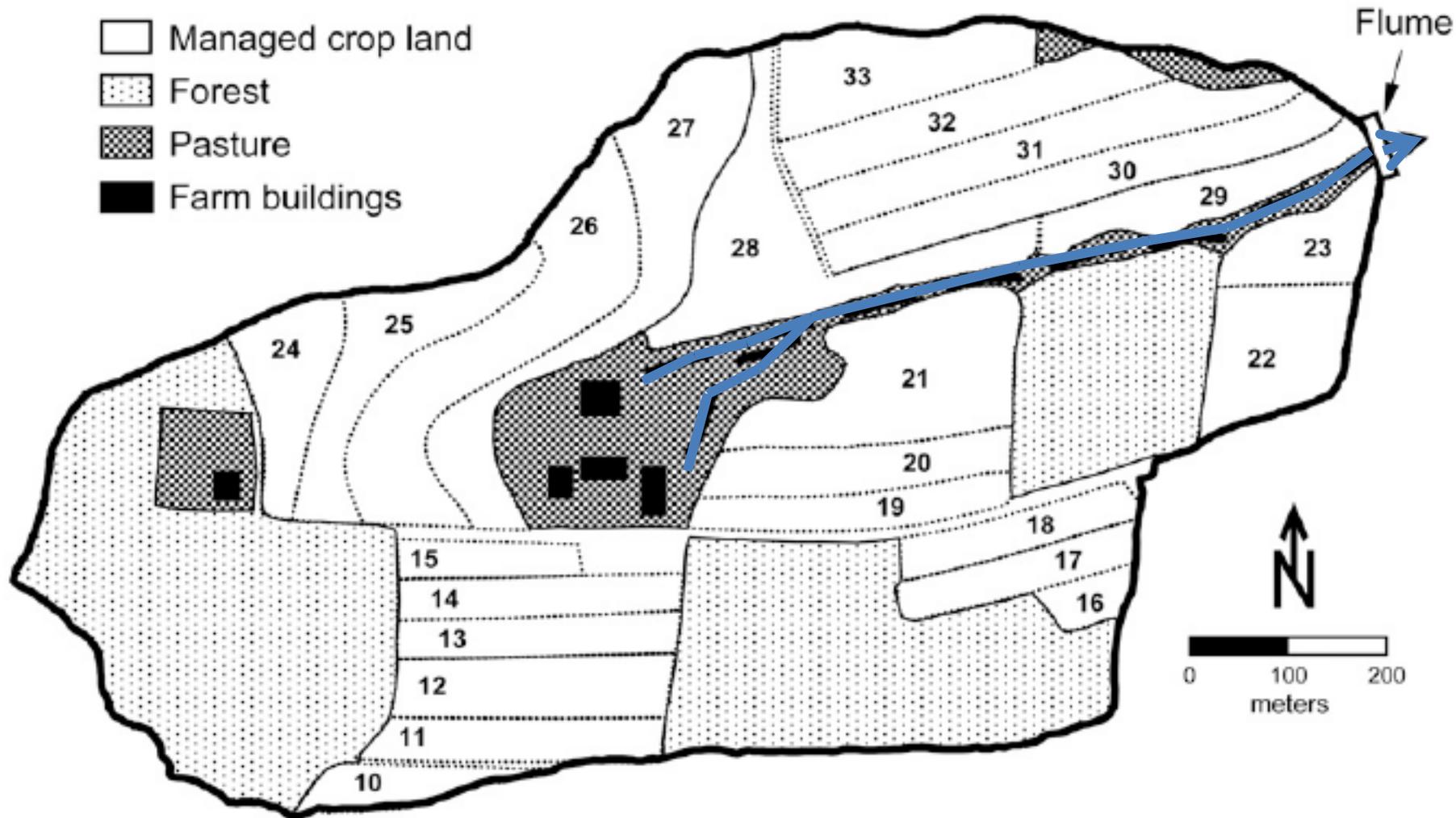
<i>STP</i>	<i>Interpretation</i>
< 400	Manure applications can be made based on crop nitrogen requirements
401-600	Phosphorus applications at rates not to exceed the estimated removal of phosphorus in the harvested plant biomass
601-800	Phosphorus applications at rates not to exceed $1/2$ of the estimated removal of phosphorus in the harvested plant biomass
>800	Phosphorus applications are no longer allowed

# **Michigan State Soil Test Phosphorus Thresholds**

**(This is why they are all coming to Kentucky)**

- Below 150 lbs./ac soil test Phosphorus level = may apply up to the N crop needs**
- Between 150-300 lbs/ac = may apply crop P removal only**
- 300 lbs/ac or above = Restricted / No manure applications**

# Phosphorus Loss from an Agricultural Watershed



Andrew N. Sharpley\* University of Arkansas

Peter J. A. Kleinman USDA-ARS

A. Louise Heathwaite Lancaster University

William J. Gburek, Gordon J. Folmar, and John P. Schmidt USDA-ARS

Stream channel

Navigation

Phosphorus Index

Soil Test Phosphorus  Mehlich-3 STP (lbs P/ac)

Fertilizer Phosphorus  lbs P2O5/ac

Average annual erosion rate  tons/ac/yr

Curve number

Sediment Delivery Ratio

Distance to receiving water body   
10 feet  
20 feet  
30 feet  
50 feet  
100 feet  
150 feet  
200 feet

Best management practices

County

Application factors

Fertilizer application

Dry manure 1 application

Dry manure 2 application

Wet manure 1 application

Wet manure 2 application

## Navigation

## Phosphorus Index

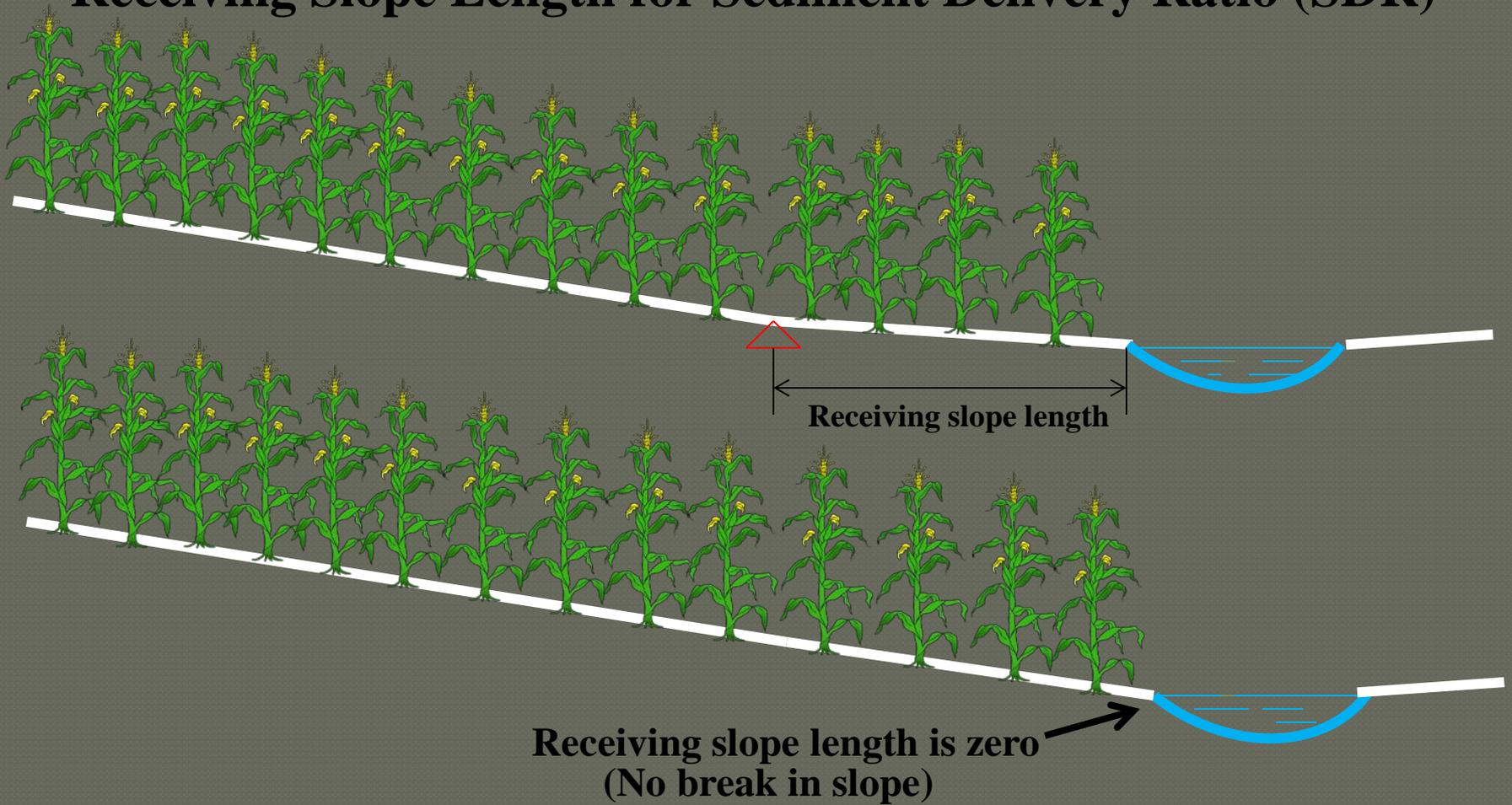
Soil Test Phosphorus  Mehlich-3 STP (lbs P/ac)Fertilizer Phosphorus  lbs P2O5/acAverage annual erosion rate  tons/ac/yrCurve number Sediment Delivery Ratio  
  
Distance to receiving water body  
0 feet  
10 feet  
20 feet  
30 feet  
50 feet  
**100 feet**  
150 feet  
200 feetBest management practices  
County  
  

## Application factors

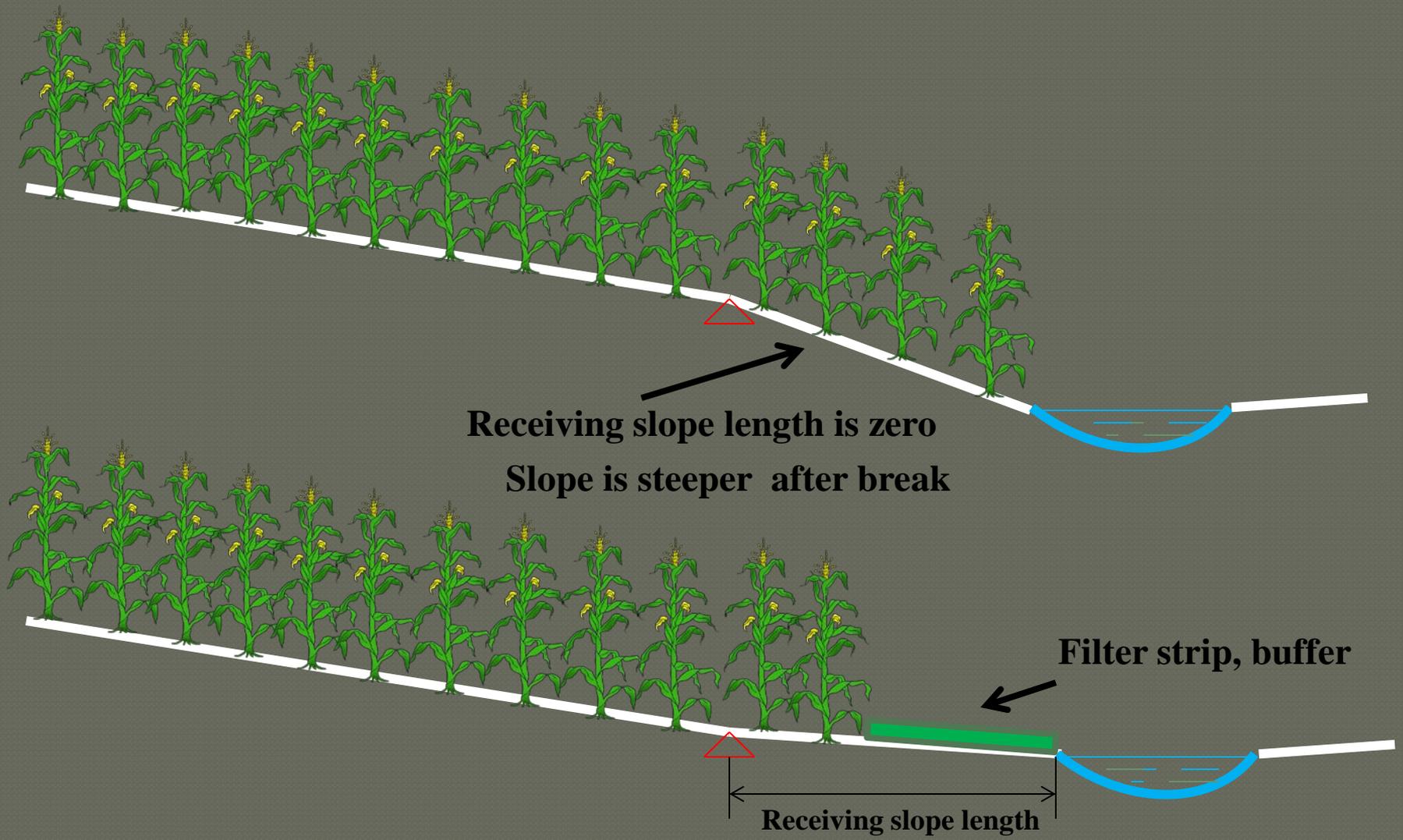
Fertilizer application  
Dry manure 1 application  
Dry manure 2 application  
Wet manure 1 application  
Wet manure 2 application  

**This field has a receiving slope length of zero. If the topography would be different and there would be a 100 ft receiving slope length the P transport risk would be **LOW** and the farm could apply more liquid manure and could cut back on Nitrogen fertilizer.**

# Receiving Slope Length for Sediment Delivery Ratio (SDR)

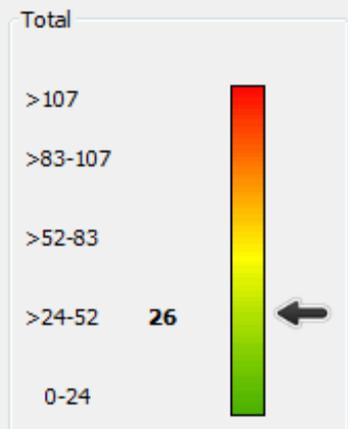
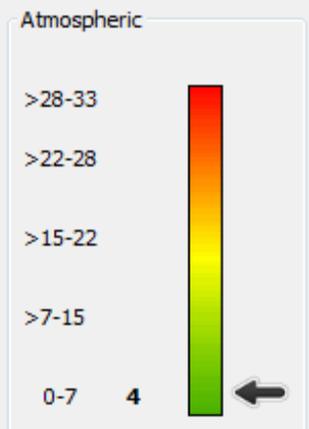
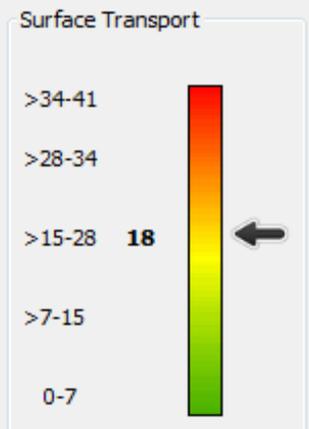
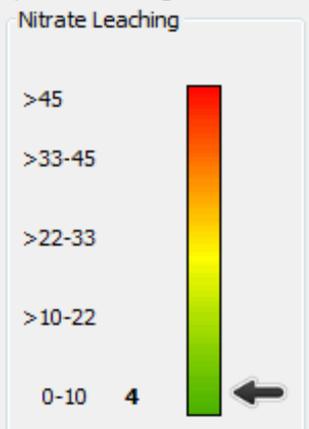


# Receiving Slope Length for Sediment Delivery Ratio (SDR)

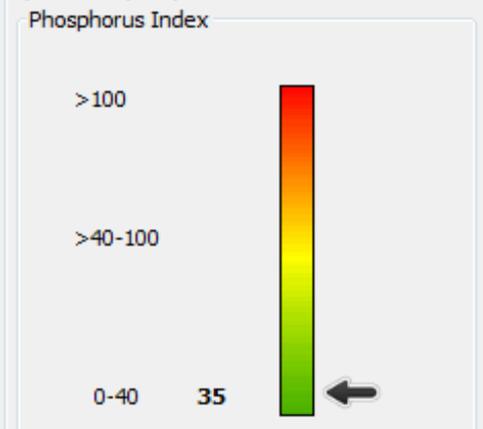


Utilities Indices Information

qualitative nitrogen results



qualitative phosphorus results



quantitative nitrogen results

Total N System In	430 lbs N / a y	Leaching Index (LI)	5.4 inches
Ammonia Volatilization	8 lbs N / a y	Total Nitrogen Leached	18 lbs N / a y
Denitrification	51 lbs N / a y	Surface Nitrogen Loss	16 lbs N / a y
Above Ground Uptake	319 lbs N / a y	Residual Nitrate	23 lbs N / a y
Ratio N Applied to N Removed by Crop	1	System Use Efficiency	74 %

quantitative Nitrogen (N) Input

N fertilizer	225 lbs N / a y
NH4 Manure	80 lbs N / a y
Total N Manure	160 lbs N / a y (current year)
N Mineralized Manure	0 lbs N/ac (current & last year)

quantitative phosphorus results

Fertilizer Phosphorus	0 lbs P2O5 / a y
Soil Test Phosphorus	343 lbs P / a y
Surface Phosphorus Loss	2 lbs P / a y
manure phosphorus	160 lbs P2O5 / a y

Now the Phosphorus transport risk is **LOW**, lets see how much more manure could be applied to stay in the **LOW** risk category and save on Nitrogen fertilizer cost

The planner increased the manure application to 80,000 gallons/acre/year (doubled) and the risk assessment is still in the **LOW** category. The Nitrogen fertilizer was decrease from 225 lbs/acre to 150 lbs/acre.



# Economic assessment of the two scenarios for Nitrogen losses

**40,000 gallons of liquid manure**  
**225 lbs. Nitrogen fertilizer**

**80,000 gallons of liquid manure**  
**150 lbs. Nitrogen fertilizer**

Ammonia Volatilization	4.34	\$ / a y (Loss)
Denitrification	26.26	\$ / a y (Loss)
Total N Leached	9.19	\$ / a y (Loss)
Residual Nitrate	11.77	\$ / a y (Loss)
N Surface Transport	9.77	\$ / a y (Loss)

Close

Ammonia Volatilization	4.00	\$ / a y (Loss)
Denitrification	26.73	\$ / a y (Loss)
Total N Leached	10.60	\$ / a y (Loss)
Residual Nitrate	13.59	\$ / a y (Loss)
N Surface Transport	9.43	\$ / a y (Loss)

Close