Tennessee Department of Environment and Conservation,
Division of Water Resources
William R. Snodgrass-Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor, Nashville, TN 37243
(615) 532-0625

CONCENTRATED ANIMAL FEEDING OPERATION (CAFO)
STATE OPERATING PERMIT (SOP)
NOTICE OF INTENT (NOI)

Type of permit you are requesting: ☐ SOPCD0000 (designed to discharge) ■ SOPC00000 (no discharge) ☐ Unknown, please advise

Application type: ■ New Permit ☐ Permit Reissuance ☐ Permit Modification

If this NOI is submitted for Permit Modification or Reissuance provide the existing permit tracking number: ____

OPERATION IDENTIFICATION

Operation Name: Edwards Farms	County: Henry
Operation Location/ Physical Address: Herrondale East Road Paris, TN 38242	Latitude: 36.251275
	Longitude: -88.433281

Name and distance to nearest receiving water(s): Middle Fork Obion River, 1067 Feet

If any other State or Federal Water/Wastewater Permits have been obtained for this site, list those permit numbers: TNR122057

Animal Type: ☐ Poultry ■ Swine ☐ Dairy ☐ Beef ☐ Other ____

Number of Animals: 5200	Number of Barns: 1	Name of Integrator: Tosh Pork

Type of Animal Waste Management: (check all that apply)
☐ Dry
☐ Liquid
■ Liquid, Closed System (i.e. covered tank, under barn pit, etc.)

Attach the NMP	■ NMP Attached	Attach the closure plan	■ Closure Plan Attached	Attach a topographic map	■ Map Attached

PERMITTEE IDENTIFICATION

Official Contact (applicant): Thomas Edwards	Title or Position: Owner			
Mailing Address: 1085 Herrondale East Road	City: Paris	State: TN	Zip: 38242	☐ Correspondence ☐ Invoice
Phone number(s): 731-431-8287	E-mail:			
Optional Contact:	Title or Position:			
Address:	City:	State:	Zip:	☐ Correspondence ☐ Invoice
Phone number(s):	E-mail:			

APPLICATION CERTIFICATION AND SIGNATURE (must be signed in accordance with the requirements of Rule 0400-40-05-.14)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and title; print or type	Signature	Date
THOMAS A. EDWARDS Owner	Thomas Edwards	5-30-18

STATE USE ONLY

Received Date	Reviewer	EFO	T & E Aquatic Fauna	Tracking No.
	Impaired Receiving Stream	High Quality Water		NOC Date

CAFO NOTICE OF INTENT INSTRUCTIONS

Background. All operations defined as CAFOs (concentrated animal feeding operation) must seek coverage under a permit. Operations that meet the Class II size criteria (TDEC Rule 0400-40-05-.14) and that discharge or that propose to discharge (...if designed, constructed, operated or maintained such that a discharge will occur) need coverage under the General State Operating Permit (SOP) for Concentrated Animal Feeding Operations, Permit Number SOPCD0000. Operation meeting the size criteria for either a Class I or Class II operation that do not discharge and that do not propose to discharge, but otherwise meet criteria in state rules need coverage under the General State Operating Permit (SOP) for Concentrated Animal Feeding Operations (CAFOs), Permit Number SOPC00000. AFOs (animal feeding operations) meeting or exceeding the size thresholds in column 1 of table 0400-40-05-14.1 are considered large (Class I) CAFOs. Class I CAFOs that propose to discharge must apply for an individual NPDES permit (application forms are available at: http://www.state.tn.us/environment/permits/h2oforms.shtml). All other CAFOs must apply for a state permit using this form. This form must be submitted at least 180 days before a CAFO commences operation.

Complete the form. Type or print clearly, using black or blue ink; not markers or pencil. Answer each item or enter "N/A," for not applicable. If you need additional space, attach a separate piece of paper to the NOI. Applicants must submit a NMP (Nutrient Management Plan), and a closure plan along with this NOI. **The application will be considered incomplete without supplying all of the required information.**

Operation Identification. Describe and locate the project, use the legal or official name of the facility or site. Provide the latitude and longitude (expressed in decimal degrees) of the center of the site, which can be located on USGS quadrangle (i.e. topographic) maps. Topographic maps may be obtained at the USGS website: http://store.usgs.gov. Attach a copy of a portion of a 7.5 minute quad map (i.e. 1:24,000-scale topographic map), showing location of site, with boundaries at least one mile outside the site boundaries.

Permittee Identification. **Official Contact** – Provide the name, telephone number, address, and E-mail address of the person or corporation which proposes to operates or operates and/or profits from this AFO. **Facility Contact** – Provide the name, telephone number, address, and E-mail address of the person most familiar with the operation and with the facts reported in the NOI. This person may be contacted by the division, if necessary. Indicate where to send correspondence and invoices.

Fees. There is no application fee for this permit. An annual maintenance fee may be required and you will be invoiced at a later date.

Submitting the form and obtaining more information. Note that this form must be signed by the chief executive officer, owner, or highest ranking elected official. Submit a complete application to both the Tennessee Department of Agriculture (TDA) and to TDEC-WPC; keep a copy for your records. Original documents should be sent to TDEC-WPC and a copy should be sent to TDA, at the addresses below:

CAFO Notice of Intent TDEC Division of Water Resources William R. Snodgrass - Tennessee Tower 312 Rosa L. Parks Avenue, 11th Floor Nashville, TN 37243	CAFO Notice of Intent Water Resources TDA-Ellington Agricultural Center PO Box 40627 Nashville, TN 37204

Upon receipt of the required items the division will conduct a review of the material, and notify the applicant of any deficiencies. Notification may also come from the Tennessee Department of Agriculture, which reviews the NMP. When all the deficiencies have been corrected, the division will process the NOI and issue permit coverage.

The division has the right to inspect a facility when deemed necessary. In addition, the division has the right to revoke or suspend any permit for violation of permit conditions or any other provisions of the Tennessee Water Quality Control Act and other water pollution control rules.

The division is responsible for regulating any activity, which involves a potential discharge in order to protect waters of the State from pollution and to maintain the highest possible standards in water quality.

Obtaining more information/assistance For more information or assistance, contact your local Environmental Field Office (EFO), toll-free, at 1-888-891-8332 (TDEC) or at the number listed below.

EFO	Street Address	City	Zip Code	Telephone
Chattanooga	540 McCallie Avenue STE 550	Chattanooga	37402	(423) 634-5745
Columbia	1421 Hampshire Pike	Columbia	38401	(931) 380-3371
Cookeville	1221 South Willow Ave.	Cookeville	38506	(931) 432-4015
Jackson	1625 Hollywood Drive	Jackson	38305	(731) 512-1300
Johnson City	2305 Silverdale Road	Johnson City	37601	(423) 854-5400
Knoxville	3711 Middlebrook Pike	Knoxville	37921	(865) 594-6035
Memphis	8383 Wolf Lake Drive	Bartlett	38133	(901) 371-3000
Nashville	711 R S Gass Boulevard	Nashville	37216	(615) 687-7000

NRCS Natural Resources Conservation Service

Comprehensive Nutrient Management Plan (CNMP)
(Version 3, 8/17/2016 Format)

The Comprehensive Nutrient Management Plan (CNMP) is an important part of the conservation management system (CMS) for your Animal Feeding Operation (AFO). This CNMP documents the planning decisions and operation and maintenance information for the AFO.

Farm/Facility:	Edwards Farms Herrondale East Road Paris, TN 38242
Mailing Address:	1085 Herrondale East Road Paris, TN 38242
Owner/Operator:	Thomas Edwards
Plan Period:	Oct 2018 - Sep 2023

Certified Comprehensive Nutrient Management Plan (CNMP) Planner

As a Certified Comprehensive Nutrient Management Plan (CNMP) Planner, I certify that I have reviewed the *Comprehensive Nutrient Management Plan* and that the elements of the document are technically compatible, reasonable and can be implemented.

Signature: _____ Date: 6-1-18
Name:
Title: TSP Certification Credentials:

Conservation District (Optional)

As a Conservation District employee, I have reviewed the *Comprehensive Nutrient Management Plan* and concur that the plan meets the District's conservation goals.

Signature: _____ Date: _____
Name:
Title:

Owner/Operator

As the owner/operator of this CNMP, I, as the decision maker, have been involved in the planning process and agree that the items/practices listed in each element of the CNMP are needed. I understand that I am responsible for keeping all necessary records associated with implementation of this CNMP. It is my intention to implement/accomplish this CNMP in a timely manner as described in the plan.

Signature: _____ Date: _____
Name:

Table of Contents

Section 1. Farmstead (Production Area)

1.1. Maps of Farmstead, Existing and Planned Conservation Practices
1.2. Farmstead Conservation Practices – Record of Decisions
1.3. Farmstead Conservation Practices – Implementation Requirements
1.4. Animal Inventory
1.5. Manure Storage Information
1.6. Planned Manure Exports
1.7. Planned Manure Imports
1.8. Planned Internal Transfers of Manure
1.9. Brief Description of or Additional Information about Animal Feeding Operation (Optional)

Section 2. Crop and Pasture (Land Treatment)

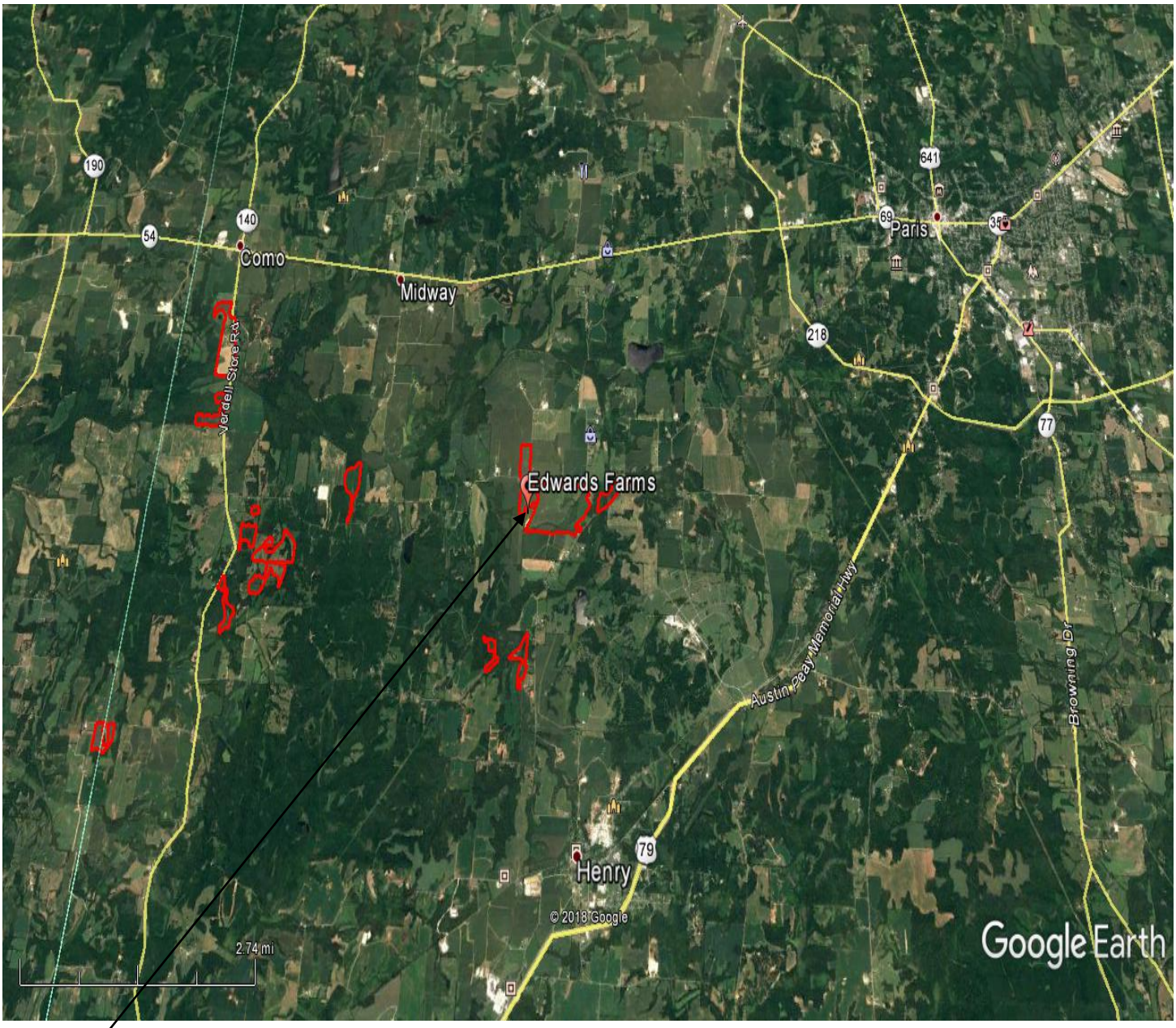
2.1. Maps of Fields, Soils, Application Setbacks, Existing and Planned Crop and Pasture Conservation Practices
2.2. Crop and Pasture Conservation Practices – Record of Decisions
2.3. Crop and Pasture Conservation Practices – Implementation Requirements
2.4. Predicted Soil Erosion

Section 3. Nutrient Management Plan (590)

3.1. Nitrogen and Phosphorus Risk Analyses Results
3.2. Manure Application Setback Distances
3.3. Soil Test Result Data
3.4. Manure Nutrient Analyses
3.5. Planned Crops and Fertilizer Recommendations
3.6. Planned Nutrient Applications
3.7. Field Nutrient Balance
3.8. Manure Inventory Annual Summary (Optional)
3.9. Fertilizer Material Annual Summary (Optional)
3.10. Plan Nutrient Balance

Section 1. Farmstead (Production Area)

1.1. Maps of Existing and Planned Farmstead Conservation Practices



Site Location

1.2. Farmstead Conservation Practices -- Record of Decisions

Waste Storage Facility (313)

Facility(s)	Planned amount (No.)	Month	Year	Amount Applied	Date
2	2	3	2018	In Process	
Total	2				

A waste impoundment structure has been constructed, according to NRCS specifications to temporarily store waste such as manure, wastewater, and contaminated runoff as a function of an agricultural waste management system which will protect the environment and public health and safety. Practice lifespan is 15 years. Refer to design drawings and practice standard 313 for additional information.

Composting Facility (317)

Create composting facility to properly dispose of dead hogs. Compost will need to be tested for nutrient levels. See Practice Standard 317.

Field(s)	Planned amount (No.)	Month	Year	Amount Applied	Date
1	1.0	3	2018	In Process	
Total	1.0				

All dead pigs must be immediately put in the compost facility and covered with a carbon matter. Suggested carbon matter is sawdust.

Critical Area Planting (342)

Barn(s)	Planned amount (No.)	Month	Year	Amount Applied	Date
1	1.0	3	2018	Applied	
Composter	1.0	3	2018	Applied	
Total	2.0				

Critical area planting will be done to stabilize the soil, reduce damage from sediment and runoff to downstream areas, and improve wildlife habitat and visual resources. Adapted vegetation such as trees, shrubs, vines, grasses, or legumes will be established to limit severe erosion or sediment damage. See additional narrative for specific recommendations on seeding rates, dates, fertility requirements, and construction shaping required.

Or

Maintain areas around buildings and composter to ensure clean water is diverted from production areas and erosion is limited.

All NRCS conservation practices shall be installed, operated and maintained according to NRCS conservation practice standards and associated technical specifications.

1.3. Farmstead Conservation Practices – Implementation Requirements

UT Extension

W255

Disposing of Large Animal Mortalities in Tennessee

Forbes Walker, Associate Professor, and Shawn Hawkins, Assistant Professor
Biosystems Engineering and Soil Science

Animal deaths are a regrettable but sometimes unavoidable part of livestock production. Once an animal dies, it is important to handle and dispose of the carcass in a way that reduces the potential for impacting the health of humans and other livestock and minimizes the impact to the environment, such as pollution of groundwater or surface water. It is recommended that dead animals be disposed of within 48 hours of discovery in a way that follows state guidelines.

In May 2009, the Tennessee Department of Agriculture released its guidelines on handling mortalities in a short policy document entitled "Policy Concerning the Disposal of Dead Farm Animals and The Disposal Offal from Custom Slaughter Facilities." This document can be viewed at the Tennessee Department of Agriculture's website at: http://tn.gov/agriculture/publications/regulatory/animaldisposal.pdf

In Tennessee, dead animal carcasses are defined as a "solid waste," so are regulated by the Tennessee Department of the Environment and Conservation (TDEC), Division of Solid Waste. The disposal of dead animals falls under the solid waste regulations outlined by TDEC at its website: http://www.tennessee.gov/sos/rules/1200/1200-01/1200-01-07.20081126.pdf

The methods that livestock producers in Tennessee can choose to dispose of their dead animals include:

- On-farm burial
- Composting
- Landfilling
- Burning
- Incineration
- Rendering

the center of this base material with the extremities at least 2 feet away from the edge of the base material. Finally, the carcass should be covered with 2 feet of amendment that is mounded to divert rather than capture rainfall. The process will be complete in 3-9 months (only bones are left) and the material can then be land-applied.

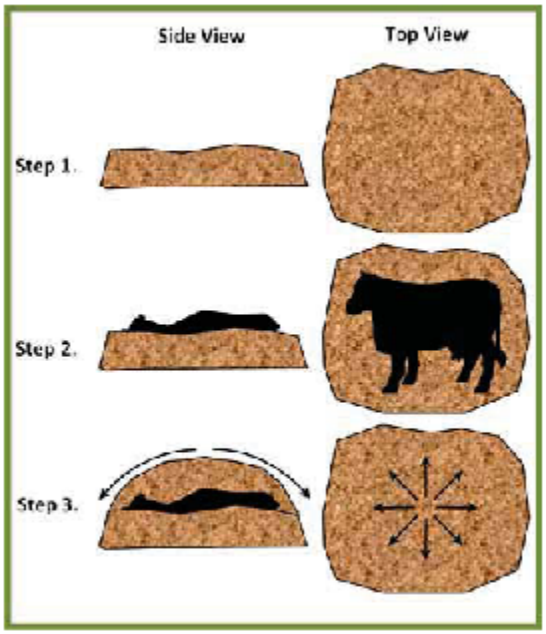


Figure 1. Top and side view schematics illustrating static pile composting of a large animal mortality. Rainfall drainage is illustrated in Step 3.

THE UNIVERSITY of TENNESSEE
INSTITUTE of AGRICULTURE

Visit the UT Extension website at
http://utextension.tennessee.edu

W-251 2/11 11-0123

Programs in agriculture and natural resources, 4-H youth development, family and consumer sciences, and resource development.
University of Tennessee Institute of Agriculture, U.S. Department of Agriculture and county governments cooperating.
UT Extension provides equal opportunities in programs and employment.

1.4. Animal Inventory

Animal Group	Type or Production Phase	Number of Animals[a]	Average Weight (lbs)	Confinement Period	Manure Collected (%)[b]	Manure Storage
Pigs 1	Wean-to-finish pig	5,200	140	Jan Early - Dec Late	100	Barn 1

a. The average number of animals present in the production facility at any one time.
b. If manure collected is less than 100%, this indicates that the animals spend a portion of the day outside of the production facility or the production facility is unoccupied one or more times during the confinement period.

1.5. Manure Storage Information

Storage ID	Type of Storage	Pumpable or Spreadable Capacity	Annual Manure Collected	Maximum Days of Storage
Barn 1	In-house storage pit	1,094,583 gal	800,000 gal	499

1.6. Planned Manure Exports

Month-Year	Manure Source	Amount	Receiving Operation	Location

(None)

1.7. Planned Manure Imports

Month-Year	Manure's Animal Type	Amount	Originating Operation	Location

(None)

1.8. Planned Internal Transfers of Manure

Month-Year	Manure Source	Amount	Manure Destination

(None)

1.9. Brief Description of or Additional Information about Animal Feeding Operation (Optional)

Thomas Edwards is proposing to build 1 deep pit hog, 100'W x 400'L, barns located close to Como, Tn. All manure is stored in house pit storage and is injected to fields Edwards Farms tends. All manure will be applied on a 2 year P basis in spring or fall. Soil test are taken as required to ensure proper application rate. Tosh Pork supplies all feed management. Normal deaths will be composted in a carbon material, like sawdust. The closest stream is 1067 feet and eventually flows into Middle Fork Obion River.

1.2. Sampling, Calibration and Other Statements

- Manure sampling frequency
  Manure test will be taken each time manure is applied
- Soil testing frequency
  Soil test will be taken as needed.
- Equipment calibration method and frequency
  All application equipment will be calibrated and checked yearly.
- Clean water diversion
  No clean water will enter pit. It is sealed off from outside water.
- Measures to prevent direct contact of animals with water
  All animals will remain inside above the under floor pit.

1.3. Natural Resource Concerns

If checked, the indicated resource concerns have been identified and have been addressed in this plan.

Soil Quality Concerns

	Soil Quality Concern	*Activities to Address Concern*
	Ephemeral Gully Erosion	
	Gully Erosion	
	Sheet and Rill Erosion	

	Soil Quality Concern	*Activities to Address Concern*
X	Stream/Ditchbank Erosion	Waterways in place to keep gullies from eroding
	Wind Erosion	

Water Quality Concerns

	Water Quality Concern	*Activities to Address Concern*
	Facility Wastewater Runoff	
X	Manure Runoff (Field Application)	All fields in plan
X	Manure Runoff (From Facilities)	All manure stored in pit
	Nutrients in Groundwater	
	Nutrients in Surface Water	
	Silage Leachate	
	Excessive Soil Test Phosphorus	
	Tile-Drained Fields	

Other Concerns Addressed

	Other Concern	*Activities to Address Concern*
	Acres Available for Manure Application	
	Aesthetics	
	Maximize Nutrient Utilization	
	Minimize Nutrient Costs	
X	Neighbor Relations	Setbacks followed
	Profitability	

	Other Concern	*Activities to Address Concern*
	Regulations	
	Soil Compaction	
X	Time Available for Manure Application	Manure will be applied in fall or spring.
	Odors	
X	Air Quality	This facility shouldn't affect air quality
X	Biosecurity	Plan in place.

In Case of an Emergency Storage Facility Spill, Leak or Failure

Implement the following first containment steps:

a. Stop all other activities to address the spill.
b. Stop the flow. For example, use skid loader or tractor with blade to contain or divert spill or leak.
c. Call for help and excavator if needed.
d. Complete the clean-up and repair the necessary components.
e. Assess the extent of the emergency and request additional help if needed.

In Case of an Emergency Spill, Leak or Failure during Transport or Land Application

Implement the following first containment steps:

a. Stop all other activities to address the spill and stop the flow.
b. Call for help if needed.
c. If the spill posed a hazard to local traffic, call for local traffic control assistance and clear the road and roadside of spilled material.
d. Contain the spill or runoff from entering surface waters using straw bales, saw dust, soil or other appropriate materials.
e. If flow is coming from a tile, plug the tile with a tile plug immediately.
f. Assess the extent of the emergency and request additional help if needed.

Emergency Contacts

Department / Agency	Phone Number
Fire	731-642-1413
Rescue services	731-642-6211
State veterinarian	615-837-5183
Sheriff or local police	731-642-1672

Nearest available excavation equipment/supplies for responding to emergency

Equipment Type	Contact Person	Phone Number
Trackhoe	Thomas Edwards	731-431-8287

Contacts to be made by the owner or operator within 24 hours

Organization	Phone Number
EPA Emergency Spill Hotline	1-800-424-8802
County Health Department	731-642-4025
Other State Emergency Agency	1-888-891-8332 TDEC's Water Pollution Control

Be prepared to provide the following information:

a. Your name and contact information.
b. Farm location (driving directions) and other pertinent information.
c. Description of emergency.
d. Estimate of the amounts, area covered, and distance traveled.
e. Whether manure has reached surface waters or major field drains.
f. Whether there is any obvious damage: employee injury, fish kill, or property damage.
g. Current status of containment efforts.

Biosecurity Measures

Biosecurity is critical to protecting livestock and poultry operations. Visitors must contact and check in with the producer before visiting the operation or entering any production or storage facility.

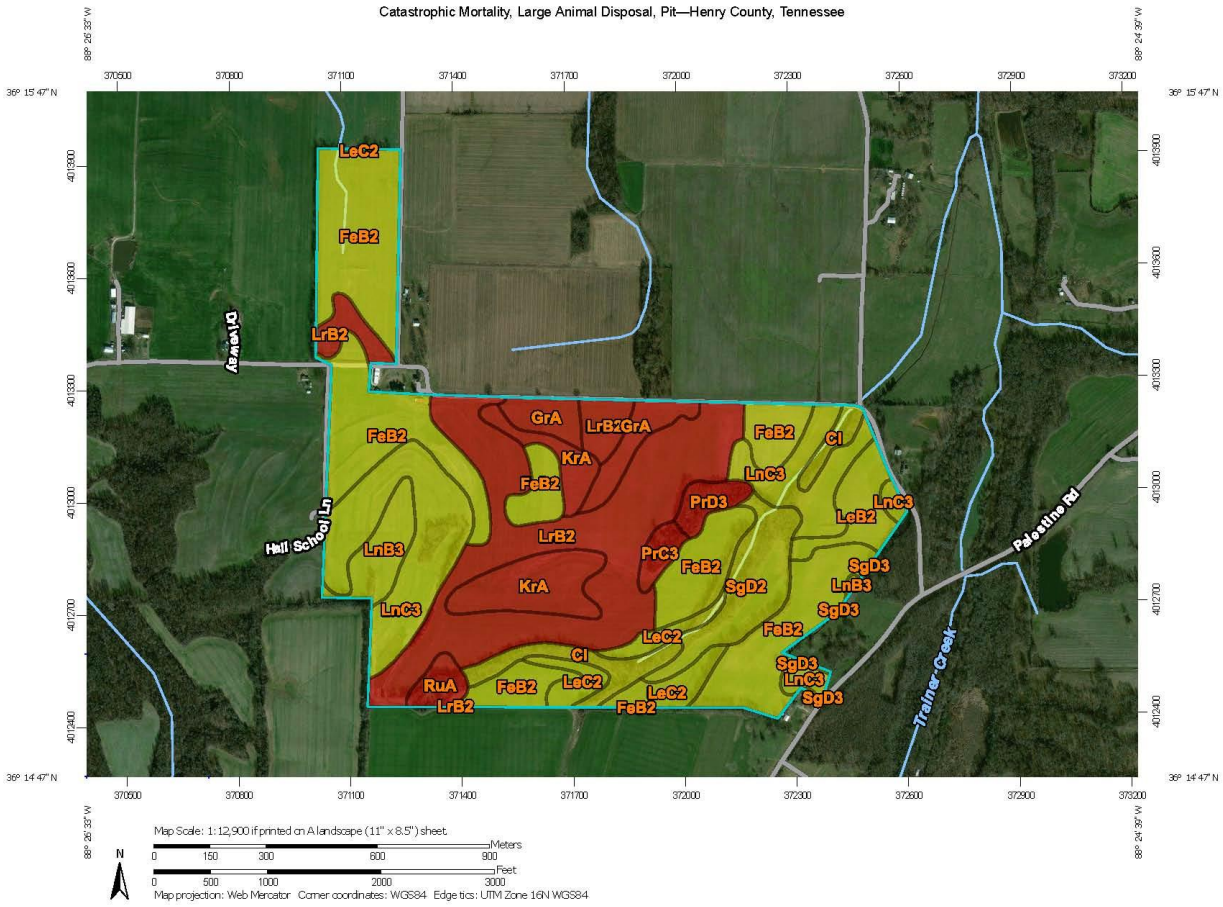
The following narrative describes how animal veterinary wastes (including medical equipment, empty containers, sharps and expired medications) will be managed at the operation.

Medicine will be disposed to as directed on label. Needles and other sharps will be put in to a sharps container. If any medicine is left it shall remain in the control rooms or in a building that is protected from outside environment and stored according to label.

Catastrophic Animal Mortality Management

Refer to NRCS standards, or state guidance, regarding appropriate catastrophic animal mortality handling methods.

Yellow areas are suitable for burial. Another option is Griffin Industries in Union City, Tn. Also a list of state approved landfills that accept livestock will be attached at the end of this document. Contact the state vet before removing any dead pigs during a large mortality event.



USDA Natural Resources Conservation Service

Web Soil Survey
National Cooperative Soil Survey

5/22/2018
Page 1 of 7

Catastrophic Mortality, Large Animal Disposal, Pit

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
CI	Cascilla silt loam, 0 to 3 percent slopes, rarely flooded	Somewhat limited	Cascilla (95%)	Flooding (0.40)	10.9	3.4%
				Dusty (0.05)		
				Unstable excavation walls (0.01)		
FeB2	Feliciana silt loam, 2 to 5 percent slopes, eroded	Somewhat limited	Feliciana (92%)	Dusty (0.05)	96.1	30.3%
				Unstable excavation walls (0.01)		
GrA	Grenada silt loam, 0 to 2 percent slopes	Very limited	Grenada (94%)	Wetness (1.00)	11.4	3.6%
				Water gathering surface (0.50)		
				Dusty (0.05)		
				Unstable excavation walls (0.01)		
			Routon (1%)	Wetness (1.00)		
				Water gathering surface (0.50)		
				Dusty (0.05)		
				Unstable excavation walls (0.01)		
KrA	Kurk silt loam, 0 to 3 percent slopes	Very limited	Kurk (95%)	Wetness (1.00)	18.9	6.0%
				Water gathering surface (0.50)		
				Dusty (0.05)		
				Unstable excavation walls (0.01)		
			Routon (5%)	Wetness (1.00)		
				Water gathering surface (0.50)		
				Dusty (0.05)		
				Unstable excavation walls (0.01)		
LeB2	Lexington silt loam, 2 to 5 percent slopes,	Somewhat limited	Lexington (94%)	Seepage (0.52)	8.9	2.8%
				Dusty (0.05)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Dusty (0.05)		
				Unstable excavation walls (0.01)		
SgD2	Smithdale-Lexington complex, 8 to 12 percent slopes, eroded	Somewhat limited	Smithdale (67%)	Slope (0.96)	16.1	5.1%
				Seepage (0.52)		
				Adsorption (0.08)		
				Dusty (0.03)		
				Unstable excavation walls (0.01)		
			Lexington (33%)	Slope (0.84)		
				Seepage (0.52)		
				Dusty (0.05)		
				Unstable excavation walls (0.01)		
SgD3	Smithdale-Lexington complex, 8 to 12 percent slopes, severely eroded	Somewhat limited	Smithdale (67%)	Slope (0.96)	0.4	0.1%
				Seepage (0.52)		
				Adsorption (0.08)		
				Dusty (0.02)		
				Unstable excavation walls (0.01)		
			Lexington (33%)	Slope (0.84)		
				Seepage (0.52)		
				Dusty (0.05)		
				Unstable excavation walls (0.01)		
Totals for Area of Interest					**316.6**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Somewhat limited	199.7	63.1%
Very limited	116.9	36.9%
Totals for Area of Interest	**316.6**	**100.0%**

Description

"Catastrophic mortality, large animal disposal, pit," is a method of disposing of dead animals by placing the carcasses in successive layers in an excavated pit. The carcasses are spread, compacted, and covered daily with a thin layer of soil that is excavated from the pit. When the pit is full, a final cover of soil material at least 2 feet thick is placed over the burial pit.

The interpretation is applicable to both heavily populated and sparsely populated areas. While some general observations may be made, onsite evaluation is required before the final site is selected. Improper site selection, design, or installation may cause contamination of ground water, seepage, and contamination of stream systems from surface drainage or floodwater. The risk of contamination can be reduced or eliminated by installing systems designed to eliminate or reduce the adverse effects of limiting soil properties. Ratings are for soils in their present condition. The present land use is not considered in the ratings.

Ratings are based on properties and qualities to the depth normally observed during soil mapping (approximately 6 or 7 feet). However, because pits may be as deep as 15 feet or more, geologic investigations are needed to determine the potential for pollution of ground water and to determine the design needed. These investigations, which are generally arranged by the pit developer, include examination of stratification, rock formations, and geologic conditions that might lead to the conducting of leachates to aquifers, wells, watercourses, and other water sources. The presence of hard, nonrippable bedrock, bedrock crevices, or highly permeable strata at or directly below the proposed pit bottom is undesirable because of the difficulty in excavation and the potential pollution of underground water.

Properties that influence the risk of pollution, ease of excavation, trafficability, and revegetation are major considerations. Soils that are flooded or have a water table within the depth of excavation present a potential pollution hazard and are difficult to excavate. Slope is an important consideration because it affects the work involved in road construction, the performance of the roads, and the control of surface water around the pit. It may also cause difficulty in constructing pits in which the pit bottom must be kept level and oriented to follow the contour of the land.

The ease with which the pit is dug and with which a soil can be used as daily and final cover is based largely on soil texture and consistence, which determine workability when the soil is dry and when it is wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and difficult to place as a uniformly thick cover over a layer of carcasses. The uppermost part of the final cover should be soil material that favors the growth of plants. It should not contain excess sodium or salts and should not be too acid. In comparison with other horizons, the surface layer in most soils has the best workability and the highest content of organic matter. Thus, it may be desirable to stockpile the surface layer for use in the final blanketing of the filled pit area.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected of a properly designed and installed system. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of the individual limitations. The ratings are shown in decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

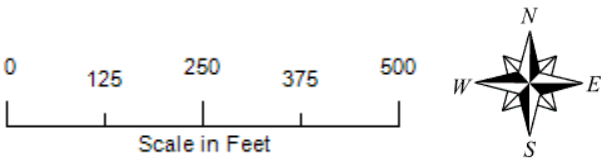
Component Percent Cutoff: None Specified

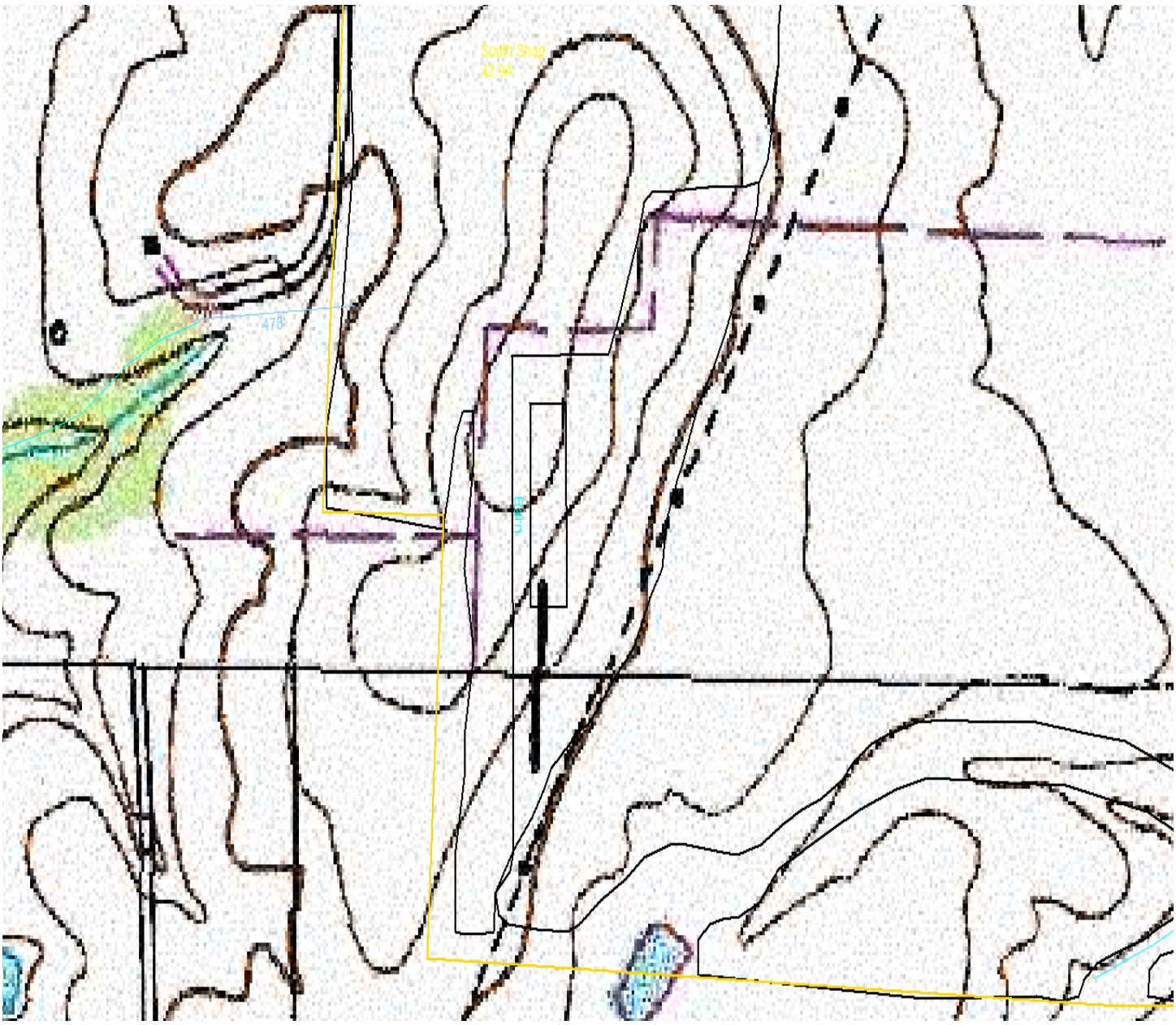
Tie-break Rule: Higher

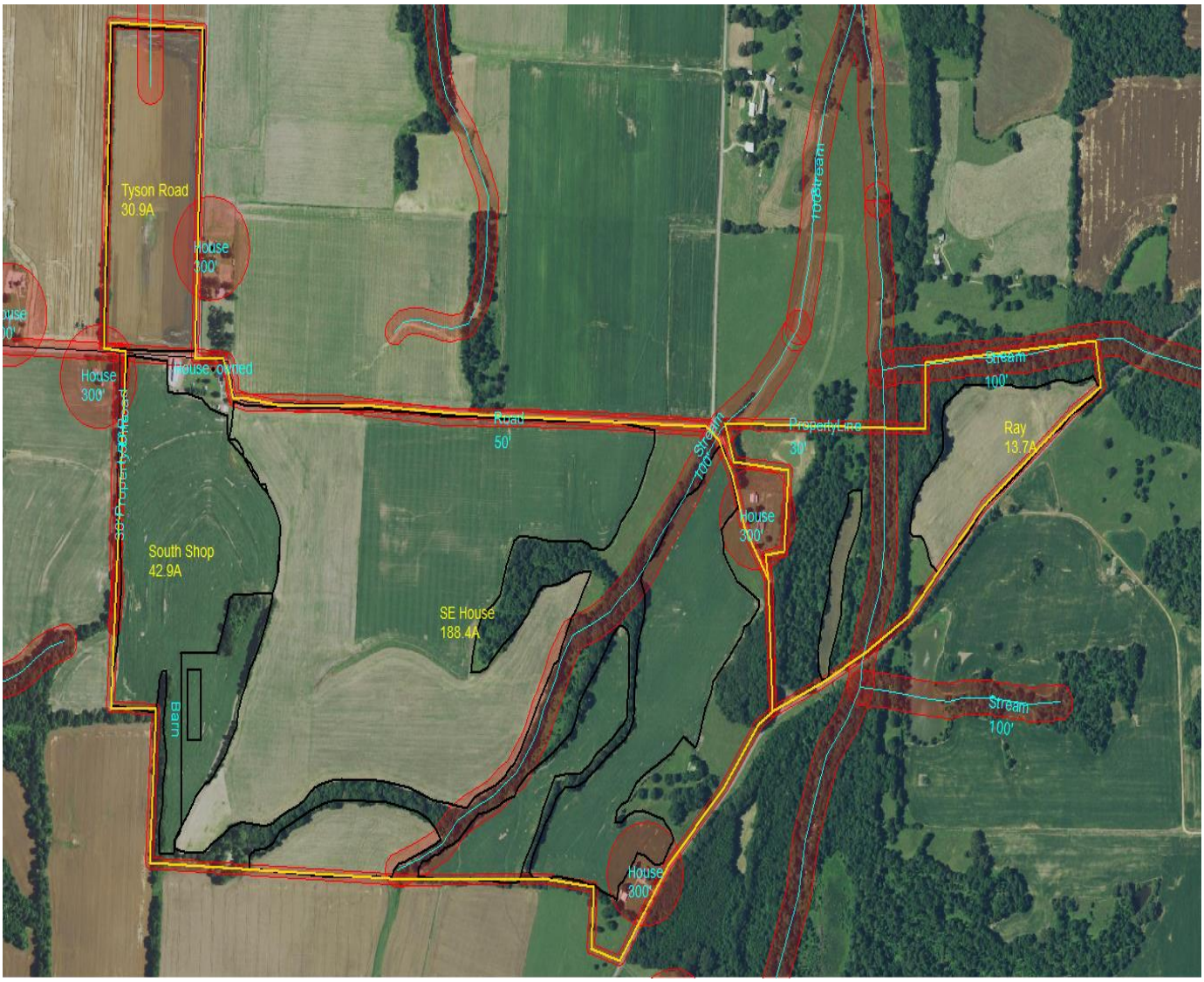
Section 2. Crop and Pasture (Land Treatment)

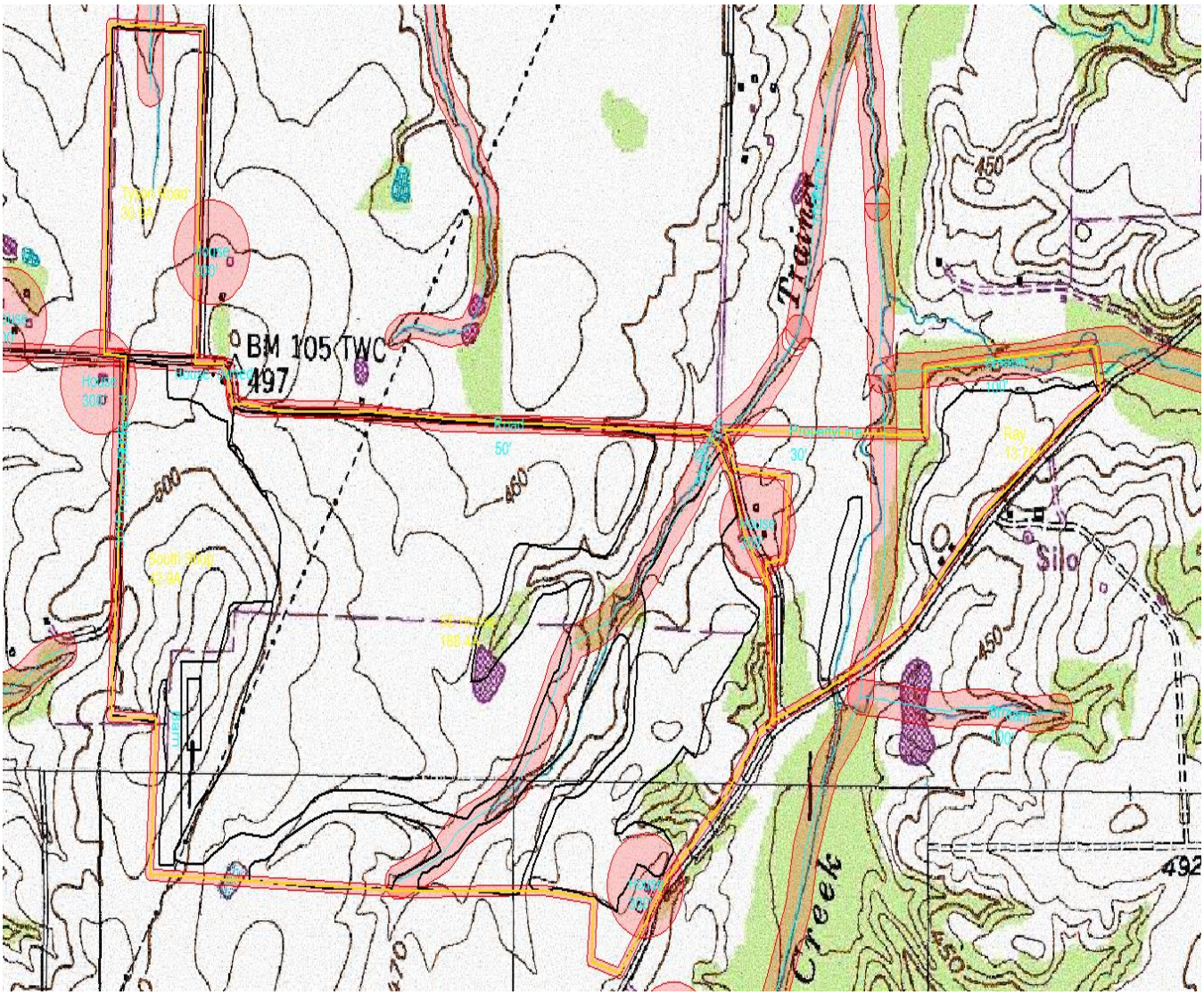
2.1. Maps of Fields, Soils, Application Setbacks, Existing and Planned Crop and Pasture Conservation Practices

Production Area




South Shop
42.9A
478
478
0
125
250
375
500
Scale in Feet
N
W
E
S

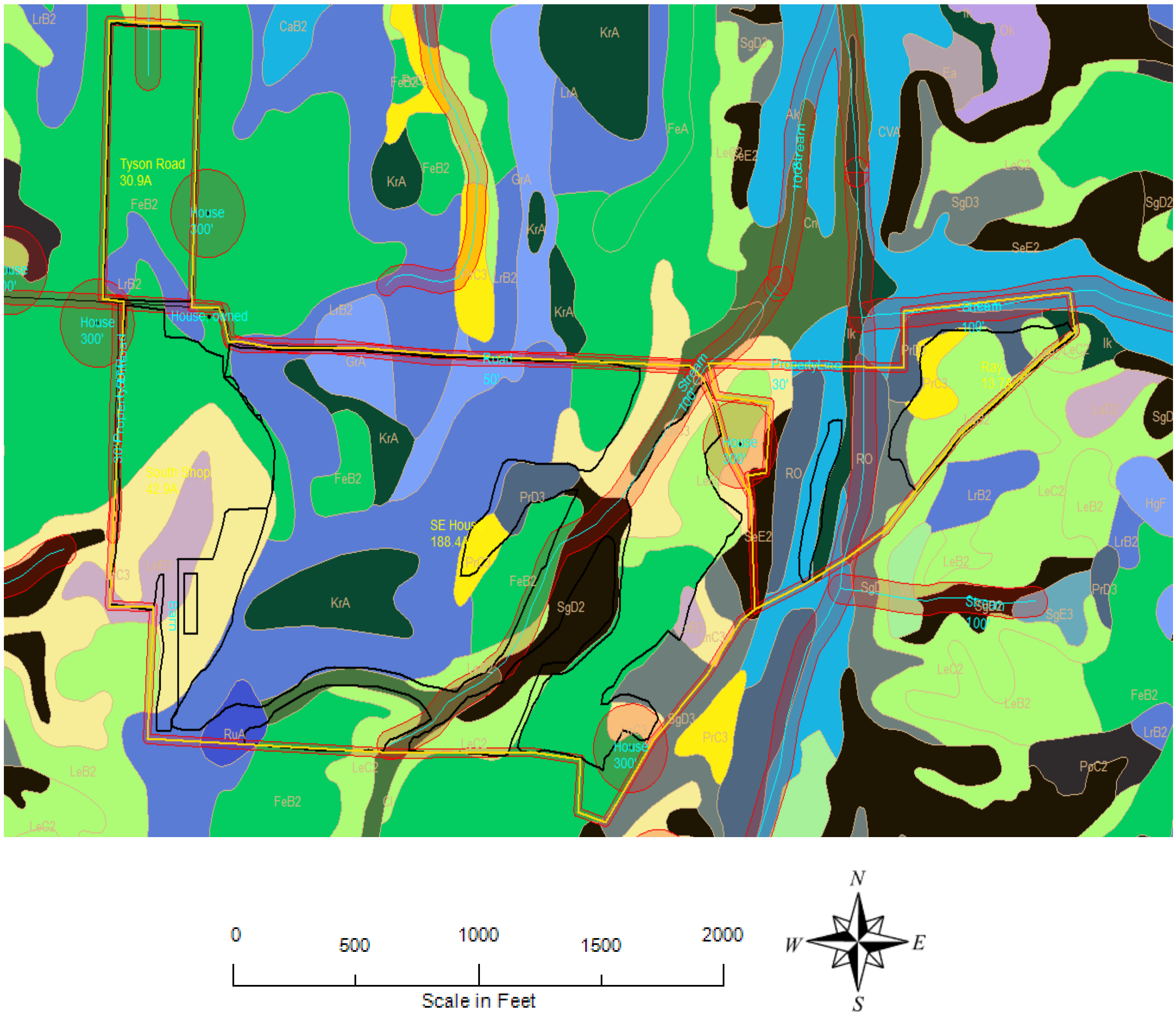

Tyson Road
30.9A
House
300'
House
300'
House, owned
Road
50'
Stream
100'
PropertyLine
30'
Stream
100'
Ray
13.7A
House
300'
South Shop
42.9A
SE House
188.4A
Barn
Stream
100'
House
300'
0
500
1000
1500
2000
Scale in Feet
N
W
E
S



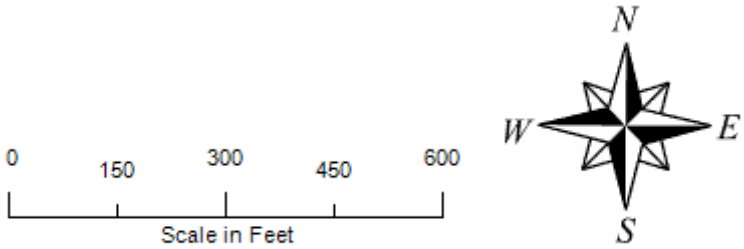
0 500 1000 1500 2000

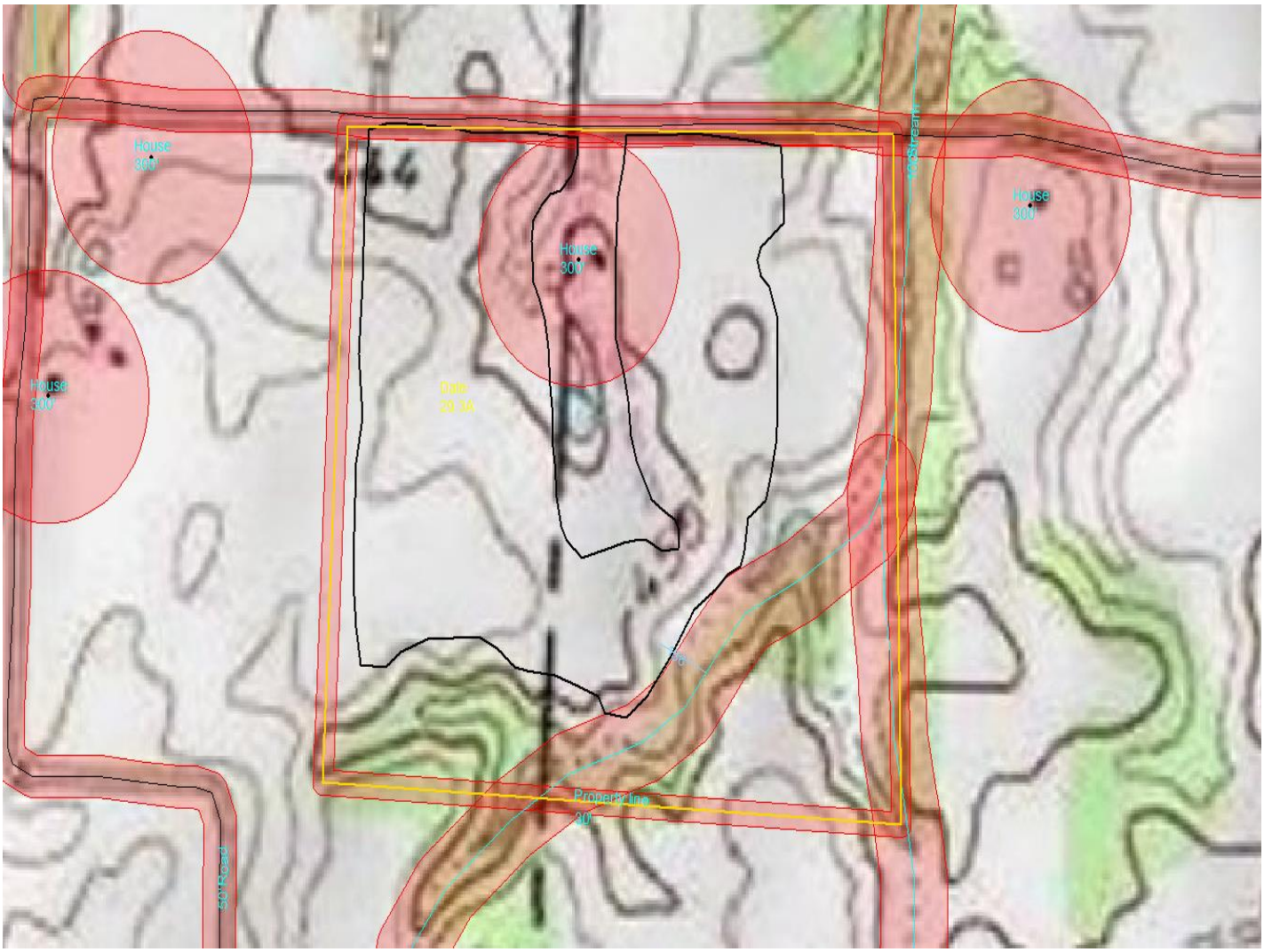
Scale in Feet

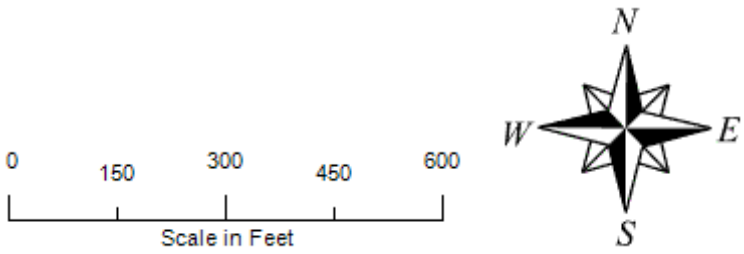
N W E S


Tyson Road
30.9A
House
300'
House owned
Road
50'
South Shop
42.9A
Property Line
30'
Stream
100'
KrA
FeB2
CaB2
LrB2
GrA
LrA
FeA
SgD2
SgD3
PrD3
PrC3
RO
CVA
SeE2
LeC2
LeB2
HgF
PcC2
RuA
0
500
1000
1500
2000
Scale in Feet
N
W
E
S

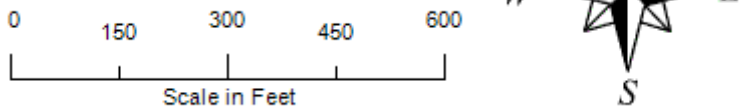

House
300'
House
300'
House
300'
House
300'
Dale
29.3A
1stStream
56'
Property line
30'
20' Road


0
150
300
450
600
Scale in Feet
N
W
E
S

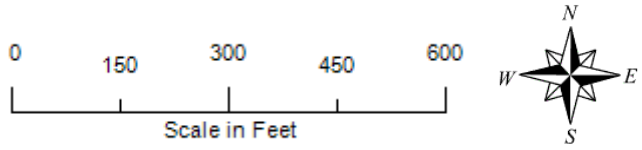

House
300'
House
300'
House
300'
House
300'
Bldg
20.3A
Property Line
30'
Stream
50' Road

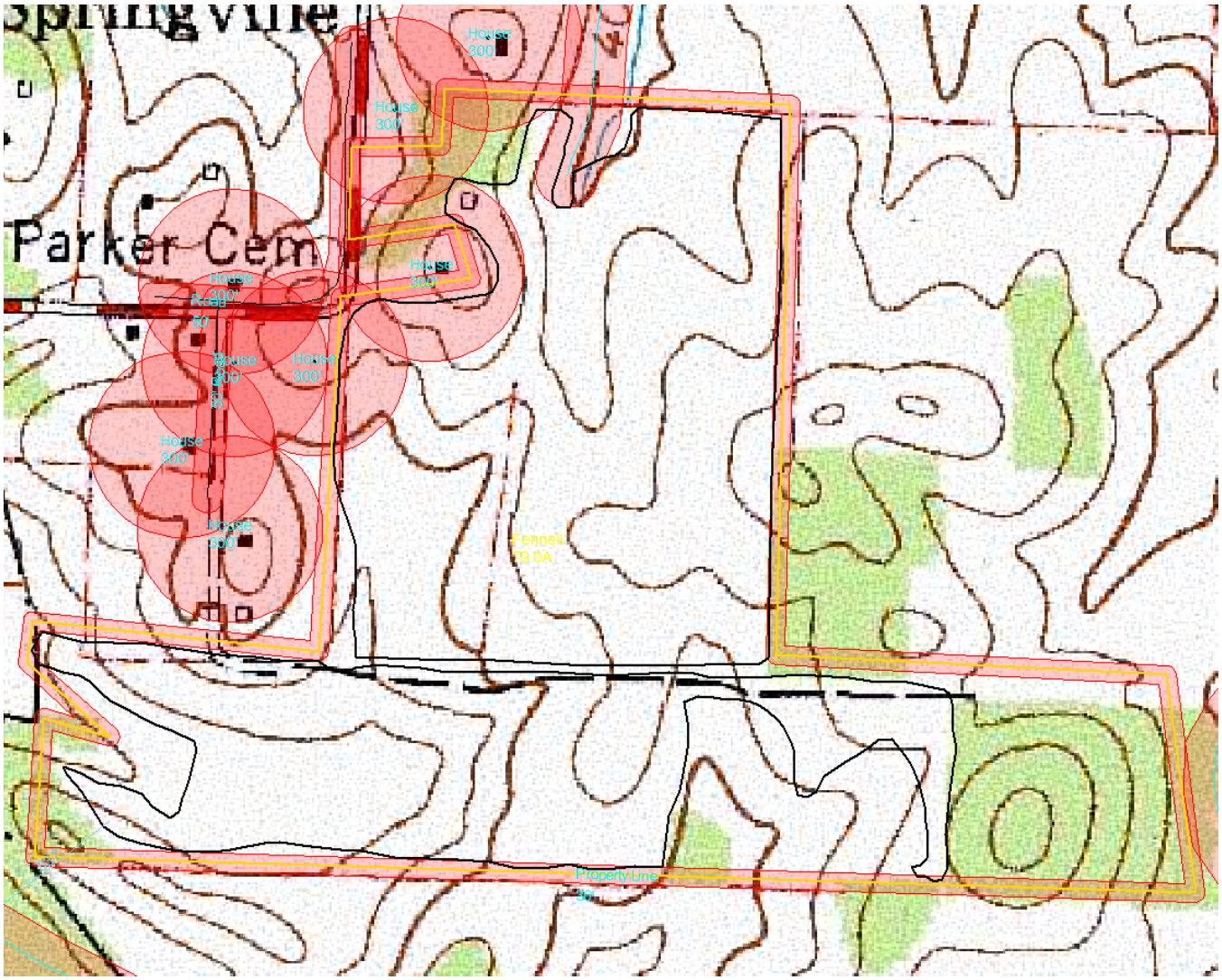

0
150
300
450
600
Scale in Feet
N
W
E
S

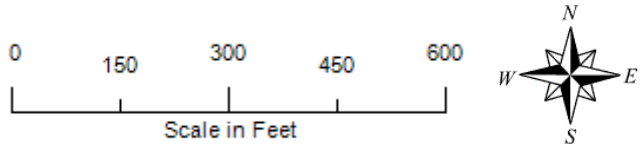

GrB2
House
300'
GrC3
LeC2
House
300'
House
300'
LoB2
LoC3
House
300'
Dale
29.3A
LeB2
GrB2
GrB2
W
LoC3
PrD3
Rt
Property line
30'
PrD3
RtA
LeB2

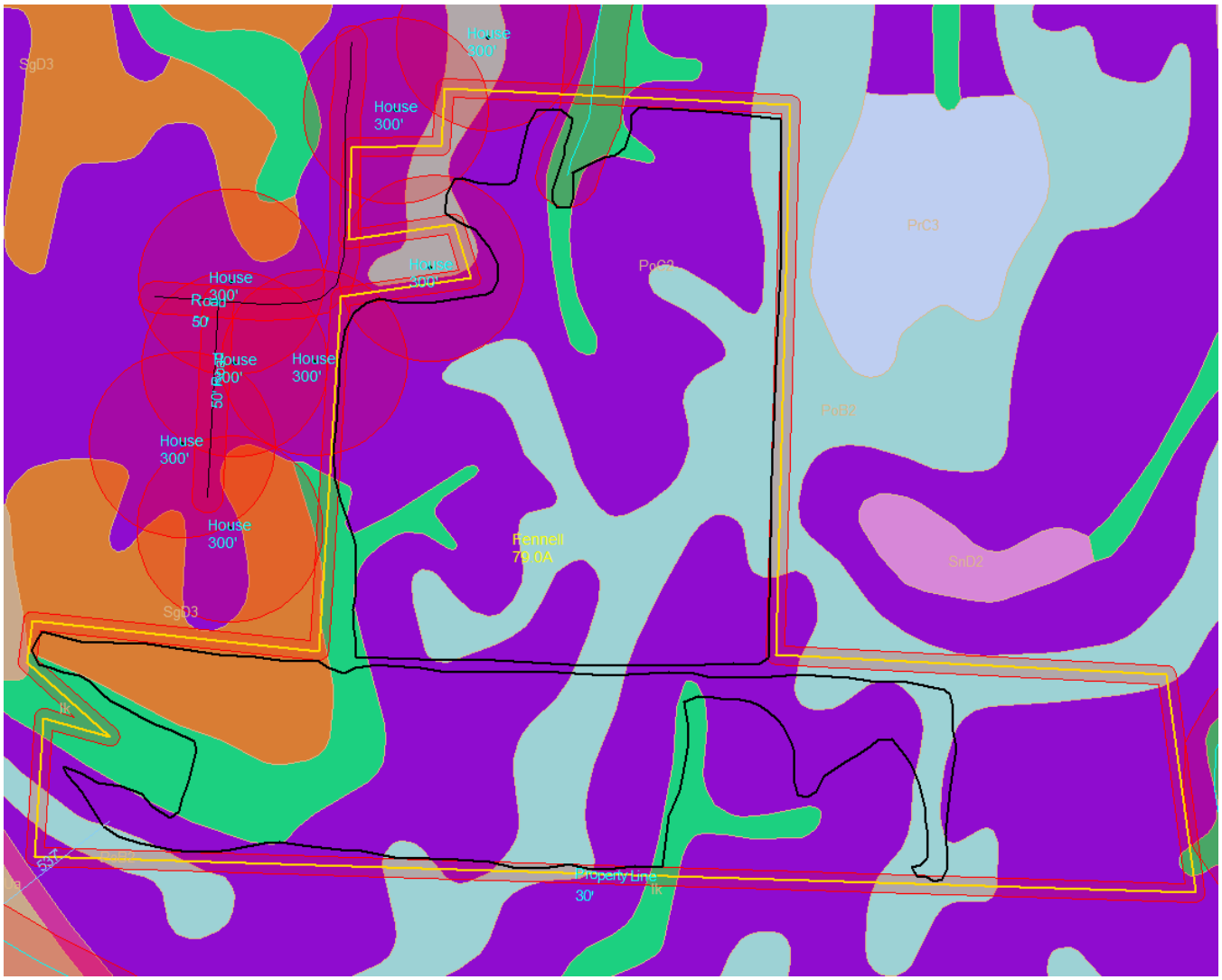

0
150
300
450
600
Scale in Feet
N
W
E
S

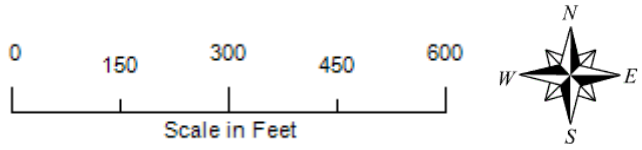

House
300'
House
300'
House
300'
House
300'
Road
50'
House
300'
House
300'
House
300'
House
300'
Fennell
79.0A
Property Line
30'

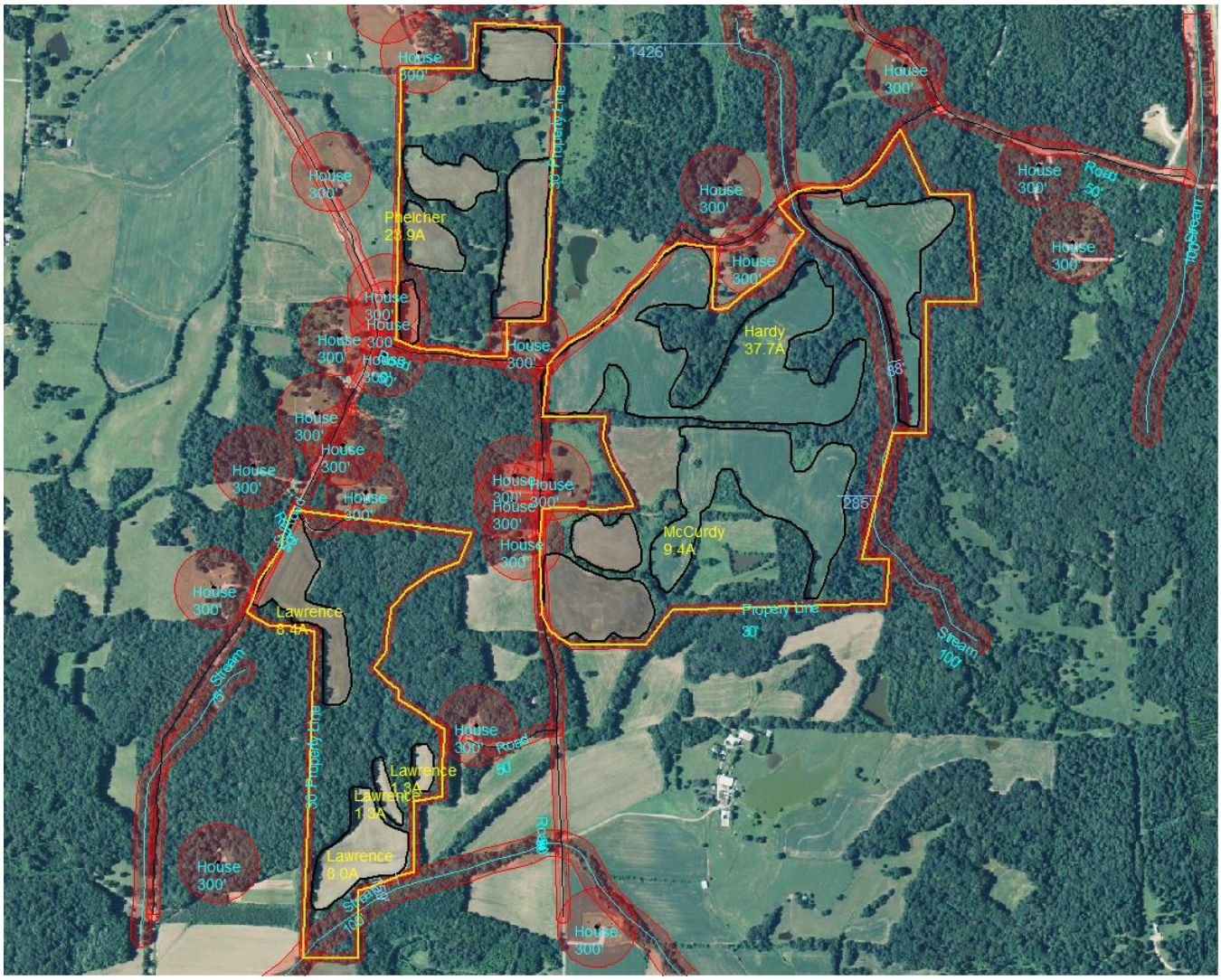

0
150
300
450
600
Scale in Feet
N
W
E
S

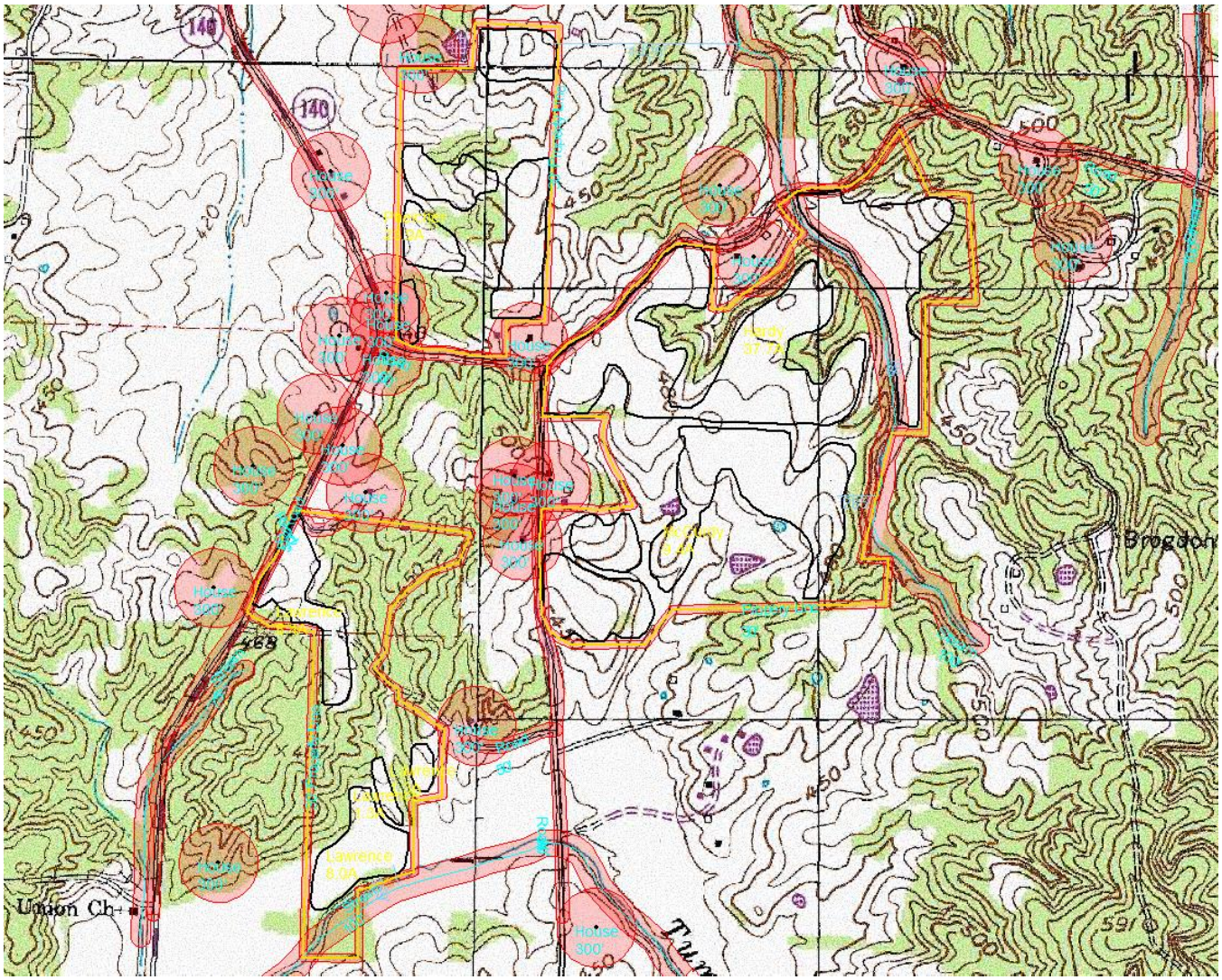

Parker Cem
House
300'
Road
50'
Fennell
29.0A
Property Line
50'


0
150
300
450
600
Scale in Feet
N
W
E
S


SgD3
House
300'
House
300'
House
300'
Road
50'
House
300'
House
300'
House
300'
House
300'
PrC3
PoC2
PoB2
SnD2
Rennell
79.0A
SgD3
Property Line
30'


0
150
300
450
600
Scale in Feet
N
W
E
S

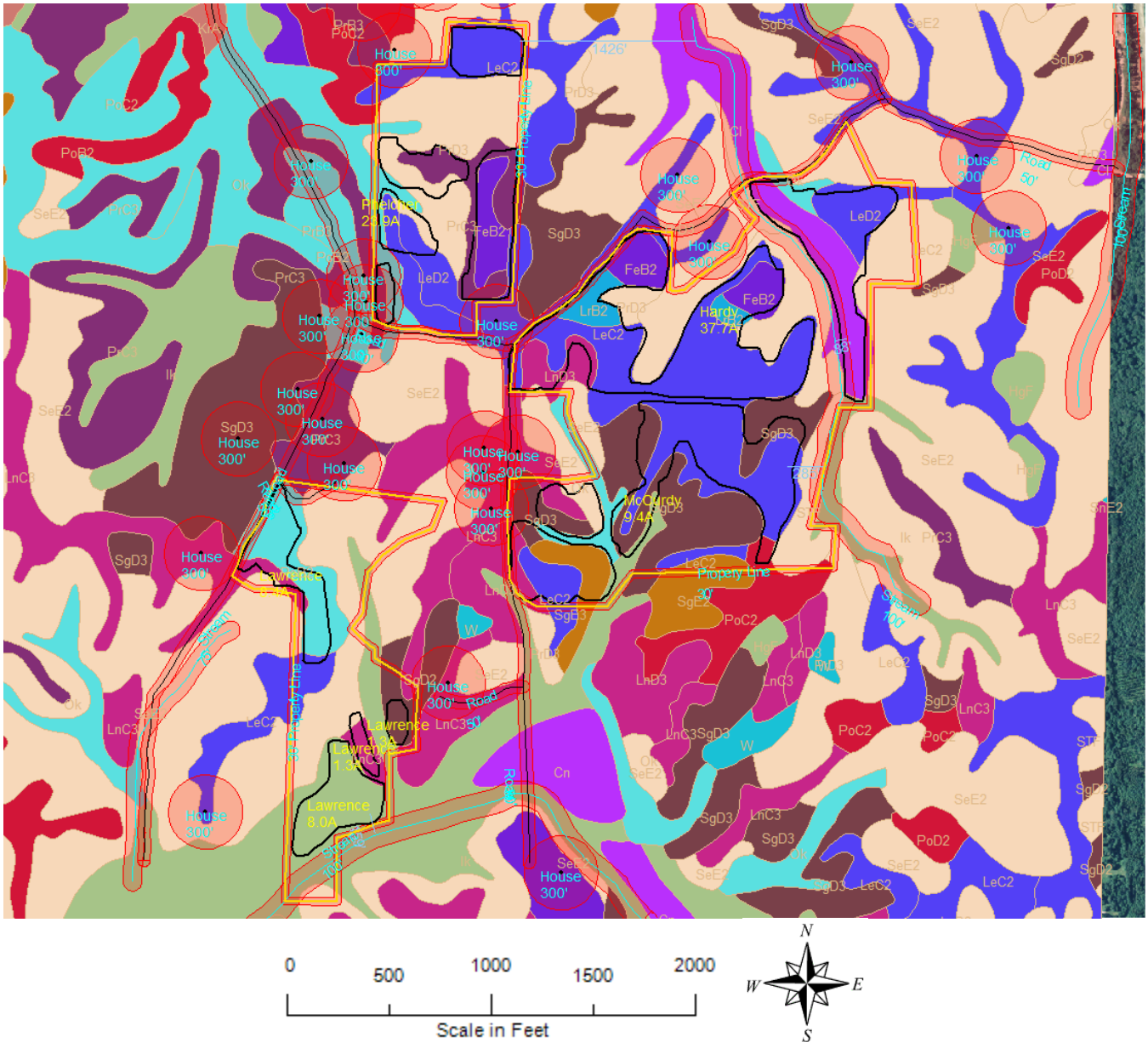

House 300'
1426'
30' Property Line
Fletcher 23.9A
Hardy 37.7A
McCurdy 9.4A
Lawrence 8.4A
Lawrence 8A
Lawrence 1.0A
Lawrence 6.0A
Road 50'
Stream 100'
Stream 75'
Property Line 30'
285'
88'
0
500
1000
1500
2000
Scale in Feet
N
W
E
S



0 500 1000 1500 2000

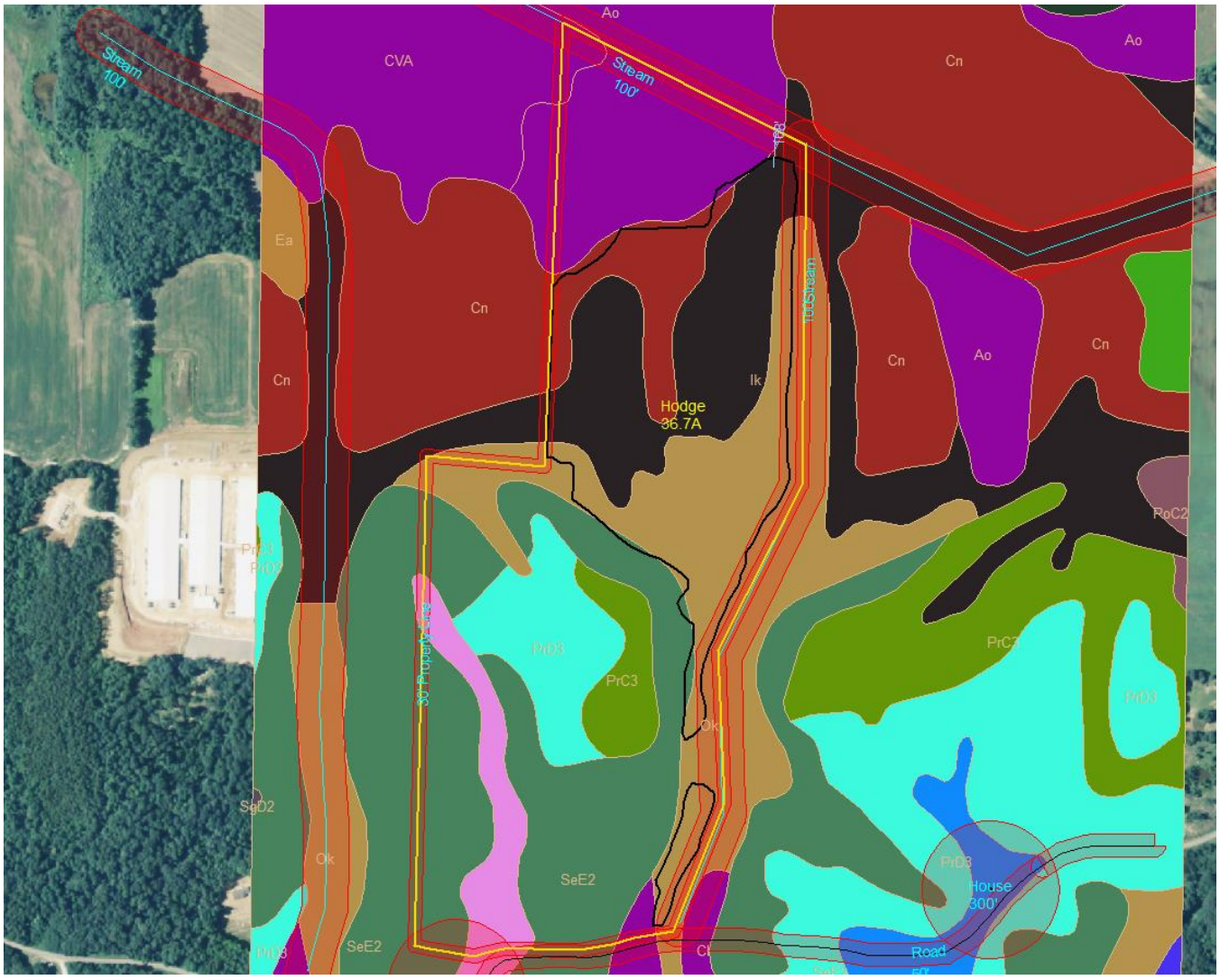
Scale in Feet

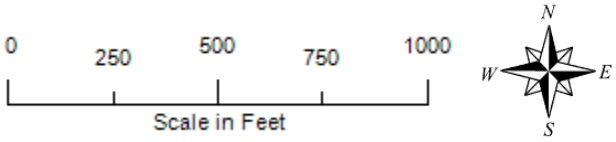
N W E S


0
500
1000
1500
2000
Scale in Feet
N
W
E
S

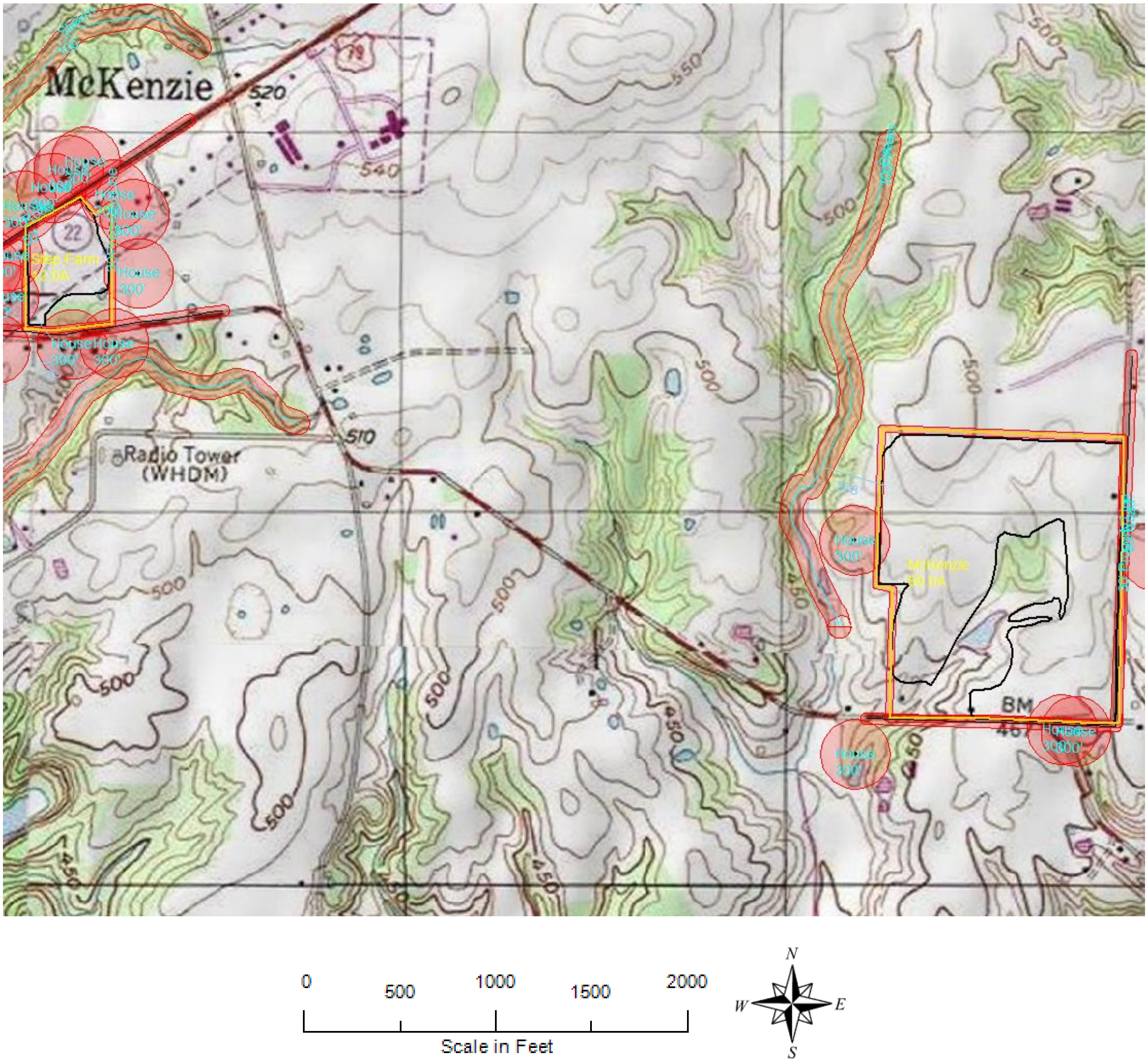

Stream
100'
Stream
100'
100Stream
Hodge
36.7A
House
300'
0
250
500
750
1000
Scale in Feet
N
W
E
S

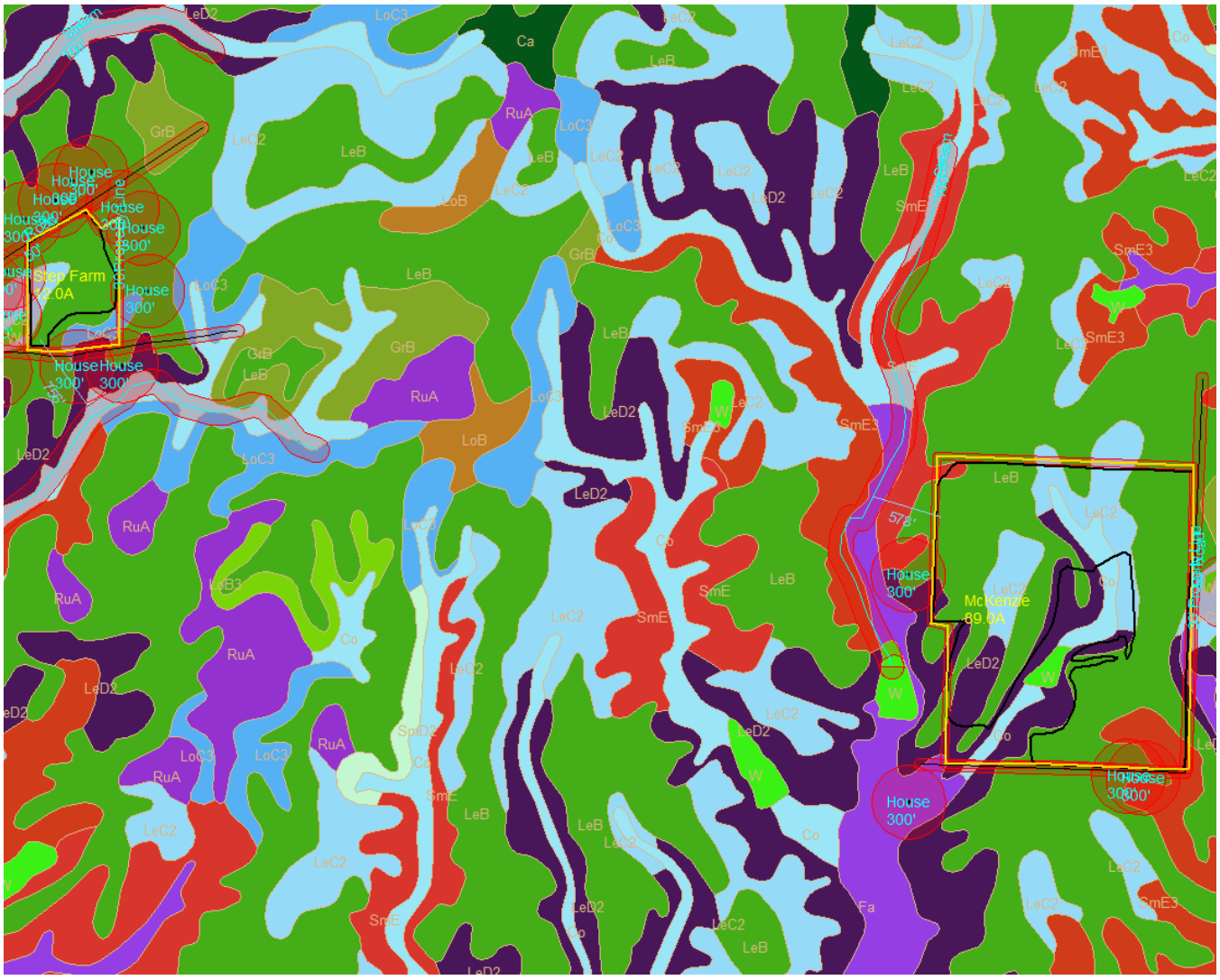

Stream
100
Stream
400
Obion
Hodge
38.7A
BM 104
450
0
250
500
750
1000
Scale in Feet
N
W
E
S


Ao
CVA
Stream
100'
Cn
Ea
Ik
Hodge
36.7A
100Stream
PrC2
PrD3
PrC3
Ok
SgD2
SeE2
House
300'
Road

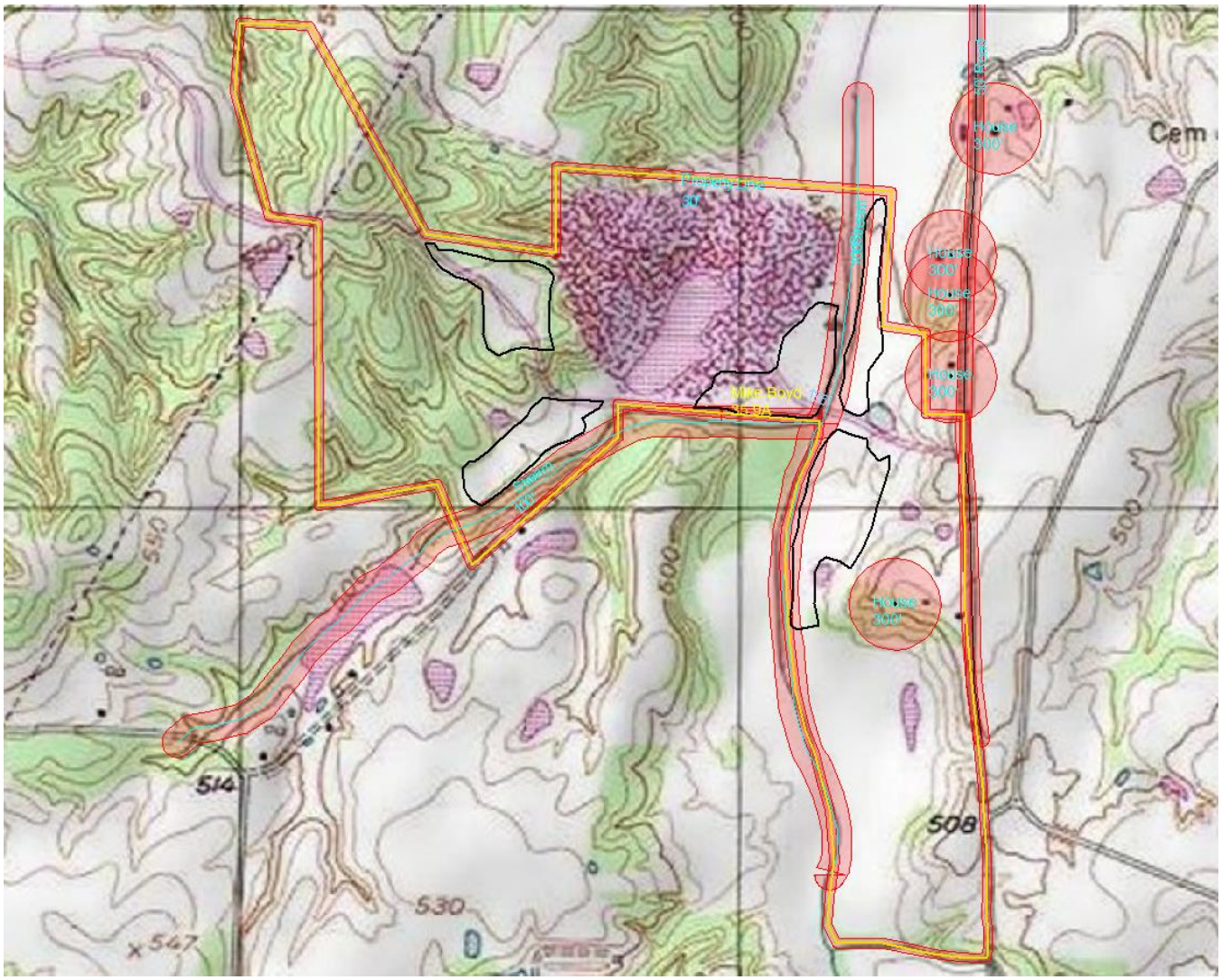

0
250
500
750
1000
Scale in Feet
N
W
E
S

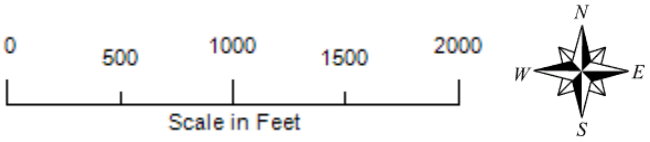

Stream
100'
House
300'
Step Farm
12.0A
578'
McKenzie
89.0A
0
500
1000
1500
2000
Scale in Feet
N
W
E
S


McKenzie
520
540
550
500
510
Radio Tower
(WHDM)
450
BM
House
300'
McKenzie
0
500
1000
1500
2000
Scale in Feet
N
E
S
W

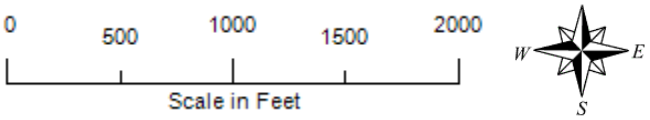

Step Farm
12.0A
McKenzie
89.0A
House
300'
0
500
1000
1500
2000
Scale in Feet
N
W
E
S

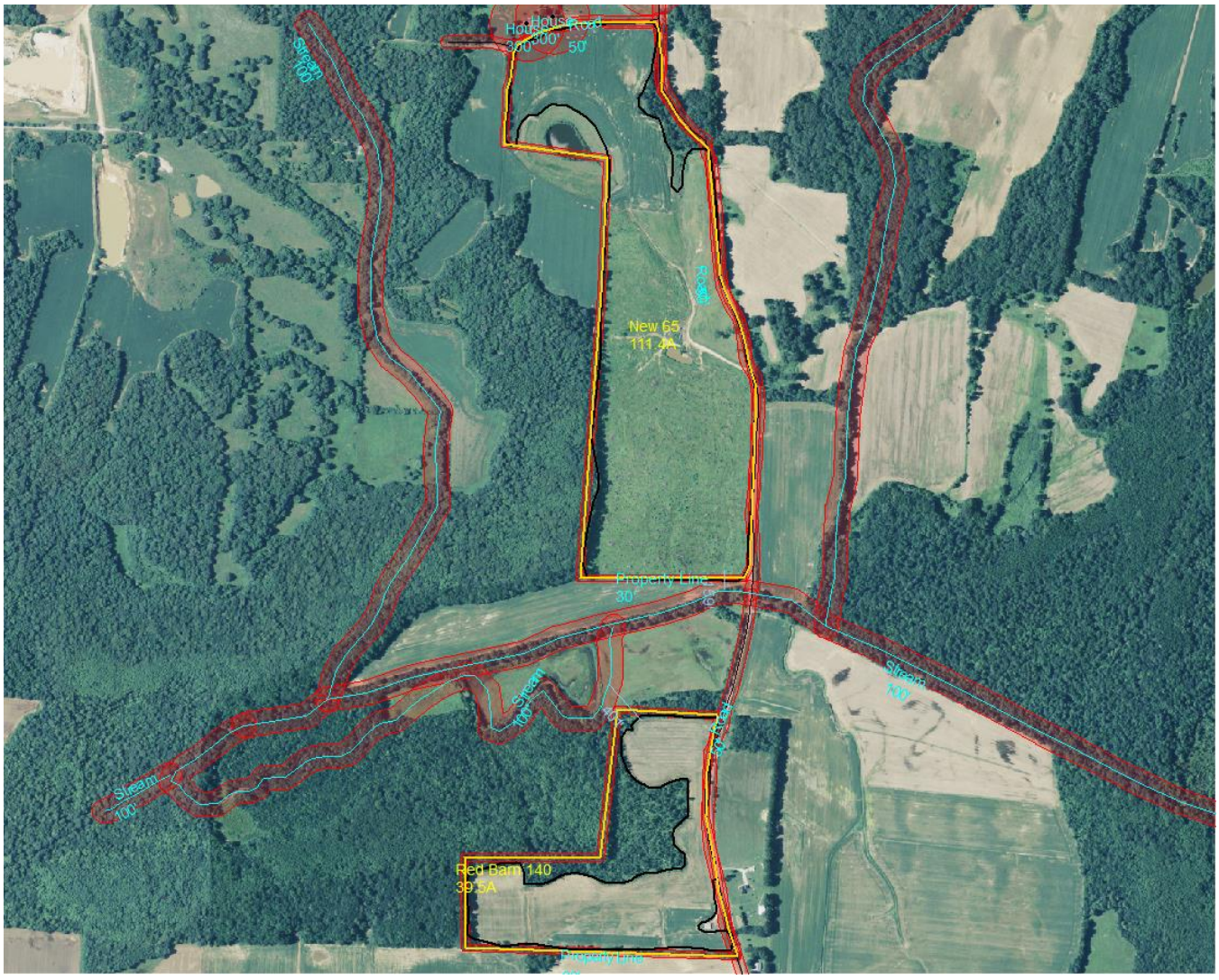

House
300'
Property Line
30'
House
300'
House
300'
House
300'
Mike Boyd
35.9A
Stream
100'
House
300'
0
500
1000
1500
2000
Scale in Feet
N
W
E
S

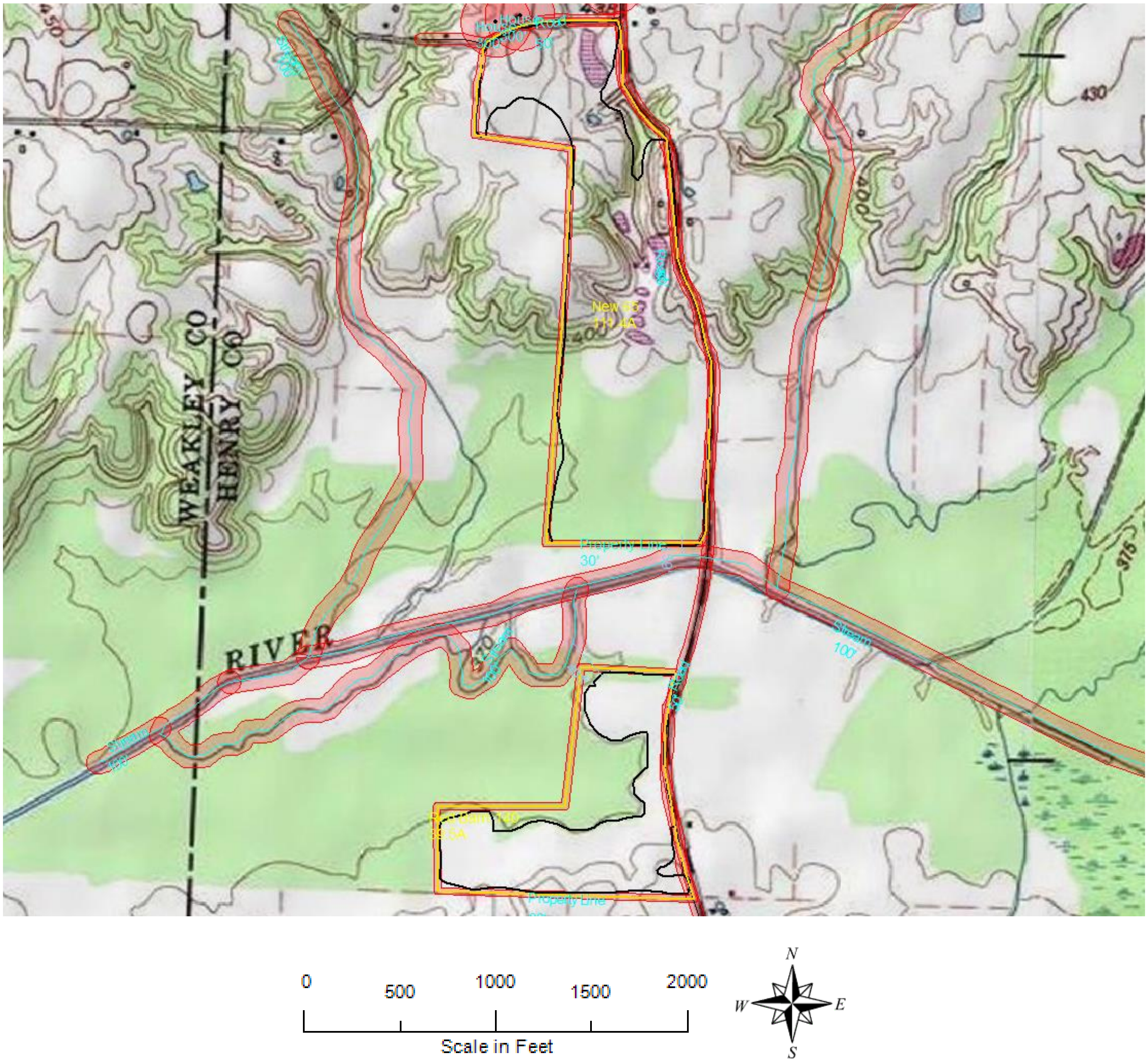

Cem
House
300'
House
300'
House
300'
House
300'
House
300'
Property line
Property line
Mike Boyd
Creek
100'
514
508
530
500
550
600
x547

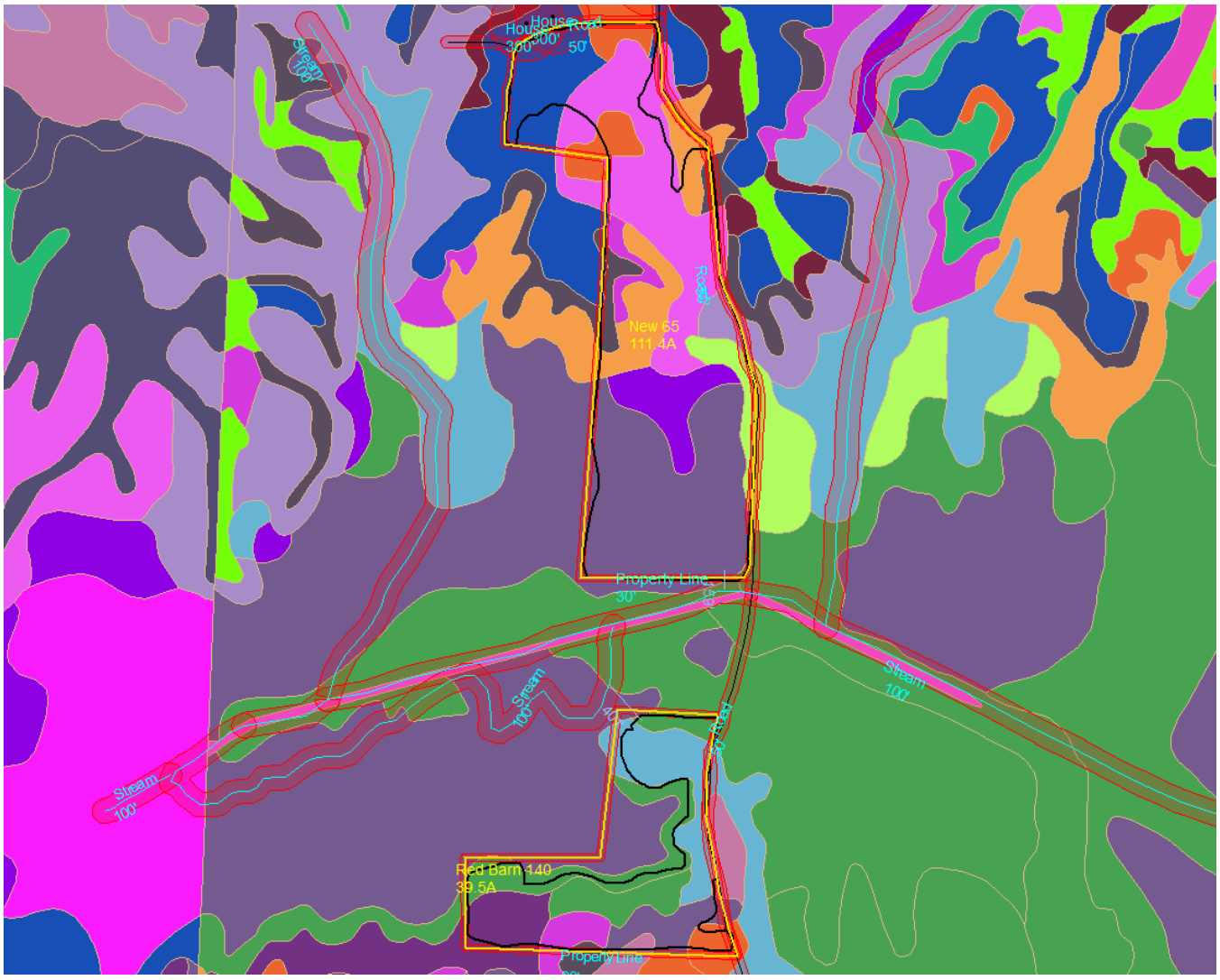

0
500
1000
1500
2000
Scale in Feet
N
W
E
S


SnB2
SeD3
Ea
50' Road
House
300'
LnD3
HgF
Pipeline
30'
SeE2
LeC2
LnC3
W
Ua
Mike Boyd
35.9A
LeC2D2
SgD3
LrA
SeB2
Stream
100'
LeB2
Cn
SnD3
LeD2
FeB2


0
500
1000
1500
2000
Scale in Feet
N
W
E
S


House
300'
House Road
50'
Stream
100'
New 65
111.4A
Road
Property Line
30'
Stream
100'
Stream
100'
Road
Red Barn 140
39.5A
Property Line
0
500
1000
1500
2000
Scale in Feet
N
W
E
S


WEAKLEY CO
HENRY CO
RIVER
430
400
Stream
100'
Property Line
30'
0
500
1000
1500
2000
Scale in Feet
N
W
E
S


House Road
300'
50'
Stream
100'
New 65
111.4A
Property Line
30'
Road
40'
Stream
100'
Red Barn 140
39.5A
Property Line
0
500
1000
1500
2000
Scale in Feet
N
W
E
S

2.2. Crop and Pasture Conservation Practices -- Record of Decisions

Conservation Crop Rotation (328)

Grow crops in a recurring sequence in the same field. Develop crop rotation program for Corn - Soybeans. See Practice Standard 328.

Fields	Planned Amount (Acres)	Month	Year	Amount Applied	Date
Tyson Road	24.6	6	2018	Already Applied	
South Shop	41.3	6	2018	Already Applied	
SE House	175.4	6	2018	Already Applied	
Ray	11.8	6	2018	Already Applied	
Fennell	73.6	6	2018	Already Applied	
Dale	25.1	6	2018	Already Applied	
Phelcher	21.2	6	2018	Already Applied	
Hardy	49.3	6	2018	Already Applied	
McCurdy	34.7	6	2018	Already Applied	
Lawrence	18.2	6	2018	Already Applied	
Hodge	33.2	6	2018	Already Applied	
McKenzie	82.8	6	2018	Already Applied	
Step Farm	9	6	2018	Already Applied	
Mike Boyd	31.8	6	2018	Already Applied	
Red Barn 140	37.5	6	2018	Already Applied	
New 65	102.8	6	2018	Already Applied	
Total	**772.3**	**6**	**2018**		

Nutrient Management (590)

Soil amendments, animal waste, and lime will be applied according to soil test recommendations. When applying animal waste, recommended buffer widths shall be observed. Refer to Practice Standard 590.

Ongoing: Use of rotation, application of manure and commercial fertilizer/ lime according to soil test results from a Tn accredited lab.

Manure needs to be tested each time an application occurs if manure test varies from this document, make adjustments to application rate.

Fields	Planned Amount (Acres)	Month	Year	Amount Applied	Date
Tyson Road	24.6	6	2018	Already Applied	
South Shop	41.3	6	2018	Already Applied	
SE House	175.4	6	2018	Already Applied	
Ray	11.8	6	2018	Already Applied	
Fennell	73.6	6	2018	Already Applied	
Dale	25.1	6	2018	Already Applied	
Phelcher	21.2	6	2018	Already Applied	

Hardy	49.3	6	2018	Already Applied	
McCurdy	34.7	6	2018	Already Applied	
Lawrence	18.2	6	2018	Already Applied	
Hodge	33.2	6	2018	Already Applied	
McKenzie	82.8	6	2018	Already Applied	
Step Farm	9	6	2018	Already Applied	
Mike Boyd	31.8	6	2018	Already Applied	
Red Barn 140	37.5	6	2018	Already Applied	
New 65	102.8	6	2018	Already Applied	
Total	**772.3**	**6**	**2018**		

All NRCS conservation practices shall be installed, operated and maintained according to NRCS conservation practice standards and associated technical specifications.

2.3. Crop and Pasture Conservation Practices – Implementation Requirements

Sampling Farm Fields

Divide fields to be sampled into production areas (of 10 acres or less) based on uniform soil type, fertilization and management history. Sandy or eroded areas, and problem areas of obviously different plant growth responses should also be sampled separately -- provided the area is sufficiently large enough to be treated differently with lime or fertilizer.

From your local county Extension office, obtain a soil sample box for **each** production area, and submit a Soil and Media Test Information Sheet,* for each **ten** production areas.

For each production area that you have identified:

1. Collect a composite soil sample by moving through the area in a zig-zag pattern; sampling at a minimum of 20 locations. This sampling procedure should be random with respect to any existing cropping row. In continuous no-till production fields, be sure to vary distance from the row for each sub-sample collected. In continuous no-till fields or where fertilizer has been banded, increasing the number of sub-samples to 30 or 40 will increase precision of the results.

2. Move surface litter aside. Each sub-sample should be obtained by using a soil tube, trowel or spade. For determination of plant nutrients, take soil samples to a depth of 6 inches. For organic matter determination, sample to the depth of 2 inches.

3. Combine each sub-sample in a clean bucket as you move through the production area. Do not use a galvanized bucket if Zn is to be determined. Thoroughly mix the sub-samples into one composite sample. If the soil is exceptionally wet, you may have to let it air dry on a paper plate before it can be properly mixed (wet soil can also dramatically increase shipping costs and weaken shipping containers). DO NOT use heat to dry a soil sample as heat may change your results.

4. From this composite sample remove enough soil (about a cup) to fill a soil sample box. Adequately mark the box to identify the selected production area location represented by that soil sample and keep this record in a safe place for later referral.

5. For the PSNT soil test, sample to a depth of 12 inches when corn is 6 to 12 inches tall. Height should be measured from the ground to bottom of the whorl (4-6 fully mature leaves present).

6. For container media analysis, medium should be sampled before posting by removing several portions from the mix and blending thoroughly. For established plantings, select 8 to 10 pots that are representative of the medium used. Scrape away the top one-fourth inch of each pot including slow-release fertilizer pellets and discard. Mix samples being careful not to crush any remaining fertilizer pellets. Completely fill **two** soil sample boxes for container media analysis.

Send soil sample(s), Soil and Media Information Sheet(s), and appropriate fees to the Soil, Plant and Pest Center (see address and fee information on the Soil and Media Information Sheet). Fees can also be paid by credit card using the secure UT Institute of Agriculture eMarketplace site. Click here to pay online.

THE UNIVERSITY of TENNESSEE Extension
WD93

Livestock Waste Management and Conservation

Procedures for Manure and Litter Sampling

(Class I & II – Large and Medium CAFOs)

Tennessee CAFO Factsheet #14

Kristy M. Hill, Extension Dairy Specialist
Animal Science Department

Nutrient composition of manure varies with a number of factors, including animal type, bedding, ration, storage and handling, environmental conditions, field application method, age of manure, timing of sampling and sampling technique. This variability makes book values (or averages) an unreliable source for determining application rates of nitrogen, phosphorus and potassium. Each livestock production operation and manure management system is unique, and an individual farm's manure analysis can vary from average values by 50 percent or more. Testing manure may better indicate how animal management and other factors actually affect nutrient contents and will allow for more accurate calculation of application rates.

The results of a manure analysis are only as reliable as the sample taken. A representative sample is needed to accurately reflect the nutrient content. However, obtaining a representative sample can be a challenge as manure nutrient content is not uniform within storage structures. Mixing and sampling strategies can insure that samples more accurately reflect the type of manure that will be applied.

When to Sample

The ideal time to sample manure is prior to application to ensure that results of the analysis are received in time to adjust nutrient application rates. However, do not allow long periods of time to pass before application begins, because there can be storage and handling losses over time. Sampling several days to a week prior to application is best. However, a complication of the timing of the sampling is that semi-solid (or slurry) manure should be well agitated before sampling, and in many situations, such as contracting waste application to a third party, agitators or other necessary equipment are not available until application begins. In cases such as this, "pre-sampling" (dipping samples off the top of the storage structure for N and K concentrations) can be used to estimate application rates (See page 4 for more info on pre-sampling).

Building a "bank" of manure analysis over time can be quite useful in the future as long as animal management practices, feed rations or manure storage and handling methods do not drastically change from present methods. If samples do not vary greatly from year to year or are consistent during spring or fall applications, the "bank" averages will help estimate application rates if an analysis cannot be performed prior to application.

Safety Precautions

It is more dangerous and more difficult to sample from liquid storage facilities than dry-manure systems. Proper precautions should be taken to prevent

accidents, such as falling into the storage facility or being overcome by manure gases.

1. Have two people present at all times;
2. Never enter confined manure-storage spaces without appropriate safety gear, such as a self-contained breathing apparatus;
3. When agitating a storage pit below a building, be sure to provide adequate ventilation for both humans and animals; and
4. When agitating outdoor pits, monitor activities closely to prevent erosion of berms or destruction of pit liners.

Sample Preparations

1. Check with the laboratory performing the analysis, as most of these labs have plastic bottles available for liquid sample collection or sealable plastic bags for dry samples (freezer bags work well). Additionally, they may have specific sample collection procedures, including holding times, refrigeration and shipping requirements.
2. Do not use glass containers, as expansion of the gases in the sample can cause the container to break.
3. Never use galvanized containers for collection or mixing due to the risk of contamination from metals like zinc in the container.
4. When taking liquid samples from facilities spreading both effluent and solids, the manure should be agitated for two to four hours before taking the sample.
5. Liquid samples can be taken during agitation (after two to four hours have passed) because most agitation equipment is effective 75 to 100 feet away from the equipment.
6. Take multiple samples from the storage facility and mix them together thoroughly in a larger bucket to obtain a representative sample. For liquid or semi-solid samples, use a stirring rod to get the solids spinning in suspension and collect the representative sample while the liquid is still spinning.
7. When taking liquid samples, fill the plastic bottle three-fourths full and leave at least 1 inch of air space to allow for gas expansion.
8. When taking dry samples, squeeze all of the excess air from the sealable plastic bag to allow for gas expansion and place the first bag into a second sealable plastic bag to prevent leaks.
9. Label the plastic bags or bottles prior to sampling with your name, date and sample identification number. Use a waterproof pen.
10. After sampling, place the container(s) in the refrigerator or freezer (preferred) until mailed to the lab. Cooling the samples will reduce microbial activity, chemical reactions and reduce odors.
11. Ship samples early in the week (Monday–Wednesday) using an overnight service. Avoid holidays and weekends.

Sampling Semi-Solid and Liquid Manure from Storage Facilities

Manure with 10 to 20 percent solids is classified as semi-solid manure and can usually be handled as a liquid. Semi-solid manure usually requires the use of chopper pumps to provide thorough agitation before pumping. Liquid manure is manure with less than 10 percent solids and is handled with pumps, pipes, tank wagons or irrigation equipment (if less than 5 percent solids).

If all contents of the entire semi-solid or liquid storage facility will be applied, complete agitation (2-4 hours minimum) is required to accurately sample the manure because in liquid and semi-solid systems, settled solids can contain more than 90 percent of the phosphorus. However, if solids will be purposefully left on the bottom when the storage structure is pumped out, as is sometimes the case with lagoons, then complete agitation during sampling will generate artificially high nutrient values. In this case, agitation of the solids or sludge at the bottom of the lagoon is not needed for nutrient analysis, and premixing the surface liquid in the lagoon is not needed.

Methods of Sampling:

Several different methods may be used to sample liquid or semi-solid manure from storage facilities:

1. Use a plastic sampling cup with a 10- to 12-foot handle to obtain surface water samples (see Figure 1). Collect about a pint of sample from several locations (six to eight) around the perimeter of the storage unit about 6 feet from the bank and 12 inches below the surface. Avoid floating debris or scum. Pour each of the samples into a clean plastic bucket and mix well. Pour representative sample in plastic container for shipping. *(Chastain, 2003)*
2. Throw a small plastic bucket tied to a long rope out towards the middle of the storage unit while holding onto the rope. Begin pulling the bucket back to the bank as soon as it strikes the surface. Make sure the bucket is raised above the surface before it strikes the bank. Pour each sample into a larger plastic bucket, and repeat this procedure at four to six locations evenly spaced around the perimeter of the storage unit. Mix all samples well and pour representative sample into a plastic container for shipping. *(Chastain, 2003)*
3. Samples may also be taken using a probe or a tube. They can be constructed out of a 1½-inch diameter PVC pipe. Cut the PVC pipe a foot longer than the depth of the pit. Run a ¼-inch rod or string through the length of the pipe and attach a plug such as a rubber stopper or rubber ball (see Figure 2). The rod or the string must be longer than the pipe. If using a rod, bend the top over to prevent it from falling out of the pipe. The probe should be slowly inserted into the pit or lagoon with the stopper open, to the full depth of the pit. Pull the string or rod to close the bottom of the pipe and pull the probe out of the pit, being careful not to tip the pipe and dump the sample. Release the sample into a large plastic bucket and repeat the process at least three times around the pit. Mix all samples well and pour a representative sample into a plastic container for shipping. *(Rieck-Hinz, 2003)*

Figure 1.

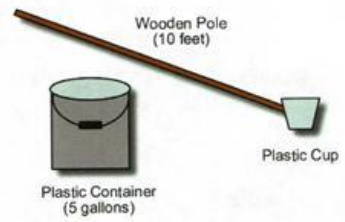
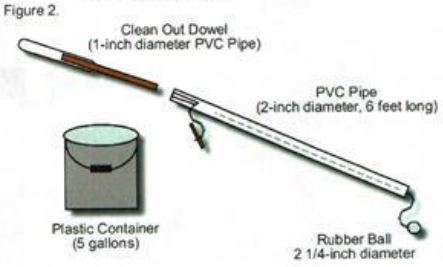


Figure 2.



Sampling Semi-Solid and Liquid Manure during Land Application with Tank Wagons

Settling begins as soon as agitation stops, so samples should be collected as soon as possible after the manure tank wagon is filled, unless the tanker has an agitator. Be sure the port or opening does not have a solids accumulation from prior loads. Collect samples in a plastic bucket from the loading or unloading port or the opening near the bottom of the tank. Stir the sample in the bucket to get the solids in suspension. Remove a ladle full while the liquid is still spinning and pour into the sample bottle. Repeat these steps until the sample bottle is three quarters full.

Sampling Liquid Manure during Land Application with Irrigation Systems

Place plastic buckets randomly at different distances from the sprinkler head in the field to collect the liquid manure that is being applied by an irrigation system. Immediately after manure has been applied, collect manure from the buckets and combine them into one container. Stir the collective sample, remove a ladle full while the liquid is still spinning and pour into the sample bottle.

Pre-Sampling Nitrogen and Potassium from Liquid Manure Systems

If liquid systems cannot be agitated prior to application and a sample is needed to estimate application rates, manure samples can be dipped off the top of the stored liquid manure to analyze for N and K concentrations. Research indicates that the top-dipped liquid represents approximately 90 percent of the N concentration measured in mixed, field-collected samples. Multiply the results of the N concentration from top-dipped samples by 1.1 for a better estimate of N. Dipping a sample from the surface of a liquid storage pit does NOT provide a good estimate of P concentrations in the pit, so use of the P analysis from top-dipped samples is not recommended. Therefore, if application is limited to a P-based application rate, pre-sampling is not recommended. Producers who take these types of samples should remember to take additional samples during application to calculate the actual amount of nutrients applied and use to adjust commercial fertilizer application. *(Rieck-Hinz, 2003)*

Sampling Dry or Solid Manure

Solid manure systems will include fecal matter, urine, bedding and feed. They can vary from one location to another within the same production operation and from season to season. Sampling of dry or solid manure is best done in the field during application, because it will take into account losses that occur during handling and application. Manure is better mixed during application than during storage. Results will not be available in time to adjust application rates; however, sampling will allow producers to adjust any future commercial fertilizer rates and manure application in subsequent years. If a sample must be taken prior to application to estimate application rates, be sure to take samples from various places in the manure pile, stack or litter to obtain a representative sample for analysis. It may even be beneficial to take samples several times during the year because of the variation in bedding content.

Methods of Sampling:

As with liquid or semi-solid systems, many different methods can be used to obtain a representative sample. The method chosen will depend on the type of solid system used on the farm. Sub-samples can be taken with a shovel, pitchfork or soil probe. Regardless of the method of sampling, a composite

sample will need to be taken from all of the samples to ensure it represents the entire manure used for application. To obtain a composite sample, place all sub-samples (the more sub-samples, the more accurate the results) in a pile and mix with a shovel by continuously scooping from the outside of the pile to the center of the pile until well mixed. Fill a one-gallon plastic Zip-lock® freezer bag (or the bag provided by the laboratory) one-half full with the composite sample by turning the bag inside out over one hand. With the covered hand, grab representative handfuls of manure and turn the freezer bag right side out over the sample with the free hand. Squeeze out the excess air, close, seal and store sample in another plastic sealable bag in the freezer until mailed. *(Rieck-Hinz, 2003)*

1. *Sampling poultry litter in-house:* Collect 10 to 15 sub-samples from throughout the house to the depth the litter will be removed. Cake litter samples should be taken at the depth of cake removal. The number of samples taken near feeders or waterers should be proportionate to their space occupied in the whole house. *(LPES)*
2. *Sampling stockpiled manure, litter or compost:* Ideally, stockpiled material should be stored under cover on an impervious surface. The exterior of uncovered waste may not accurately represent the majority of the material because rainfall moves water-soluble nutrients down into the pile. If an uncovered stockpile is used over an extended period of time, it should be sampled before each application. Take 10 sub-samples from different locations around the pile at least 18 inches below the surface. *(LPES)*
3. *Sampling from a bedded pack:* It is recommended that samples from a bedded pack be taken during loading. Take at least five sub-samples while loading several spreader loads. *(Peters, 2003)*
4. *Sampling daily hauls:* Place a five-gallon pail under the barn cleaner 4 to 5 times while loading a spreader. *(Peters, 2003)*
5. *Sampling scrape-and-haul feedlots:* Facilities where manure accumulates on paved feedlots and is scraped and hauled to the field daily or several times during the week are referred to as scrape-and-haul feedlots. Sub-samples can be collected by scraping a shovel across approximately 25 feet of the paved feedlot. This process should be repeated 10 or more times, taking care to sample in a direction that slices through the variations of moisture, bedding, depth, age, etc. Avoid excessively wet areas and areas with large amounts of hay or feed. Several composite samples may be needed for this type of facility. *(Rieck-Hinz, 2003)*
6. *Sampling during spreading or land application:* Spread a sheet of plastic or a tarp in the field and drive the tractor and spreader over the top of the plastic to catch the manure from one pass of the spreader. Samples should be collected to represent the first, middle and last part of the storage facility or loads applied and should be correlated as to which loads are applied on each field to track changes in nutrient content throughout the storage facility. *(Rieck-Hinz, 2003)*

References

Peters, John. (ed.) 2003. **Recommended Methods of Manure Analysis**. University of Wisconsin Extension. A3769.

Rieck-Hinz, A., J. Lorimor, T. Richard, and K. Kohl. 2003. **How to Sample Manure for Nutrient Analysis**. Iowa State University Extension. PM1558.

Chastain, J.P. 2003. **Manure Sampling Procedures.** South Carolina Confined Animal Manure Managers Certification Program. Clemson Extension.

Livestock and Poultry Environmental Stewardship (LPES) Curriculum. Manure Sampling. Module D, Land Application and Nutrient Management.

2.4. Predicted Soil Erosion

Average water, wind, irrigation, gully and ephemeral erosion estimates

Field	Predominant Soil Type	T Factor (t/ac/yr)	Slope (%)	Water (Sheet and Rill) (t/ac/yr)	Wind (t/ac/yr)	Irrigation Erosion Controlled (y/n)	Gully Erosion Controlled (y/n)	Ephemeral Erosion Controlled (y/n)
Tyson Road	FeB2 (Feliciana SIL)	5	3.5	2.3				
South Shop	LnC3 (Lexington SICL)	4	6.5	3.0				
SE House	LrB2 (Loring SIL)	4	3.5	2.8				
Ray	LeB2 (Lexington SIL)	5	3.5	1.5				
Fennell	PoC2 (Providence SIL)	3	6.5	2.6				
Dale	GrB2 (Grenada SIL)	4	3.5	1.7				
Phelcher	LeC2 (Lexington SIL)	5	6.5	2.4				
Hardy	LeC2 (Lexington SIL)	5	6.5	2.4				
McCurdy	LeB2 (Lexington SIL)	5	3.5	1.2				
Lawrence	PoB2 (Providence SIL)	3	3.5	1.7				
Hodge	Ik (Iuka L)	5	1.0	0.6				
McKenzie	LeB2 (Lexington SIL)	5	3.5	1.5				
Step Farm	LeB2 (Lexington SIL)	5	3.5	1.1				
Mike Boyd	Ik (Iuka L)	5	1.0	0.6				
Red Barn 140	KrA (Kurk SIL)	5	1.5	0.8				
New 65	RO (Rosebloom SIL)	5	1.0	0.6				

Crop period sheet and rill erosion estimates

Field	Crop Year	Primary Crop	Starting Date (mm/dd/yyyy)	Ending Date (mm/dd/yyyy)	Crop Period Soil Loss (t/ac)
Tyson Road	2019	Corn grain	10/16/2018	9/15/2019	2.3
	2020	Soybean	9/16/2019	10/15/2020	1.9
	2021	Corn grain	10/16/2020	9/15/2021	2.8
	2022	Soybean	9/16/2021	10/15/2022	2.1
	2023	Corn grain	10/16/2022	9/15/2023	1.9
South Shop	2019	Corn grain	10/16/2018	9/15/2019	3.0

Field	Crop Year	Primary Crop	Starting Date (mm/dd/yyyy)	Ending Date (mm/dd/yyyy)	Crop Period Soil Loss (t/ac)
	2020	Soybean	9/16/2019	10/15/2020	2.6
	2021	Corn grain	10/16/2020	9/15/2021	3.6
	2022	Soybean	9/16/2021	10/15/2022	2.8
	2023	Corn grain	10/16/2022	9/15/2023	2.6
SE House	2019	Corn grain	10/16/2018	9/15/2019	3.0
	2020	Soybean	9/16/2019	10/15/2020	2.2
	2021	Corn grain	10/16/2020	9/15/2021	3.0
	2022	Soybean	9/16/2021	10/15/2022	2.2
	2023	Corn grain	10/16/2022	9/15/2023	3.0
Ray	2019	Corn grain	10/16/2018	9/15/2019	1.7
	2020	Soybean	9/16/2019	10/15/2020	1.3
	2021	Corn grain	10/16/2020	9/15/2021	1.3
	2022	Soybean	9/16/2021	10/15/2022	1.1
	2023	Corn grain	10/16/2022	9/15/2023	2.0
Fennell	2019	Corn grain	10/16/2018	9/15/2019	2.8
	2020	Soybean	9/16/2019	10/15/2020	2.2
	2021	Corn grain	10/16/2020	9/15/2021	2.3
	2022	Soybean	9/16/2021	10/15/2022	1.8
	2023	Corn grain	10/16/2022	9/15/2023	3.4
Dale	2019	Soybean	9/16/2018	10/15/2019	1.2
	2020	Corn grain	10/16/2019	9/15/2020	2.1
	2021	Soybean	9/16/2020	10/15/2021	1.9
	2022	Corn grain	10/16/2021	9/15/2022	1.8
	2023	Soybean	9/16/2022	10/15/2023	1.4
Phelcher	2019	Soybean	9/16/2018	10/15/2019	1.7
	2020	Corn grain	10/16/2019	9/15/2020	3.1
	2021	Soybean	9/16/2020	10/15/2021	2.7
	2022	Corn grain	10/16/2021	9/15/2022	2.6
	2023	Soybean	9/16/2022	10/15/2023	2.0
Hardy	2019	Soybean	9/16/2018	10/15/2019	1.7

Field	Crop Year	Primary Crop	Starting Date (mm/dd/yyyy)	Ending Date (mm/dd/yyyy)	Crop Period Soil Loss (t/ac)
	2020	Corn grain	10/16/2019	9/15/2020	3.1
	2021	Soybean	9/16/2020	10/15/2021	2.7
	2022	Corn grain	10/16/2021	9/15/2022	2.6
	2023	Soybean	9/16/2022	10/15/2023	2.0
McCurdy	2019	Soybean	9/16/2018	10/15/2019	0.9
	2020	Corn grain	10/16/2019	9/15/2020	1.4
	2021	Soybean	9/16/2020	10/15/2021	1.2
	2022	Corn grain	10/16/2021	9/15/2022	1.2
	2023	Soybean	9/16/2022	10/15/2023	1.0
Lawrence	2019	Soybean	9/16/2018	10/15/2019	1.2
	2020	Corn grain	10/16/2019	9/15/2020	2.2
	2021	Soybean	9/16/2020	10/15/2021	1.9
	2022	Corn grain	10/16/2021	9/15/2022	1.8
	2023	Soybean	9/16/2022	10/15/2023	1.4
Hodge	2019	Soybean	9/16/2018	10/15/2019	0.4
	2020	Corn grain	10/16/2019	9/15/2020	0.7
	2021	Soybean	9/16/2020	10/15/2021	0.6
	2022	Corn grain	10/16/2021	9/15/2022	0.6
	2023	Soybean	9/16/2022	10/15/2023	0.5
McKenzie	2019	Soybean	9/16/2018	10/15/2019	1.3
	2020	Corn grain	10/16/2019	9/15/2020	1.3
	2021	Soybean	9/16/2020	10/15/2021	1.1
	2022	Corn grain	10/16/2021	9/15/2022	2.0
	2023	Soybean	9/16/2022	10/15/2023	1.7
Step Farm	2019	Soybean	9/16/2018	10/15/2019	1.0
	2020	Corn grain	10/16/2019	9/15/2020	1.2
	2021	Soybean	9/16/2020	10/15/2021	1.0
	2022	Corn grain	10/16/2021	9/15/2022	1.2
	2023	Soybean	9/16/2022	10/15/2023	1.0
Mike Boyd	2019	Corn grain	10/16/2018	9/15/2019	0.6

Field	Crop Year	Primary Crop	Starting Date (mm/dd/yyyy)	Ending Date (mm/dd/yyyy)	Crop Period Soil Loss (t/ac)
	2020	Soybean	9/16/2019	10/15/2020	0.5
	2021	Corn grain	10/16/2020	9/15/2021	0.5
	2022	Soybean	9/16/2021	10/15/2022	0.4
	2023	Corn grain	10/16/2022	9/15/2023	0.7
Red Barn 140	2019	Soybean	9/16/2018	10/15/2019	0.7
	2020	Corn grain	10/16/2019	9/15/2020	0.7
	2021	Soybean	9/16/2020	10/15/2021	0.6
	2022	Corn grain	10/16/2021	9/15/2022	1.0
	2023	Soybean	9/16/2022	10/15/2023	0.9
New 65	2019	Soybean	9/16/2018	10/15/2019	0.5
	2020	Corn grain	10/16/2019	9/15/2020	0.5
	2021	Soybean	9/16/2020	10/15/2021	0.4
	2022	Corn grain	10/16/2021	9/15/2022	0.7
	2023	Soybean	9/16/2022	10/15/2023	0.6

Section 3. Nutrient Management Plan (590)

3.1. Nitrogen and Phosphorus Risk Analyses

Tennessee Phosphorus Index

Field	Crop Year	Site Total	Management Total	P Index w/o P Apps	P Index w/ P Apps	P Loss Risk
Tyson Road	2019	11	16	22	176	Medium
Tyson Road	2020	11	4	22	44	Low
Tyson Road	2021	11	16	22	176	Medium
Tyson Road	2022	11	4	22	44	Low
Tyson Road	2023	11	4	22	44	Low
South Shop	2019	12	15	12	180	Medium
South Shop	2020	12	3	12	36	Low
South Shop	2021	12	15	12	180	Medium
South Shop	2022	12	19	12	228	Medium
South Shop	2023	12	22	12	264	Medium
SE House	2019	12	5	12	60	Low
SE House	2020	12	16	12	192	Medium
SE House	2021	12	10	12	120	Low
SE House	2022	12	3	12	36	Low
SE House	2023	12	17	12	204	Medium
Ray	2019	11	16	11	176	Medium
Ray	2020	11	16	11	176	Medium
Ray	2021	11	16	11	176	Medium
Ray	2022	11	16	11	176	Medium
Ray	2023	11	15	11	165	Medium
Fennell	2019	14	3	14	42	Low
Fennell	2020	14	3	14	42	Low
Fennell	2021	12	22	12	264	Medium
Fennell	2022	12	19	12	228	Medium
Fennell	2023	12	15	12	180	Medium
Dale	2019	12	3	12	36	Low

Field	Crop Year	Site Total	Management Total	P Index w/o P Apps	P Index w/ P Apps	P Loss Risk
Dale	2020	12	15	12	180	Medium
Dale	2021	12	3	12	36	Low
Dale	2022	12	22	12	264	Medium
Dale	2023	12	19	12	228	Medium
Phelcher	2019	12	19	12	228	Medium
Phelcher	2020	11	23	11	253	Medium
Phelcher	2021	12	19	12	228	Medium
Phelcher	2022	12	22	12	264	Medium
Phelcher	2023	12	19	12	228	Medium
Hardy	2019	13	19	13	247	Medium
Hardy	2020	12	15	12	180	Medium
Hardy	2021	13	3	13	39	Low
Hardy	2022	13	3	13	39	Low
Hardy	2023	13	3	13	39	Low
McCurdy	2019	11	19	11	209	Medium
McCurdy	2020	11	23	11	253	Medium
McCurdy	2021	11	19	11	209	Medium
McCurdy	2022	11	22	11	242	Medium
McCurdy	2023	11	19	11	209	Medium
Lawrence	2019	12	19	12	228	Medium
Lawrence	2020	12	15	12	180	Medium
Lawrence	2021	12	3	12	36	Low
Lawrence	2022	12	22	12	264	Medium
Lawrence	2023	12	19	12	228	Medium
Hodge	2019	11	16	11	176	Medium
Hodge	2020	11	17	11	187	Medium
Hodge	2021	11	16	11	176	Medium
Hodge	2022	11	16	11	176	Medium
Hodge	2023	11	16	11	176	Medium
McKenzie	2019	11	4	22	44	Low
McKenzie	2020	11	4	22	44	Low

Field	Crop Year	Site Total	Management Total	P Index w/o P Apps	P Index w/ P Apps	P Loss Risk
McKenzie	2021	11	4	22	44	Low
McKenzie	2022	11	8	22	88	Low
McKenzie	2023	11	4	22	44	Low
Step Farm	2019	11	3	11	33	Low
Step Farm	2020	11	3	11	33	Low
Step Farm	2021	11	3	11	33	Low
Step Farm	2022	11	3	11	33	Low
Step Farm	2023	11	3	11	33	Low
Mike Boyd	2019	11	4	22	44	Low
Mike Boyd	2020	11	4	22	44	Low
Mike Boyd	2021	11	4	22	44	Low
Mike Boyd	2022	11	4	22	44	Low
Mike Boyd	2023	11	16	22	176	Medium
Red Barn 140	2019	11	19	11	209	Medium
Red Barn 140	2020	11	22	11	242	Medium
Red Barn 140	2021	11	19	11	209	Medium
Red Barn 140	2022	11	23	11	253	Medium
Red Barn 140	2023	11	19	11	209	Medium
New 65	2019	11	19	11	209	Medium
New 65	2020	11	22	11	242	Medium
New 65	2021	11	19	11	209	Medium
New 65	2022	11	23	11	253	Medium
New 65	2023	11	19	11	209	Medium

3.2. Manure Application Setback Distances

Setback Requirements: Class I CAFO

Feature	Setback Criteria	Setback Distance (Feet)
Streams	Applied upgradient, no permanent or insufficient vegetated setback	100
Streams	New operation, near high quality stream	60
Surface waters	Applied upgradient, no permanent or insufficient vegetated setback	100
Open tile line inlet structures	Applied upgradient, no permanent or insufficient vegetated setback	100
Sinkholes	Applied upgradient, no permanent or insufficient vegetated setback	100
Agricultural well heads	Applied upgradient, no permanent or insufficient vegetated setback	100
Other conduits to surface waters	Applied upgradient, no permanent or insufficient vegetated setback	100
Potable well, public or private	Application down-gradient of feature	150
Potable well, public or private	Application upgradient of feature	300

Source: TN DEQ Rule 1200-4-5-.14(17)(d) (http://www.state.tn.us/sos/rules/1200/1200-04/1200-04-05.pdf)

Setback Requirements: NRCS Standard

Feature	Setback Criteria	Setback Distance (Feet)
Well	Application upgradient of feature	300
Well	Application down-gradient of feature	150

Feature	Setback Criteria	Setback Distance (Feet)
Waterbody	Predominant slope <5% with good vegetation	30
Waterbody	Poor vegetation	100
Public road	All applications	50
Dwelling (other than producer)	All applications	300
Public use area	All applications	300
Property line	Application upgradient of feature	30

Source: Nutrient Management Standard 590 (http://efotg.nrcs.usda.gov/references/public/TN/Nutrient_Management_(590)_Standard.doc)

3.3. Soil Test Data

Field	Test Year	OM (%)	P Test Used	P	K	Mg	Ca	Units	Soil pH	Buffer pH	CEC (meq/ 100g)
Tyson Road	2017		Mehlich-3 ICP	70	197			lbs/ac			
South Shop	2017		Mehlich-3 ICP	23	213			lbs/ac			
SE House	2017		Mehlich-3 ICP	57	250			lbs/ac			
Ray	2017		Mehlich-3 ICP	48	230			lbs/ac			
Fennell	2017		Mehlich-3 ICP	17	146			lbs/ac			
Dale	2017		Mehlich-3 ICP	21	156			lbs/ac			
Phelcher	2017		Mehlich-3 ICP	3	102			lbs/ac			
Hardy	2017		Mehlich-3 ICP	10	117			lbs/ac			
McCurdy	2017		Mehlich-3 ICP	13	147			lbs/ac			
Lawrence	2017		Mehlich-3 ICP	20	128			lbs/ac			
Hodge	2017		Mehlich-3 ICP	39	42			lbs/ac			
McKenzie	2017		Mehlich-3 ICP	66	294			lbs/ac			
Step Farm	2017		Mehlich-3 ICP	23	198			lbs/ac			
Mike Boyd	2017		Mehlich-3 ICP	105	210			lbs/ac			
Red Barn 140	2017		Mehlich-3 ICP	27	94			lbs/ac			
New 65	2017		Mehlich-3 ICP	29	145			lbs/ac			

3.4. Manure Nutrient Analyses

Manure Source	Dry Matter (%)	Total N	NH_4-N	Total P_2O_5	Total K_2O	Avail. P_2O_5	Avail. K_2O	Units	Analysis Source and Date	Alum Treatment Rate (lbs/1000 sq.ft.)
Barn 1		37.9	33.8	22.7	31.7	22.7	31.7	lbs/1000 gal	MMP Estimate	

a. Entered analysis may be the average of several individual analyses.
b. Tennessee assumes that 100% of manure phosphorus and 100% of manure potassium is crop available. First-year per-acre nitrogen availability for individual manure applications is given in the Planned Nutrient Applications table. For more information about nitrogen availability in Tennessee, see "Manure Application Management," Tables 3 and 4, Tennessee Extension, PB1510, 2/94 (http://wastemgmt.ag.utk.edu/Pubs/PB1510.pdf).

3.5. Planned Crops and Fertilizer Recommendations

Field	Crop Year	Planned Crop	Yield Goal (per ac)	N Rec (lbs/ac)	P_2O_5 Rec (lbs/ac)	K_2O Rec (lbs/ac)	N Removed (lbs/ac)	P_2O_5 Removed (lbs/ac)	K_2O Removed (lbs/ac)	Custom Fert. Rec. Source
Tyson Road	2019	Corn grain	150.0 bu	130	0	60	113	66	44	
Tyson Road	2020	Small grain[a]	70.0 bu	90	0	20	91	35	25	
Tyson Road	2020	Soybean	50.0 bu	0	0	40	200	40	70	
Tyson Road	2021	Corn grain	150.0 bu	130	0	60	113	66	44	
Tyson Road	2022	Small grain[a]	70.0 bu	90	0	20	91	35	25	
Tyson Road	2022	Soybean	50.0 bu	0	0	40	200	40	70	
Tyson Road	2023	Corn grain	150.0 bu	130	0	60	113	66	44	
South Shop	2019	Corn grain	150.0 bu	130	120	0	113	66	44	
South Shop	2020	Small grain[a]	70.0 bu	90	80	0	91	35	25	
South Shop	2020	Soybean	50.0 bu	0	10	0	200	40	70	
South Shop	2021	Corn grain	150.0 bu	130	120	0	113	66	44	
South Shop	2022	Small grain[a]	70.0 bu	90	80	0	91	35	25	
South Shop	2022	Soybean	50.0 bu	0	10	0	200	40	70	
South Shop	2023	Corn grain	150.0 bu	130	120	0	113	66	44	
SE House	2019	Corn grain	150.0 bu	130	60	0	113	66	44	
SE House	2020	Small grain[a]	70.0 bu	90	40	0	91	35	25	
SE House	2020	Soybean	50.0 bu	0	20	0	200	40	70	
SE House	2021	Corn grain	150.0 bu	130	60	0	113	66	44	
SE House	2022	Small grain[a]	70.0 bu	90	40	0	91	35	25	
SE House	2022	Soybean	50.0 bu	0	20	0	200	40	70	
SE House	2023	Corn grain	150.0 bu	130	60	0	113	66	44	
Ray	2019	Corn grain	150.0 bu	130	60	0	113	66	44	
Ray	2020	Small grain[a]	70.0 bu	90	40	0	91	35	25	
Ray	2020	Soybean	50.0 bu	0	20	0	200	40	70	
Ray	2021	Corn grain	150.0 bu	130	60	0	113	66	44	
Ray	2022	Small grain[a]	70.0 bu	90	40	0	91	35	25	
Ray	2022	Soybean	50.0 bu	0	20	0	200	40	70	
Ray	2023	Corn grain	150.0 bu	130	60	0	113	66	44	
Fennell	2019	Corn grain	150.0 bu	130	120	60	113	66	44	

Field	Crop Year	Planned Crop	Yield Goal (per ac)	N Rec (lbs/ac)	P_2O_5 Rec (lbs/ac)	K_2O Rec (lbs/ac)	N Removed (lbs/ac)	P_2O_5 Removed (lbs/ac)	K_2O Removed (lbs/ac)	Custom Fert. Rec. Source
Fennell	2020	Small grain[a]	70.0 bu	90	80	20	91	35	25	
Fennell	2020	Soybean	50.0 bu	0	10	40	200	40	70	
Fennell	2021	Corn grain	150.0 bu	130	120	60	113	66	44	
Fennell	2022	Small grain[a]	70.0 bu	90	80	20	91	35	25	
Fennell	2022	Soybean	50.0 bu	0	10	40	200	40	70	
Fennell	2023	Corn grain	150.0 bu	130	120	60	113	66	44	
Dale	2019	Small grain[a]	70.0 bu	75	80	20	91	35	25	
Dale	2019	Soybean	50.0 bu	0	10	40	200	40	70	
Dale	2020	Corn grain	150.0 bu	130	120	60	113	66	44	
Dale	2021	Small grain[a]	70.0 bu	90	80	20	91	35	25	
Dale	2021	Soybean	50.0 bu	0	10	40	200	40	70	
Dale	2022	Corn grain	150.0 bu	130	120	60	113	66	44	
Dale	2023	Small grain[a]	70.0 bu	90	80	20	91	35	25	
Dale	2023	Soybean	50.0 bu	0	10	40	200	40	70	
Phelcher	2019	Small grain[a]	70.0 bu	75	80	40	91	35	25	
Phelcher	2019	Soybean	50.0 bu	0	10	80	200	40	70	
Phelcher	2020	Corn grain	150.0 bu	130	120	120	113	66	44	
Phelcher	2021	Small grain[a]	70.0 bu	90	80	40	91	35	25	
Phelcher	2021	Soybean	50.0 bu	0	10	80	200	40	70	
Phelcher	2022	Corn grain	150.0 bu	130	120	120	113	66	44	
Phelcher	2023	Small grain[a]	70.0 bu	90	80	40	91	35	25	
Phelcher	2023	Soybean	50.0 bu	0	10	80	200	40	70	
Hardy	2019	Small grain[a]	70.0 bu	75	80	20	91	35	25	
Hardy	2019	Soybean	50.0 bu	0	10	40	200	40	70	
Hardy	2020	Corn grain	150.0 bu	130	120	60	113	66	44	
Hardy	2021	Small grain[a]	70.0 bu	90	80	20	91	35	25	
Hardy	2021	Soybean	50.0 bu	0	10	40	200	40	70	
Hardy	2022	Corn grain	150.0 bu	130	120	60	113	66	44	
Hardy	2023	Small grain[a]	70.0 bu	90	80	20	91	35	25	
Hardy	2023	Soybean	50.0 bu	0	10	40	200	40	70	

Field	Crop Year	Planned Crop	Yield Goal (per ac)	N Rec (lbs/ac)	P_2O_5 Rec (lbs/ac)	K_2O Rec (lbs/ac)	N Removed (lbs/ac)	P_2O_5 Removed (lbs/ac)	K_2O Removed (lbs/ac)	Custom Fert. Rec. Source
McCurdy	2019	Small grain[a]	70.0 bu	75	80	20	91	35	25	
McCurdy	2019	Soybean	50.0 bu	0	10	40	200	40	70	
McCurdy	2020	Corn grain	150.0 bu	130	120	60	113	66	44	
McCurdy	2021	Small grain[a]	70.0 bu	90	80	20	91	35	25	
McCurdy	2021	Soybean	50.0 bu	0	10	40	200	40	70	
McCurdy	2022	Corn grain	150.0 bu	130	120	60	113	66	44	
McCurdy	2023	Small grain[a]	70.0 bu	90	80	20	91	35	25	
McCurdy	2023	Soybean	50.0 bu	0	10	40	200	40	70	
Lawrence	2019	Small grain[a]	70.0 bu	75	80	20	91	35	25	
Lawrence	2019	Soybean	50.0 bu	0	10	40	200	40	70	
Lawrence	2020	Corn grain	150.0 bu	130	120	60	113	66	44	
Lawrence	2021	Small grain[a]	70.0 bu	90	80	20	91	35	25	
Lawrence	2021	Soybean	50.0 bu	0	10	40	200	40	70	
Lawrence	2022	Corn grain	150.0 bu	130	120	60	113	66	44	
Lawrence	2023	Small grain[a]	70.0 bu	90	80	20	91	35	25	
Lawrence	2023	Soybean	50.0 bu	0	10	40	200	40	70	
Hodge	2019	Small grain[a]	70.0 bu	75	40	40	91	35	25	
Hodge	2019	Soybean	50.0 bu	0	20	80	200	40	70	
Hodge	2020	Corn grain	150.0 bu	130	60	120	113	66	44	
Hodge	2021	Small grain[a]	70.0 bu	90	40	40	91	35	25	
Hodge	2021	Soybean	50.0 bu	0	20	80	200	40	70	
Hodge	2022	Corn grain	150.0 bu	130	60	120	113	66	44	
Hodge	2023	Small grain[a]	70.0 bu	90	40	40	91	35	25	
Hodge	2023	Soybean	50.0 bu	0	20	80	200	40	70	
McKenzie	2019	Small grain[a]	70.0 bu	75	0	0	91	35	25	
McKenzie	2019	Soybean	50.0 bu	0	0	0	200	40	70	
McKenzie	2020	Corn grain	150.0 bu	130	0	0	113	66	44	
McKenzie	2021	Small grain[a]	70.0 bu	90	0	0	91	35	25	
McKenzie	2021	Soybean	50.0 bu	0	0	0	200	40	70	
McKenzie	2022	Corn grain	150.0 bu	130	0	0	113	66	44	

Field	Crop Year	Planned Crop	Yield Goal (per ac)	N Rec (lbs/ac)	P_2O_5 Rec (lbs/ac)	K_2O Rec (lbs/ac)	N Removed (lbs/ac)	P_2O_5 Removed (lbs/ac)	K_2O Removed (lbs/ac)	Custom Fert. Rec. Source
McKenzie	2023	Small grain[a]	70.0 bu	90	0	0	91	35	25	
McKenzie	2023	Soybean	50.0 bu	0	0	0	200	40	70	
Step Farm	2019	Small grain[a]	70.0 bu	75	80	20	91	35	25	
Step Farm	2019	Soybean	50.0 bu	0	10	40	200	40	70	
Step Farm	2020	Corn grain	150.0 bu	130	120	60	113	66	44	
Step Farm	2021	Small grain[a]	70.0 bu	90	80	20	91	35	25	
Step Farm	2021	Soybean	50.0 bu	0	10	40	200	40	70	
Step Farm	2022	Corn grain	150.0 bu	130	120	60	113	66	44	
Step Farm	2023	Small grain[a]	70.0 bu	90	80	20	91	35	25	
Step Farm	2023	Soybean	50.0 bu	0	10	40	200	40	70	
Mike Boyd	2019	Corn grain	150.0 bu	130	0	0	113	66	44	
Mike Boyd	2020	Small grain[a]	70.0 bu	90	0	0	91	35	25	
Mike Boyd	2020	Soybean	50.0 bu	0	0	0	200	40	70	
Mike Boyd	2021	Corn grain	150.0 bu	130	0	0	113	66	44	
Mike Boyd	2022	Small grain[a]	70.0 bu	90	0	0	91	35	25	
Mike Boyd	2022	Soybean	50.0 bu	0	0	0	200	40	70	
Mike Boyd	2023	Corn grain	150.0 bu	130	0	0	113	66	44	
Red Barn 140	2019	Small grain[a]	70.0 bu	75	80	40	91	35	25	
Red Barn 140	2019	Soybean	50.0 bu	0	10	80	200	40	70	
Red Barn 140	2020	Corn grain	150.0 bu	130	120	120	113	66	44	
Red Barn 140	2021	Small grain[a]	70.0 bu	90	80	40	91	35	25	
Red Barn 140	2021	Soybean	50.0 bu	0	10	80	200	40	70	
Red Barn 140	2022	Corn grain	150.0 bu	130	120	120	113	66	44	
Red Barn 140	2023	Small grain[a]	70.0 bu	90	80	40	91	35	25	
Red Barn 140	2023	Soybean	50.0 bu	0	10	80	200	40	70	
New 65	2019	Small grain[a]	70.0 bu	75	80	20	91	35	25	
New 65	2019	Soybean	50.0 bu	0	10	40	200	40	70	
New 65	2020	Corn grain	150.0 bu	130	120	60	113	66	44	
New 65	2021	Small grain[a]	70.0 bu	90	80	20	91	35	25	
New 65	2021	Soybean	50.0 bu	0	10	40	200	40	70	

Field	Crop Year	Planned Crop	Yield Goal (per ac)	N Rec (lbs/ac)	P_2O_5 Rec (lbs/ac)	K_2O Rec (lbs/ac)	N Removed (lbs/ac)	P_2O_5 Removed (lbs/ac)	K_2O Removed (lbs/ac)	Custom Fert. Rec. Source
New 65	2022	Corn grain	150.0 bu	130	120	60	113	66	44	
New 65	2023	Small grain[a]	70.0 bu	90	80	20	91	35	25	
New 65	2023	Soybean	50.0 bu	0	10	40	200	40	70	

a. Unharvested cover crop or first crop in double-crop system.
b. Custom fertilizer recommendation.

3.6. Planned Nutrient Applications (Manure-spreadable Area)

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Loads, Speed or Time	Total Amount Applied	Acres Cov.	Avail N (lbs/ac)	Avail P_2O_5 (lbs/ac)	Avail K_2O (lbs/ac)
Tyson Road	Mar 2019	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	20.1 loads	120,600 gal	24.6	130	111	155
Tyson Road	Feb 2020	Small grain	32-0-0	Surface broadcast	1-yr N	25 gal		615 gal	24.6	88	0	0
Tyson Road	Mar 2021	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	20.1 loads	120,600 gal	24.6	130	111	155
Tyson Road	Feb 2022	Small grain	32-0-0	Surface broadcast	1-yr N	25 gal		615 gal	24.6	88	0	0
Tyson Road	Apr 2023	Corn grain	46-0-0	Surface broadcast	1-yr N	280 lbs		6,888 lbs	24.6	129	0	0
South Shop	Mar 2019	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	33.8 loads	202,800 gal	41.4	130	111	155
South Shop	Feb 2020	Small grain	32-0-0	Surface broadcast	1-yr N	15 gal		619 gal	41.3	53	0	0
South Shop	Mar 2021	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	33.8 loads	202,800 gal	41.4	130	111	155
South Shop	Nov 2021	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		8,053 lbs	41.3	35	90	0
South Shop	Feb 2022	Small grain	32-0-0	Surface broadcast	Supp. N	15 gal		619 gal	41.3	53	0	0
South Shop	Apr 2023	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs		10,738 lbs	41.3	47	120	0
South Shop	Apr 2023	Corn grain	46-0-0	Surface broadcast	Supp. N	178 lbs		7,351 lbs	41.3	82	0	0
SE House	Mar 2019	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	12.8 loads	76,800 gal	15.7	130	111	155
SE House	Nov 2019	Small grain	18-46-0	Surface broadcast	1-yr P	130 lbs		22,802 lbs	175.4	23	60	0
SE House	Feb 2020	Small grain	32-0-0	Surface broadcast	Supp. N	19 gal		3,333 gal	175.4	67	0	0
SE House	Mar 2021	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	79.5 loads	477,000 gal	97.3	130	111	155
SE House	Apr 2021	Corn grain	46-0-0	Surface broadcast	Supp. N	126 lbs		22,100 lbs	175.4	58	0	0
SE House	Feb 2022	Small grain	32-0-0	Surface broadcast	1-yr N	19 gal		3,333 gal	175.4	67	0	0
SE House	Mar 2023	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	37.5 loads	225,000 gal	45.9	130	111	155
SE House	Apr 2023	Corn grain	46-0-0	Surface broadcast	Supp. N	180 lbs		31,572 lbs	175.4	83	0	0
SE House	Apr 2023	Corn grain	18-46-0	Surface broadcast	Supp. P	67 lbs		11,752 lbs	175.4	12	31	0
Ray	Apr 2019	Corn grain	18-46-0	Surface broadcast	1-yr P	130 lbs		1,534 lbs	11.8	23	60	0
Ray	Nov 2019	Small grain	18-46-0	Surface broadcast	1-yr P	130 lbs		1,534 lbs	11.8	23	60	0
Ray	Feb 2020	Small grain	32-0-0	Surface broadcast	Supp. N	19 gal		224 gal	11.8	67	0	0
Ray	Apr 2021	Corn grain	18-46-0	Surface broadcast	1-yr P	130 lbs		1,534 lbs	11.8	23	60	0
Ray	Apr 2021	Corn grain	46-0-0	Surface broadcast	Supp. N	232 lbs		2,738 lbs	11.8	107	0	0

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Loads, Speed or Time	Total Amount Applied	Acres Cov.	Avail N (lbs/ac)	Avail P_2O_5 (lbs/ac)	Avail K_2O (lbs/ac)
Ray	Nov 2021	Small grain	18-46-0	Surface broadcast	1-yr P	130 lbs		1,534 lbs	11.8	23	60	0
Ray	Feb 2022	Small grain	32-0-0	Surface broadcast	Supp. N	19 gal		224 gal	11.8	67	0	0
Ray	Mar 2023	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	9.7 loads	58,200 gal	11.9	130	111	155
Fennell	Nov 2019	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs		7,360 lbs	73.6	0	0	60
Fennell	Feb 2020	Small grain	32-0-0	Surface broadcast	1-yr N	16 gal		1,178 gal	73.6	57	0	0
Fennell	Apr 2021	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs		19,136 lbs	73.6	47	120	0
Fennell	Apr 2021	Corn grain	46-0-0	Surface broadcast	Supp. N	180 lbs		13,248 lbs	73.6	83	0	0
Fennell	Apr 2021	Corn grain	0-0-60	Surface broadcast	1-yr K	100 lbs		7,360 lbs	73.6	0	0	60
Fennell	Nov 2021	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		14,352 lbs	73.6	35	90	0
Fennell	Nov 2021	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs		7,360 lbs	73.6	0	0	60
Fennell	Feb 2022	Small grain	32-0-0	Surface broadcast	Supp. N	16 gal		1,178 gal	73.6	57	0	0
Fennell	Mar 2023	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	60.2 loads	361,200 gal	73.7	130	111	155
Dale	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs		2,510 lbs	25.1	0	0	60
Dale	Feb 2019	Small grain	32-0-0	Surface broadcast	1-yr N	12 gal		301 gal	25.1	42	0	0
Dale	Mar 2020	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	20.5 loads	123,000 gal	25.1	130	111	155
Dale	Feb 2021	Small grain	32-0-0	Surface broadcast	1-yr N	15 gal		377 gal	25.1	53	0	0
Dale	Apr 2022	Corn grain	0-0-60	Surface broadcast	1-yr K	41 lbs		1,029 lbs	25.1	0	0	25
Dale	Apr 2022	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs		6,526 lbs	25.1	47	120	0
Dale	Apr 2022	Corn grain	46-0-0	Surface broadcast	Supp. N	178 lbs		4,468 lbs	25.1	82	0	0
Dale	Nov 2022	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs		2,510 lbs	25.1	0	0	60
Dale	Nov 2022	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		4,895 lbs	25.1	35	90	0
Dale	Feb 2023	Small grain	32-0-0	Surface broadcast	Supp. N	16 gal		402 gal	25.1	57	0	0
Phelcher	Nov 2018	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		4,134 lbs	21.2	35	90	0
Phelcher	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	200 lbs		4,240 lbs	21.2	0	0	120
Phelcher	Feb 2019	Small grain	32-0-0	Surface broadcast	Supp. N	12 gal		254 gal	21.2	42	0	0
Phelcher	Mar 2020	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	17.4 loads	104,400 gal	21.3	130	111	155
Phelcher	Apr 2020	Corn grain	18-46-0	Surface broadcast	Supp. P	17 lbs		360 lbs	21.2	3	8	0
Phelcher	Nov 2020	Small grain	0-0-60	Surface broadcast	1-yr K	140 lbs		2,968 lbs	21.2	0	0	84
Phelcher	Nov 2020	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		4,134 lbs	21.2	35	90	0

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Loads, Speed or Time	Total Amount Applied	Acres Cov.	Avail N (lbs/ac)	Avail P_2O_5 (lbs/ac)	Avail K_2O (lbs/ac)
Phelcher	Feb 2021	Small grain	32-0-0	Surface broadcast	Supp. N	15 gal		318 gal	21.2	53	0	0
Phelcher	Apr 2022	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs		5,512 lbs	21.2	47	120	0
Phelcher	Apr 2022	Corn grain	0-0-60	Surface broadcast	1-yr K	200 lbs		4,240 lbs	21.2	0	0	120
Phelcher	Apr 2022	Corn grain	46-0-0	Surface broadcast	Supp. N	178 lbs		3,774 lbs	21.2	82	0	0
Phelcher	Nov 2022	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		4,134 lbs	21.2	35	90	0
Phelcher	Nov 2022	Small grain	0-0-60	Surface broadcast	1-yr K	200 lbs		4,240 lbs	21.2	0	0	120
Phelcher	Feb 2023	Small grain	32-0-0	Surface broadcast	Supp. N	16 gal		339 gal	21.2	57	0	0
Hardy	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs		4,930 lbs	49.3	0	0	60
Hardy	Nov 2018	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		9,613 lbs	49.3	35	90	0
Hardy	Feb 2019	Small grain	32-0-0	Surface broadcast	Supp. N	12 gal		592 gal	49.3	42	0	0
Hardy	Mar 2020	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	40.3 loads	241,800 gal	49.3	130	111	155
Hardy	Feb 2021	Small grain	32-0-0	Surface broadcast	1-yr N	15 gal		739 gal	49.3	53	0	0
Hardy	Apr 2022	Corn grain	0-0-60	Surface broadcast	1-yr K	41 lbs		2,021 lbs	49.3	0	0	25
Hardy	Apr 2022	Corn grain	46-0-0	Surface broadcast	1-yr N	178 lbs		8,775 lbs	49.3	82	0	0
Hardy	Nov 2022	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs		4,930 lbs	49.3	0	0	60
Hardy	Feb 2023	Small grain	32-0-0	Surface broadcast	1-yr N	16 gal		789 gal	49.3	57	0	0
McCurdy	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs		3,470 lbs	34.7	0	0	60
McCurdy	Nov 2018	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		6,767 lbs	34.7	35	90	0
McCurdy	Feb 2019	Small grain	32-0-0	Surface broadcast	Supp. N	12 gal		416 gal	34.7	42	0	0
McCurdy	Mar 2020	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	28.4 loads	170,400 gal	34.8	130	111	155
McCurdy	Apr 2020	Corn grain	18-46-0	Surface broadcast	Supp. P	19 lbs		659 lbs	34.7	3	9	0
McCurdy	Nov 2020	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		6,767 lbs	34.7	35	90	0
McCurdy	Feb 2021	Small grain	32-0-0	Surface broadcast	Supp. N	15 gal		521 gal	34.7	53	0	0
McCurdy	Apr 2022	Corn grain	46-0-0	Surface broadcast	1-yr N	178 lbs		6,177 lbs	34.7	82	0	0
McCurdy	Apr 2022	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs		9,022 lbs	34.7	47	120	0
McCurdy	Apr 2022	Corn grain	0-0-60	Surface broadcast	1-yr K	41 lbs		1,423 lbs	34.7	0	0	25
McCurdy	Nov 2022	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		6,767 lbs	34.7	35	90	0
McCurdy	Nov 2022	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs		3,470 lbs	34.7	0	0	60
McCurdy	Feb 2023	Small grain	32-0-0	Surface broadcast	Supp. N	16 gal		555 gal	34.7	57	0	0

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Loads, Speed or Time	Total Amount Applied	Acres Cov.	Avail N (lbs/ac)	Avail P_2O_5 (lbs/ac)	Avail K_2O (lbs/ac)
Lawrence	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs		1,820 lbs	18.2	0	0	60
Lawrence	Nov 2018	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		3,549 lbs	18.2	35	90	0
Lawrence	Feb 2019	Small grain	32-0-0	Surface broadcast	Supp. N	12 gal		218 gal	18.2	42	0	0
Lawrence	Mar 2020	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	14.9 loads	89,400 gal	18.2	130	111	155
Lawrence	Feb 2021	Small grain	32-0-0	Surface broadcast	1-yr N	15 gal		273 gal	18.2	53	0	0
Lawrence	Apr 2022	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs		4,732 lbs	18.2	47	120	0
Lawrence	Apr 2022	Corn grain	0-0-60	Surface broadcast	1-yr K	41 lbs		746 lbs	18.2	0	0	25
Lawrence	Apr 2022	Corn grain	46-0-0	Surface broadcast	Supp. N	178 lbs		3,240 lbs	18.2	82	0	0
Lawrence	Nov 2022	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		3,549 lbs	18.2	35	90	0
Lawrence	Nov 2022	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs		1,820 lbs	18.2	0	0	60
Lawrence	Feb 2023	Small grain	32-0-0	Surface broadcast	Supp. N	16 gal		291 gal	18.2	57	0	0
Hodge	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	200 lbs		6,640 lbs	33.2	0	0	120
Hodge	Nov 2018	Small grain	18-46-0	Surface broadcast	1-yr P	130 lbs		4,316 lbs	33.2	23	60	0
Hodge	Feb 2019	Small grain	32-0-0	Surface broadcast	Supp. N	15 gal		498 gal	33.2	53	0	0
Hodge	Mar 2020	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	11.9 loads	71,400 gal	14.6	130	111	155
Hodge	Apr 2020	Corn grain	0-0-60	Surface broadcast	Supp. K	86 lbs		2,855 lbs	33.2	0	0	52
Hodge	Apr 2020	Corn grain	18-46-0	Surface broadcast	Supp. P	23 lbs		764 lbs	33.2	4	11	0
Hodge	Apr 2020	Corn grain	46-0-0	Surface broadcast	Supp. N	150 lbs		4,980 lbs	33.2	69	0	0
Hodge	Nov 2020	Small grain	0-0-60	Surface broadcast	1-yr K	200 lbs		6,640 lbs	33.2	0	0	120
Hodge	Nov 2020	Small grain	18-46-0	Surface broadcast	1-yr P	130 lbs		4,316 lbs	33.2	23	60	0
Hodge	Feb 2021	Small grain	32-0-0	Surface broadcast	Supp. N	19 gal		631 gal	33.2	67	0	0
Hodge	Apr 2022	Corn grain	46-0-0	Surface broadcast	1-yr N	232 lbs		7,702 lbs	33.2	107	0	0
Hodge	Apr 2022	Corn grain	0-0-60	Surface broadcast	1-yr K	200 lbs		6,640 lbs	33.2	0	0	120
Hodge	Apr 2022	Corn grain	18-46-0	Surface broadcast	1-yr P	130 lbs		4,316 lbs	33.2	23	60	0
Hodge	Nov 2022	Small grain	18-46-0	Surface broadcast	1-yr P	130 lbs		4,316 lbs	33.2	23	60	0
Hodge	Nov 2022	Small grain	0-0-60	Surface broadcast	1-yr K	200 lbs		6,640 lbs	33.2	0	0	120
Hodge	Feb 2023	Small grain	32-0-0	Surface broadcast	Supp. N	19 gal		631 gal	33.2	67	0	0
McKenzie	Feb 2019	Small grain	32-0-0	Surface broadcast	1-yr N	22 gal		1,822 gal	82.8	78	0	0
McKenzie	Apr 2020	Corn grain	46-0-0	Surface broadcast	1-yr N	282 lbs		23,350 lbs	82.8	130	0	0
McKenzie	Feb 2021	Small grain	32-0-0	Surface broadcast	1-yr N	26 gal		2,153 gal	82.8	92	0	0

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Loads, Speed or Time	Total Amount Applied	Acres Cov.	Avail N (lbs/ac)	Avail P_2O_5 (lbs/ac)	Avail K_2O (lbs/ac)
McKenzie	Mar 2022	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	18.7 loads	112,200 gal	22.9	130	111	155
McKenzie	Apr 2022	Corn grain	46-0-0	Surface broadcast	Supp. N	234 lbs		19,375 lbs	82.8	108	0	0
McKenzie	Feb 2023	Small grain	32-0-0	Surface broadcast	1-yr N	26 gal		2,153 gal	82.8	92	0	0
Step Farm	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs		900 lbs	9.0	0	0	60
Step Farm	Feb 2019	Small grain	32-0-0	Surface broadcast	1-yr N	12 gal		108 gal	9.0	42	0	0
Step Farm	Apr 2020	Corn grain	46-0-0	Surface broadcast	1-yr N	180 lbs		1,620 lbs	9.0	83	0	0
Step Farm	Apr 2020	Corn grain	0-0-60	Surface broadcast	1-yr K	100 lbs		900 lbs	9.0	0	0	60
Step Farm	Nov 2020	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs		900 lbs	9.0	0	0	60
Step Farm	Feb 2021	Small grain	32-0-0	Surface broadcast	1-yr N	16 gal		144 gal	9.0	57	0	0
Step Farm	Feb 2023	Small grain	32-0-0	Surface broadcast	1-yr N	15 gal		135 gal	9.0	53	0	0
Mike Boyd	Feb 2020	Small grain	32-0-0	Surface broadcast	1-yr N	26 gal		827 gal	31.8	92	0	0
Mike Boyd	Apr 2021	Corn grain	46-0-0	Surface broadcast	1-yr N	282 lbs		8,968 lbs	31.8	130	0	0
Mike Boyd	Feb 2022	Small grain	32-0-0	Surface broadcast	1-yr N	26 gal		827 gal	31.8	92	0	0
Mike Boyd	Mar 2023	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	26 loads	156,000 gal	31.8	130	111	155
Red Barn 140	Nov 2018	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		7,313 lbs	37.5	35	90	0
Red Barn 140	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	200 lbs		7,500 lbs	37.5	0	0	120
Red Barn 140	Feb 2019	Small grain	32-0-0	Surface broadcast	Supp. N	12 gal		450 gal	37.5	42	0	0
Red Barn 140	Apr 2020	Corn grain	0-0-60	Surface broadcast	1-yr K	200 lbs		7,500 lbs	37.5	0	0	120
Red Barn 140	Apr 2020	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs		9,750 lbs	37.5	47	120	0
Red Barn 140	Apr 2020	Corn grain	46-0-0	Surface broadcast	Supp. N	180 lbs		6,750 lbs	37.5	83	0	0
Red Barn 140	Nov 2020	Small grain	0-0-60	Surface broadcast	1-yr K	200 lbs		7,500 lbs	37.5	0	0	120
Red Barn 140	Nov 2020	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		7,313 lbs	37.5	35	90	0
Red Barn 140	Feb 2021	Small grain	32-0-0	Surface broadcast	Supp. N	16 gal		600 gal	37.5	57	0	0
Red Barn 140	Mar 2022	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	30.7 loads	184,200 gal	37.6	130	111	155
Red Barn 140	Apr 2022	Corn grain	18-46-0	Surface broadcast	Supp. P	19 lbs		713 lbs	37.5	3	9	0
Red Barn 140	Nov 2022	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		7,313 lbs	37.5	35	90	0
Red Barn 140	Nov 2022	Small grain	0-0-60	Surface broadcast	1-yr K	141 lbs		5,288 lbs	37.5	0	0	85
Red Barn 140	Feb 2023	Small grain	32-0-0	Surface broadcast	Supp. N	15 gal		563 gal	37.5	53	0	0
New 65	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs		10,280 lbs	102.8	0	0	60

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Loads, Speed or Time	Total Amount Applied	Acres Cov.	Avail N (lbs/ac)	Avail P_2O_5 (lbs/ac)	Avail K_2O (lbs/ac)
New 65	Nov 2018	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		20,046 lbs	102.8	35	90	0
New 65	Feb 2019	Small grain	32-0-0	Surface broadcast	Supp. N	12 gal		1,234 gal	102.8	42	0	0
New 65	Apr 2020	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs		26,728 lbs	102.8	47	120	0
New 65	Apr 2020	Corn grain	0-0-60	Surface broadcast	1-yr K	100 lbs		10,280 lbs	102.8	0	0	60
New 65	Apr 2020	Corn grain	46-0-0	Surface broadcast	Supp. N	180 lbs		18,504 lbs	102.8	83	0	0
New 65	Nov 2020	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		20,046 lbs	102.8	35	90	0
New 65	Nov 2020	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs		10,280 lbs	102.8	0	0	60
New 65	Feb 2021	Small grain	32-0-0	Surface broadcast	Supp. N	16 gal		1,645 gal	102.8	57	0	0
New 65	Mar 2022	Corn grain	Barn 1	Tanker	2-yr P	4,900 gal	84 loads	504,000 gal	102.9	130	111	155
New 65	Apr 2022	Corn grain	18-46-0	Surface broadcast	Supp. P	19 lbs		1,953 lbs	102.8	3	9	0
New 65	Nov 2022	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs		20,046 lbs	102.8	35	90	0
New 65	Feb 2023	Small grain	32-0-0	Surface broadcast	Supp. N	15 gal		1,542 gal	102.8	53	0	0

Planned Nutrient Applications (Non-manure-spreadable Area)

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Total Amount Applied	Acres Cov.	Avail N (lbs/ac)	Avail P_2O_5 (lbs/ac)	Avail K_2O (lbs/ac)
Tyson Road	Feb 2020	Small grain	32-0-0	Surface broadcast	1-yr N	25 gal	157 gal	6.3	88	0	0
Tyson Road	Feb 2022	Small grain	32-0-0	Surface broadcast	1-yr N	25 gal	157 gal	6.3	88	0	0
Tyson Road	Apr 2023	Corn grain	46-0-0	Surface broadcast	1-yr N	280 lbs	1,764 lbs	6.3	129	0	0
South Shop	Feb 2020	Small grain	32-0-0	Surface broadcast	1-yr N	15 gal	24 gal	1.6	53	0	0
South Shop	Nov 2021	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	312 lbs	1.6	35	90	0
South Shop	Feb 2022	Small grain	32-0-0	Surface broadcast	Supp. N	15 gal	24 gal	1.6	53	0	0
South Shop	Apr 2023	Corn grain	46-0-0	Surface broadcast	1-yr N	178 lbs	285 lbs	1.6	82	0	0
South Shop	Apr 2023	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs	416 lbs	1.6	47	120	0
SE House	Nov 2019	Small grain	18-46-0	Surface broadcast	1-yr P	130 lbs	1,690 lbs	13.0	23	60	0
SE House	Feb 2020	Small grain	32-0-0	Surface broadcast	Supp. N	19 gal	247 gal	13.0	67	0	0
SE House	Apr 2021	Corn grain	46-0-0	Surface broadcast	1-yr N	126 lbs	1,638 lbs	13.0	58	0	0
SE House	Feb 2022	Small grain	32-0-0	Surface broadcast	1-yr N	19 gal	247 gal	13.0	67	0	0
SE House	Apr 2023	Corn grain	18-46-0	Surface broadcast	1-yr P	67 lbs	871 lbs	13.0	12	31	0
SE House	Apr 2023	Corn grain	46-0-0	Surface broadcast	Supp. N	180 lbs	2,340 lbs	13.0	83	0	0

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Total Amount Applied	Acres Cov.	Avail N (lbs/ac)	Avail P_2O_5 (lbs/ac)	Avail K_2O (lbs/ac)
Ray	Apr 2019	Corn grain	18-46-0	Surface broadcast	1-yr P	130 lbs	247 lbs	1.9	23	60	0
Ray	Nov 2019	Small grain	18-46-0	Surface broadcast	1-yr P	130 lbs	247 lbs	1.9	23	60	0
Ray	Feb 2020	Small grain	32-0-0	Surface broadcast	Supp. N	19 gal	36 gal	1.9	67	0	0
Ray	Apr 2021	Corn grain	18-46-0	Surface broadcast	1-yr P	130 lbs	247 lbs	1.9	23	60	0
Ray	Apr 2021	Corn grain	46-0-0	Surface broadcast	Supp. N	232 lbs	441 lbs	1.9	107	0	0
Ray	Nov 2021	Small grain	18-46-0	Surface broadcast	1-yr P	130 lbs	247 lbs	1.9	23	60	0
Ray	Feb 2022	Small grain	32-0-0	Surface broadcast	Supp. N	19 gal	36 gal	1.9	67	0	0
Fennell	Nov 2019	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs	540 lbs	5.4	0	0	60
Fennell	Feb 2020	Small grain	32-0-0	Surface broadcast	1-yr N	16 gal	86 gal	5.4	57	0	0
Fennell	Apr 2021	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs	1,404 lbs	5.4	47	120	0
Fennell	Apr 2021	Corn grain	46-0-0	Surface broadcast	Supp. N	180 lbs	972 lbs	5.4	83	0	0
Fennell	Apr 2021	Corn grain	0-0-60	Surface broadcast	1-yr K	100 lbs	540 lbs	5.4	0	0	60
Fennell	Nov 2021	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	1,053 lbs	5.4	35	90	0
Fennell	Nov 2021	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs	540 lbs	5.4	0	0	60
Fennell	Feb 2022	Small grain	32-0-0	Surface broadcast	Supp. N	16 gal	86 gal	5.4	57	0	0
Dale	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs	420 lbs	4.2	0	0	60
Dale	Feb 2019	Small grain	32-0-0	Surface broadcast	1-yr N	12 gal	50 gal	4.2	42	0	0
Dale	Feb 2021	Small grain	32-0-0	Surface broadcast	1-yr N	15 gal	63 gal	4.2	53	0	0
Dale	Apr 2022	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs	1,092 lbs	4.2	47	120	0
Dale	Apr 2022	Corn grain	0-0-60	Surface broadcast	1-yr K	41 lbs	172 lbs	4.2	0	0	25
Dale	Apr 2022	Corn grain	46-0-0	Surface broadcast	Supp. N	178 lbs	748 lbs	4.2	82	0	0
Dale	Nov 2022	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	819 lbs	4.2	35	90	0
Dale	Nov 2022	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs	420 lbs	4.2	0	0	60
Dale	Feb 2023	Small grain	32-0-0	Surface broadcast	Supp. N	16 gal	67 gal	4.2	57	0	0
Phelcher	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	200 lbs	540 lbs	2.7	0	0	120
Phelcher	Nov 2018	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	526 lbs	2.7	35	90	0
Phelcher	Feb 2019	Small grain	32-0-0	Surface broadcast	Supp. N	12 gal	32 gal	2.7	42	0	0
Phelcher	Apr 2020	Corn grain	18-46-0	Surface broadcast	1-yr P	17 lbs	46 lbs	2.7	3	8	0
Phelcher	Nov 2020	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	526 lbs	2.7	35	90	0
Phelcher	Nov 2020	Small grain	0-0-60	Surface broadcast	1-yr K	140 lbs	378 lbs	2.7	0	0	84

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Total Amount Applied	Acres Cov.	Avail N (lbs/ac)	Avail P_2O_5 (lbs/ac)	Avail K_2O (lbs/ac)
Phelcher	Feb 2021	Small grain	32-0-0	Surface broadcast	Supp. N	15 gal	40 gal	2.7	53	0	0
Phelcher	Apr 2022	Corn grain	46-0-0	Surface broadcast	1-yr N	178 lbs	481 lbs	2.7	82	0	0
Phelcher	Apr 2022	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs	702 lbs	2.7	47	120	0
Phelcher	Apr 2022	Corn grain	0-0-60	Surface broadcast	1-yr K	200 lbs	540 lbs	2.7	0	0	120
Phelcher	Nov 2022	Small grain	0-0-60	Surface broadcast	1-yr K	200 lbs	540 lbs	2.7	0	0	120
Phelcher	Nov 2022	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	526 lbs	2.7	35	90	0
Phelcher	Feb 2023	Small grain	32-0-0	Surface broadcast	Supp. N	16 gal	43 gal	2.7	57	0	0
Hardy	Nov 2018	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	897 lbs	4.6	35	90	0
Hardy	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs	460 lbs	4.6	0	0	60
Hardy	Feb 2019	Small grain	32-0-0	Surface broadcast	Supp. N	12 gal	55 gal	4.6	42	0	0
Hardy	Feb 2021	Small grain	32-0-0	Surface broadcast	1-yr N	15 gal	69 gal	4.6	53	0	0
Hardy	Apr 2022	Corn grain	0-0-60	Surface broadcast	1-yr K	41 lbs	189 lbs	4.6	0	0	25
Hardy	Apr 2022	Corn grain	46-0-0	Surface broadcast	1-yr N	178 lbs	819 lbs	4.6	82	0	0
Hardy	Nov 2022	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs	460 lbs	4.6	0	0	60
Hardy	Feb 2023	Small grain	32-0-0	Surface broadcast	1-yr N	16 gal	74 gal	4.6	57	0	0
McCurdy	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs	60 lbs	0.6	0	0	60
McCurdy	Nov 2018	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	117 lbs	0.6	35	90	0
McCurdy	Feb 2019	Small grain	32-0-0	Surface broadcast	Supp. N	12 gal	7 gal	0.6	42	0	0
McCurdy	Apr 2020	Corn grain	18-46-0	Surface broadcast	1-yr P	19 lbs	11 lbs	0.6	3	9	0
McCurdy	Nov 2020	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	117 lbs	0.6	35	90	0
McCurdy	Feb 2021	Small grain	32-0-0	Surface broadcast	Supp. N	15 gal	9 gal	0.6	53	0	0
McCurdy	Apr 2022	Corn grain	0-0-60	Surface broadcast	1-yr K	41 lbs	25 lbs	0.6	0	0	25
McCurdy	Apr 2022	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs	156 lbs	0.6	47	120	0
McCurdy	Apr 2022	Corn grain	46-0-0	Surface broadcast	Supp. N	178 lbs	107 lbs	0.6	82	0	0
McCurdy	Nov 2022	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	117 lbs	0.6	35	90	0
McCurdy	Nov 2022	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs	60 lbs	0.6	0	0	60
McCurdy	Feb 2023	Small grain	32-0-0	Surface broadcast	Supp. N	16 gal	10 gal	0.6	57	0	0
Lawrence	Nov 2018	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	136 lbs	0.7	35	90	0
Lawrence	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs	70 lbs	0.7	0	0	60
Lawrence	Feb 2019	Small grain	32-0-0	Surface broadcast	Supp. N	12 gal	8 gal	0.7	42	0	0

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Total Amount Applied	Acres Cov.	Avail N (lbs/ac)	Avail P_2O_5 (lbs/ac)	Avail K_2O (lbs/ac)
Lawrence	Feb 2021	Small grain	32-0-0	Surface broadcast	1-yr N	15 gal	10 gal	0.7	53	0	0
Lawrence	Apr 2022	Corn grain	0-0-60	Surface broadcast	1-yr K	41 lbs	29 lbs	0.7	0	0	25
Lawrence	Apr 2022	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs	182 lbs	0.7	47	120	0
Lawrence	Apr 2022	Corn grain	46-0-0	Surface broadcast	Supp. N	178 lbs	125 lbs	0.7	82	0	0
Lawrence	Nov 2022	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs	70 lbs	0.7	0	0	60
Lawrence	Nov 2022	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	136 lbs	0.7	35	90	0
Lawrence	Feb 2023	Small grain	32-0-0	Surface broadcast	Supp. N	16 gal	11 gal	0.7	57	0	0
Hodge	Nov 2018	Small grain	18-46-0	Surface broadcast	1-yr P	130 lbs	455 lbs	3.5	23	60	0
Hodge	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	200 lbs	700 lbs	3.5	0	0	120
Hodge	Feb 2019	Small grain	32-0-0	Surface broadcast	Supp. N	15 gal	53 gal	3.5	53	0	0
Hodge	Apr 2020	Corn grain	18-46-0	Surface broadcast	1-yr P	23 lbs	81 lbs	3.5	4	11	0
Hodge	Apr 2020	Corn grain	46-0-0	Surface broadcast	Supp. N	150 lbs	525 lbs	3.5	69	0	0
Hodge	Apr 2020	Corn grain	0-0-60	Surface broadcast	1-yr K	86 lbs	301 lbs	3.5	0	0	52
Hodge	Nov 2020	Small grain	0-0-60	Surface broadcast	1-yr K	200 lbs	700 lbs	3.5	0	0	120
Hodge	Nov 2020	Small grain	18-46-0	Surface broadcast	1-yr P	130 lbs	455 lbs	3.5	23	60	0
Hodge	Feb 2021	Small grain	32-0-0	Surface broadcast	Supp. N	19 gal	67 gal	3.5	67	0	0
Hodge	Apr 2022	Corn grain	18-46-0	Surface broadcast	1-yr P	130 lbs	455 lbs	3.5	23	60	0
Hodge	Apr 2022	Corn grain	0-0-60	Surface broadcast	1-yr K	200 lbs	700 lbs	3.5	0	0	120
Hodge	Apr 2022	Corn grain	46-0-0	Surface broadcast	Supp. N	232 lbs	812 lbs	3.5	107	0	0
Hodge	Nov 2022	Small grain	0-0-60	Surface broadcast	1-yr K	200 lbs	700 lbs	3.5	0	0	120
Hodge	Nov 2022	Small grain	18-46-0	Surface broadcast	1-yr P	130 lbs	455 lbs	3.5	23	60	0
Hodge	Feb 2023	Small grain	32-0-0	Surface broadcast	Supp. N	19 gal	67 gal	3.5	67	0	0
McKenzie	Feb 2019	Small grain	32-0-0	Surface broadcast	1-yr N	22 gal	136 gal	6.2	78	0	0
McKenzie	Apr 2020	Corn grain	46-0-0	Surface broadcast	1-yr N	282 lbs	1,748 lbs	6.2	130	0	0
McKenzie	Feb 2021	Small grain	32-0-0	Surface broadcast	1-yr N	26 gal	161 gal	6.2	92	0	0
McKenzie	Apr 2022	Corn grain	46-0-0	Surface broadcast	1-yr N	234 lbs	1,451 lbs	6.2	108	0	0
McKenzie	Feb 2023	Small grain	32-0-0	Surface broadcast	1-yr N	26 gal	161 gal	6.2	92	0	0
Step Farm	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs	300 lbs	3.0	0	0	60
Step Farm	Feb 2019	Small grain	32-0-0	Surface broadcast	1-yr N	12 gal	36 gal	3.0	42	0	0
Step Farm	Apr 2020	Corn grain	0-0-60	Surface broadcast	1-yr K	100 lbs	300 lbs	3.0	0	0	60

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Total Amount Applied	Acres Cov.	Avail N (lbs/ac)	Avail P_2O_5 (lbs/ac)	Avail K_2O (lbs/ac)
Step Farm	Apr 2020	Corn grain	46-0-0	Surface broadcast	1-yr N	180 lbs	540 lbs	3.0	83	0	0
Step Farm	Nov 2020	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs	300 lbs	3.0	0	0	60
Step Farm	Feb 2021	Small grain	32-0-0	Surface broadcast	1-yr N	16 gal	48 gal	3.0	57	0	0
Step Farm	Feb 2023	Small grain	32-0-0	Surface broadcast	1-yr N	15 gal	45 gal	3.0	53	0	0
Mike Boyd	Feb 2020	Small grain	32-0-0	Surface broadcast	1-yr N	26 gal	107 gal	4.1	92	0	0
Mike Boyd	Apr 2021	Corn grain	46-0-0	Surface broadcast	1-yr N	282 lbs	1,156 lbs	4.1	130	0	0
Mike Boyd	Feb 2022	Small grain	32-0-0	Surface broadcast	1-yr N	26 gal	107 gal	4.1	92	0	0
Red Barn 140	Nov 2018	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	390 lbs	2.0	35	90	0
Red Barn 140	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	200 lbs	400 lbs	2.0	0	0	120
Red Barn 140	Feb 2019	Small grain	32-0-0	Surface broadcast	Supp. N	12 gal	24 gal	2.0	42	0	0
Red Barn 140	Apr 2020	Corn grain	46-0-0	Surface broadcast	1-yr N	180 lbs	360 lbs	2.0	83	0	0
Red Barn 140	Apr 2020	Corn grain	0-0-60	Surface broadcast	1-yr K	200 lbs	400 lbs	2.0	0	0	120
Red Barn 140	Apr 2020	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs	520 lbs	2.0	47	120	0
Red Barn 140	Nov 2020	Small grain	0-0-60	Surface broadcast	1-yr K	200 lbs	400 lbs	2.0	0	0	120
Red Barn 140	Nov 2020	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	390 lbs	2.0	35	90	0
Red Barn 140	Feb 2021	Small grain	32-0-0	Surface broadcast	Supp. N	16 gal	32 gal	2.0	57	0	0
Red Barn 140	Apr 2022	Corn grain	18-46-0	Surface broadcast	1-yr P	19 lbs	38 lbs	2.0	3	9	0
Red Barn 140	Nov 2022	Small grain	0-0-60	Surface broadcast	1-yr K	141 lbs	282 lbs	2.0	0	0	85
Red Barn 140	Nov 2022	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	390 lbs	2.0	35	90	0
Red Barn 140	Feb 2023	Small grain	32-0-0	Surface broadcast	Supp. N	15 gal	30 gal	2.0	53	0	0
New 65	Nov 2018	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	1,677 lbs	8.6	35	90	0
New 65	Nov 2018	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs	860 lbs	8.6	0	0	60
New 65	Feb 2019	Small grain	32-0-0	Surface broadcast	Supp. N	12 gal	103 gal	8.6	42	0	0
New 65	Apr 2020	Corn grain	0-0-60	Surface broadcast	1-yr K	100 lbs	860 lbs	8.6	0	0	60
New 65	Apr 2020	Corn grain	46-0-0	Surface broadcast	1-yr N	180 lbs	1,548 lbs	8.6	83	0	0
New 65	Apr 2020	Corn grain	18-46-0	Surface broadcast	1-yr P	260 lbs	2,236 lbs	8.6	47	120	0
New 65	Nov 2020	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	1,677 lbs	8.6	35	90	0
New 65	Nov 2020	Small grain	0-0-60	Surface broadcast	1-yr K	100 lbs	860 lbs	8.6	0	0	60
New 65	Feb 2021	Small grain	32-0-0	Surface broadcast	Supp. N	16 gal	138 gal	8.6	57	0	0
New 65	Apr 2022	Corn grain	18-46-0	Surface broadcast	1-yr P	19 lbs	163 lbs	8.6	3	9	0

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Total Amount Applied	Acres Cov.	Avail N (lbs/ac)	Avail P_2O_5 (lbs/ac)	Avail K_2O (lbs/ac)
New 65	Nov 2022	Small grain	18-46-0	Surface broadcast	1-yr P	195 lbs	1,677 lbs	8.6	35	90	0
New 65	Feb 2023	Small grain	32-0-0	Surface broadcast	Supp. N	15 gal	129 gal	8.6	53	0	0

3.7. Field Nutrient Balance (Manure-spreadable Area)

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[a]			Nutrients Applied[b]			Balance After Recs[c]			Balance After Removal[d]	
		ac		per ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac
2019	Tyson Road	24.6	Corn grain	150	130	0	60	130	111	155	0	111	95	45	111
2020	Tyson Road	24.6	Small grain	70	90	0	20								
2020	Tyson Road	24.6	Soybean	50	0	0	40	88	0	0	0[g]	111	35	-30	16
2021	Tyson Road	24.6	Corn grain	150	130	0	60	130	111	155	1[g]	222	130	45	127
2022	Tyson Road	24.6	Small grain	70	90	0	20								
2022	Tyson Road	24.6	Soybean	50	0	0	40	88	0	0	0[g]	222	70	-30	32
2023	Tyson Road	24.6	Corn grain	150	130	0	60	129	0	0	0[g]	222	10	-66	-12
Total	**Tyson Road**				**570**	**0**	**300**	**565**	**222**	**310**					
2019	South Shop	41.3	Corn grain	150	130	120	0	130	111	155	0	-9	155	45	111
2020	South Shop	41.3	Small grain	70	90	80	0								
2020	South Shop	41.3	Soybean	50	0	10	0	53	0	0	-35[g]	-90	155	-30	16
2021	South Shop	41.3	Corn grain	150	130	120	0	130	111	155	1[g]	-9	310	45	127
2022	South Shop	41.3	Small grain	70	90	80	0								
2022	South Shop	41.3	Soybean	50	0	10	0	88	90	0	0[g]	0	310	60	32
2023	South Shop	41.3	Corn grain	150	130	120	0	129	120	0	0[g]	0	310	114	-12
Total	**South Shop**				**570**	**540**	**0**	**530**	**432**	**310**					
2019	SE House	175.4	Corn grain	150	130	60	0	12	10	14	-118	-50	14	-56	-30
2020	SE House	175.4	Small grain	70	90	40	0								
2020	SE House	175.4	Soybean	50	0	20	0	90	60	0	0	0	14	-15	-95
2021	SE House	175.4	Corn grain	150	130	60	0	130	62	86	0	2	100	-4	42
2022	SE House	175.4	Small grain	70	90	40	0								
2022	SE House	175.4	Soybean	50	0	20	0	67	0	0	-22[g]	-58	100	-75	-53
2023	SE House	175.4	Corn grain	150	130	60	0	129	60	41	0[g]	0	141	-6	-3
Total	**SE House**				**570**	**300**	**0**	**428**	**192**	**141**					
2019	Ray	11.8	Corn grain	150	130	60	0	23	60	0	-107	0	0	-6	-44
2020	Ray	11.8	Small grain	70	90	40	0								
2020	Ray	11.8	Soybean	50	0	20	0	90	60	0	0	0	0	-15	-95
2021	Ray	11.8	Corn grain	150	130	60	0	130	60	0	0	0	0	-6	-44

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[a]			Nutrients Applied[b]			Balance After Recs[c]			Balance After Removal[d]	
		ac		per ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac
2022	Ray	11.8	Small grain	70	90	40	0								
2022	Ray	11.8	Soybean	50	0	20	0	90	60	0	0	0	0	-15	-95
2023	Ray	11.8	Corn grain	150	130	60	0	131	112	156	1	52	156	46	112
Total	**Ray**				**570**	**300**	**0**	**464**	**352**	**156**					
2019	Fennell	73.6	Corn grain	150	130	120	60	0	0	0	-130	-120	-60	-66	-44
2020	Fennell	73.6	Small grain	70	90	80	20								
2020	Fennell	73.6	Soybean	50	0	10	40	57	0	60	-33	-90	0	-75	-35
2021	Fennell	73.6	Corn grain	150	130	120	60	130	120	60	0	0	0	54	16
2022	Fennell	73.6	Small grain	70	90	80	20								
2022	Fennell	73.6	Soybean	50	0	10	40	92	90	60	2	0	0	69	-19
2023	Fennell	73.6	Corn grain	150	130	120	60	130	111	155	0	-9	95	114	111
Total	**Fennell**				**570**	**540**	**300**	**409**	**321**	**335**					
2019	Dale	25.1	Small grain	70	75	80	20								
2019	Dale	25.1	Soybean	50	0	10	40	42	0	60	-33	-90	0	-75	-35
2020	Dale	25.1	Corn grain	150	130	120	60	130	111	155	0	-9	95	45	111
2021	Dale	25.1	Small grain	70	90	80	20								
2021	Dale	25.1	Soybean	50	0	10	40	53	0	0	-35[g]	-90	35	-30	16
2022	Dale	25.1	Corn grain	150	130	120	60	129	120	25	0[g]	0	0	54	-3
2023	Dale	25.1	Small grain	70	90	80	20								
2023	Dale	25.1	Soybean	50	0	10	40	92	90	60	2	0	0	69	-35
Total	**Dale**				**515**	**510**	**300**	**446**	**321**	**300**					
2019	Phelcher	21.2	Small grain	70	75	80	40								
2019	Phelcher	21.2	Soybean	50	0	10	80	77	90	120	2	0	0	15	25
2020	Phelcher	21.2	Corn grain	150	130	120	120	134	120	156	4	0	36	69	137
2021	Phelcher	21.2	Small grain	70	90	80	40								
2021	Phelcher	21.2	Soybean	50	0	10	80	88	90	84	0[g]	0	0	84	126
2022	Phelcher	21.2	Corn grain	150	130	120	120	129	120	120	0[g]	0	0	138	202
2023	Phelcher	21.2	Small grain	70	90	80	40								
2023	Phelcher	21.2	Soybean	50	0	10	80	92	90	120	2	0	0	153	227

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[a]			Nutrients Applied[b]			Balance After Recs[c]			Balance After Removal[d]	
		ac		per ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac
Total	**Phelcher**				**515**	**510**	**600**	**520**	**510**	**600**					
2019	Hardy	49.3	Small grain	70	75	80	20								
2019	Hardy	49.3	Soybean	50	0	10	40	77	90	60	2	0	0	15	-35
2020	Hardy	49.3	Corn grain	150	130	120	60	130	111	155	0	-9	95	60	111
2021	Hardy	49.3	Small grain	70	90	80	20								
2021	Hardy	49.3	Soybean	50	0	10	40	53	0	0	-35[g]	-90	35	-15	16
2022	Hardy	49.3	Corn grain	150	130	120	60	82	0	25	-47[g]	-120	0	-66	-3
2023	Hardy	49.3	Small grain	70	90	80	20								
2023	Hardy	49.3	Soybean	50	0	10	40	57	0	60	-33	-90	0	-75	-35
Total	**Hardy**				**515**	**510**	**300**	**399**	**201**	**300**					
2019	McCurdy	34.7	Small grain	70	75	80	20								
2019	McCurdy	34.7	Soybean	50	0	10	40	77	90	60	2	0	0	15	-35
2020	McCurdy	34.7	Corn grain	150	130	120	60	133	120	155	3	0	95	69	111
2021	McCurdy	34.7	Small grain	70	90	80	20								
2021	McCurdy	34.7	Soybean	50	0	10	40	88	90	0	0[g]	0	35	84	16
2022	McCurdy	34.7	Corn grain	150	130	120	60	129	120	25	0[g]	0	0	138	-3
2023	McCurdy	34.7	Small grain	70	90	80	20								
2023	McCurdy	34.7	Soybean	50	0	10	40	92	90	60	2	0	0	153	-35
Total	**McCurdy**				**515**	**510**	**300**	**519**	**510**	**300**					
2019	Lawrence	18.2	Small grain	70	75	80	20								
2019	Lawrence	18.2	Soybean	50	0	10	40	77	90	60	2	0	0	15	-35
2020	Lawrence	18.2	Corn grain	150	130	120	60	130	111	155	0	-9	95	60	111
2021	Lawrence	18.2	Small grain	70	90	80	20								
2021	Lawrence	18.2	Soybean	50	0	10	40	53	0	0	-35[g]	-90	35	-15	16
2022	Lawrence	18.2	Corn grain	150	130	120	60	129	120	25	0[g]	0	0	54	-3
2023	Lawrence	18.2	Small grain	70	90	80	20								
2023	Lawrence	18.2	Soybean	50	0	10	40	92	90	60	2	0	0	69	-35
Total	**Lawrence**				**515**	**510**	**300**	**481**	**411**	**300**					
2019	Hodge	33.2	Small grain	70	75	40	40								

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[a]			Nutrients Applied[b]			Balance After Recs[c]			Balance After Removal[d]	
		ac		per ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac
2019	Hodge	33.2	Soybean	50	0	20	80	76	60	120	1	0	0	-15	25
2020	Hodge	33.2	Corn grain	150	130	60	120	130	60	120	0	0	0	-6	101
2021	Hodge	33.2	Small grain	70	90	40	40								
2021	Hodge	33.2	Soybean	50	0	20	80	90	60	120	19	0	0	-15	126
2022	Hodge	33.2	Corn grain	150	130	60	120	130	60	120	0	0	0	-6	202
2023	Hodge	33.2	Small grain	70	90	40	40								
2023	Hodge	33.2	Soybean	50	0	20	80	90	60	120	0	0	0	-15	227
Total	**Hodge**				**515**	**300**	**600**	**516**	**300**	**600**					
2019	McKenzie	82.8	Small grain	70	75	0	0								
2019	McKenzie	82.8	Soybean	50	0	0	0	78	0	0	3	0	0	-75	-95
2020	McKenzie	82.8	Corn grain	150	130	0	0	130	0	0	0	0	0	-66	-44
2021	McKenzie	82.8	Small grain	70	90	0	0								
2021	McKenzie	82.8	Soybean	50	0	0	0	92	0	0	2	0	0	-75	-95
2022	McKenzie	82.8	Corn grain	150	130	0	0	144	31	43	14	31	43	-35	-1
2023	McKenzie	82.8	Small grain	70	90	0	0								
2023	McKenzie	82.8	Soybean	50	0	0	0	92	0	0	39	31	43	-75	-95
Total	**McKenzie**				**515**	**0**	**0**	**536**	**31**	**43**					
2019	Step Farm	9.0	Small grain	70	75	80	20								
2019	Step Farm	9.0	Soybean	50	0	10	40	42	0	60	-33	-90	0	-75	-35
2020	Step Farm	9.0	Corn grain	150	130	120	60	83	0	60	-47	-120	0	-66	16
2021	Step Farm	9.0	Small grain	70	90	80	20								
2021	Step Farm	9.0	Soybean	50	0	10	40	57	0	60	-33	-90	0	-75	-19
2022	Step Farm	9.0	Corn grain	150	130	120	60	0	0	0	-130	-120	-60	-66	-44
2023	Step Farm	9.0	Small grain	70	90	80	20								
2023	Step Farm	9.0	Soybean	50	0	10	40	53	0	0	-37	-90	-60	-75	-95
Total	**Step Farm**				**515**	**510**	**300**	**235**	**0**	**180**					
2019	Mike Boyd	31.8	Corn grain	150	130	0	0	0	0	0	-130	0	0	-66	-44
2020	Mike Boyd	31.8	Small grain	70	90	0	0								
2020	Mike Boyd	31.8	Soybean	50	0	0	0	92	0	0	2	0	0	-75	-95
2021	Mike Boyd	31.8	Corn grain	150	130	0	0	130	0	0	0	0	0	-66	-44

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[a]			Nutrients Applied[b]			Balance After Recs[c]			Balance After Removal[d]	
		ac		per ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac
2022	Mike Boyd	31.8	Small grain	70	90	0	0								
2022	Mike Boyd	31.8	Soybean	50	0	0	0	92	0	0	2	0	0	-75	-95
2023	Mike Boyd	31.8	Corn grain	150	130	0	0	130	111	155	0	111	155	45	111
Total	**Mike Boyd**				**570**	**0**	**0**	**444**	**111**	**155**					
2019	Red Barn 140	37.5	Small grain	70	75	80	40								
2019	Red Barn 140	37.5	Soybean	50	0	10	80	77	90	120	2	0	0	15	25
2020	Red Barn 140	37.5	Corn grain	150	130	120	120	130	120	120	0	0	0	69	101
2021	Red Barn 140	37.5	Small grain	70	90	80	40								
2021	Red Barn 140	37.5	Soybean	50	0	10	80	92	90	120	2	0	0	84	126
2022	Red Barn 140	37.5	Corn grain	150	130	120	120	133	120	155	3	0	35	138	237
2023	Red Barn 140	37.5	Small grain	70	90	80	40								
2023	Red Barn 140	37.5	Soybean	50	0	10	80	88	90	85	0[g]	0	0	153	227
Total	**Red Barn 140**				**515**	**510**	**600**	**520**	**510**	**600**					
2019	New 65	102.8	Small grain	70	75	80	20								
2019	New 65	102.8	Soybean	50	0	10	40	77	90	60	2	0	0	15	-35
2020	New 65	102.8	Corn grain	150	130	120	60	130	120	60	0	0	0	69	16
2021	New 65	102.8	Small grain	70	90	80	20								
2021	New 65	102.8	Soybean	50	0	10	40	92	90	60	2	0	0	84	-19
2022	New 65	102.8	Corn grain	150	130	120	60	133	120	155	3	0	95	138	111
2023	New 65	102.8	Small grain	70	90	80	20								
2023	New 65	102.8	Soybean	50	0	10	40	88	90	0	0[g]	0	35	153	16
Total	**New 65**				**515**	**510**	**300**	**520**	**510**	**335**					

Field Nutrient Balance (Non-manure-spreadable Area)

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[a]			Nutrients Applied[b]			Balance After Recs[c]			Balance After Removal[d]	
		ac		per ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac
2019	Tyson Road	6.3	Corn grain	150	130	0	60	0	0	0	-130	0	-60	-66	-44
2020	Tyson Road	6.3	Small grain	70	90	0	20								
2020	Tyson Road	6.3	Soybean	50	0	0	40	88	0	0	-2	0	-60	-75	-95

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[a]			Nutrients Applied[b]			Balance After Recs[c]			Balance After Removal[d]	
		ac		per ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac
2021	Tyson Road	6.3	Corn grain	150	130	0	60	0	0	0	-130	0	-60	-66	-44
2022	Tyson Road	6.3	Small grain	70	90	0	20								
2022	Tyson Road	6.3	Soybean	50	0	0	40	88	0	0	-2	0	-60	-75	-95
2023	Tyson Road	6.3	Corn grain	150	130	0	60	129	0	0	-1	0	-60	-66	-44
Total	**Tyson Road**				**570**	**0**	**300**	**305**	**0**	**0**					
2019	South Shop	1.6	Corn grain	150	130	120	0	0	0	0	-130	-120	0	-66	-44
2020	South Shop	1.6	Small grain	70	90	80	0								
2020	South Shop	1.6	Soybean	50	0	10	0	53	0	0	-37	-90	0	-75	-95
2021	South Shop	1.6	Corn grain	150	130	120	0	0	0	0	-130	-120	0	-66	-44
2022	South Shop	1.6	Small grain	70	90	80	0								
2022	South Shop	1.6	Soybean	50	0	10	0	88	90	0	-2	0	0	15	-95
2023	South Shop	1.6	Corn grain	150	130	120	0	129	120	0	-1	0	0	69	-44
Total	**South Shop**				**570**	**540**	**0**	**270**	**210**	**0**					
2019	SE House	13.0	Corn grain	150	130	60	0	0	0	0	-130	-60	0	-66	-44
2020	SE House	13.0	Small grain	70	90	40	0								
2020	SE House	13.0	Soybean	50	0	20	0	90	60	0	0	0	0	-15	-95
2021	SE House	13.0	Corn grain	150	130	60	0	58	0	0	-72	-60	0	-66	-44
2022	SE House	13.0	Small grain	70	90	40	0								
2022	SE House	13.0	Soybean	50	0	20	0	67	0	0	-23	-60	0	-75	-95
2023	SE House	13.0	Corn grain	150	130	60	0	95	31	0	-35	-29	0	-35	-44
Total	**SE House**				**570**	**300**	**0**	**310**	**91**	**0**					
2019	Ray	1.9	Corn grain	150	130	60	0	23	60	0	-107	0	0	-6	-44
2020	Ray	1.9	Small grain	70	90	40	0								
2020	Ray	1.9	Soybean	50	0	20	0	90	60	0	0	0	0	-15	-95
2021	Ray	1.9	Corn grain	150	130	60	0	130	60	0	0	0	0	-6	-44
2022	Ray	1.9	Small grain	70	90	40	0								
2022	Ray	1.9	Soybean	50	0	20	0	90	60	0	0	0	0	-15	-95
2023	Ray	1.9	Corn grain	150	130	60	0	0	0	0	-130	-60	0	-66	-44
Total	**Ray**				**570**	**300**	**0**	**333**	**240**	**0**					

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[a]			Nutrients Applied[b]			Balance After Recs[c]			Balance After Removal[d]	
		ac		per ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac
2019	Fennell	5.4	Corn grain	150	130	120	60	0	0	0	-130	-120	-60	-66	-44
2020	Fennell	5.4	Small grain	70	90	80	20								
2020	Fennell	5.4	Soybean	50	0	10	40	57	0	60	-33	-90	0	-75	-35
2021	Fennell	5.4	Corn grain	150	130	120	60	130	120	60	0	0	0	54	16
2022	Fennell	5.4	Small grain	70	90	80	20								
2022	Fennell	5.4	Soybean	50	0	10	40	92	90	60	2	0	0	69	-19
2023	Fennell	5.4	Corn grain	150	130	120	60	0	0	0	-130	-120	-60	3	-44
Total	**Fennell**				**570**	**540**	**300**	**279**	**210**	**180**					
2019	Dale	4.2	Small grain	70	75	80	20								
2019	Dale	4.2	Soybean	50	0	10	40	42	0	60	-33	-90	0	-75	-35
2020	Dale	4.2	Corn grain	150	130	120	60	0	0	0	-130	-120	-60	-66	-44
2021	Dale	4.2	Small grain	70	90	80	20								
2021	Dale	4.2	Soybean	50	0	10	40	53	0	0	-37	-90	-60	-75	-95
2022	Dale	4.2	Corn grain	150	130	120	60	129	120	25	-1	0	-35	54	-19
2023	Dale	4.2	Small grain	70	90	80	20								
2023	Dale	4.2	Soybean	50	0	10	40	92	90	60	2	0	0	69	-35
Total	**Dale**				**515**	**510**	**300**	**316**	**210**	**145**					
2019	Phelcher	2.7	Small grain	70	75	80	40								
2019	Phelcher	2.7	Soybean	50	0	10	80	77	90	120	2	0	0	15	25
2020	Phelcher	2.7	Corn grain	150	130	120	120	3	8	0	-127	-112	-120	-43	-19
2021	Phelcher	2.7	Small grain	70	90	80	40								
2021	Phelcher	2.7	Soybean	50	0	10	80	88	90	84	-2	0	-36	15	-11
2022	Phelcher	2.7	Corn grain	150	130	120	120	129	120	120	-1	0	0	69	76
2023	Phelcher	2.7	Small grain	70	90	80	40								
2023	Phelcher	2.7	Soybean	50	0	10	80	92	90	120	2	0	0	84	101
Total	**Phelcher**				**515**	**510**	**600**	**389**	**398**	**444**					
2019	Hardy	4.6	Small grain	70	75	80	20								
2019	Hardy	4.6	Soybean	50	0	10	40	77	90	60	2	0	0	15	-35
2020	Hardy	4.6	Corn grain	150	130	120	60	0	0	0	-130	-120	-60	-51	-44
2021	Hardy	4.6	Small grain	70	90	80	20								

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[a]			Nutrients Applied[b]			Balance After Recs[c]			Balance After Removal[d]	
		ac		per ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac
2021	Hardy	4.6	Soybean	50	0	10	40	53	0	0	-37	-90	-60	-75	-95
2022	Hardy	4.6	Corn grain	150	130	120	60	82	0	25	-48	-120	-35	-66	-19
2023	Hardy	4.6	Small grain	70	90	80	20								
2023	Hardy	4.6	Soybean	50	0	10	40	57	0	60	-33	-90	0	-75	-35
Total	**Hardy**				**515**	**510**	**300**	**269**	**90**	**145**					
2019	McCurdy	0.6	Small grain	70	75	80	20								
2019	McCurdy	0.6	Soybean	50	0	10	40	77	90	60	2	0	0	15	-35
2020	McCurdy	0.6	Corn grain	150	130	120	60	3	9	0	-127	-111	-60	-42	-44
2021	McCurdy	0.6	Small grain	70	90	80	20								
2021	McCurdy	0.6	Soybean	50	0	10	40	88	90	0	-2	0	-60	15	-95
2022	McCurdy	0.6	Corn grain	150	130	120	60	129	120	25	-1	0	-35	69	-19
2023	McCurdy	0.6	Small grain	70	90	80	20								
2023	McCurdy	0.6	Soybean	50	0	10	40	92	90	60	2	0	0	84	-35
Total	**McCurdy**				**515**	**510**	**300**	**389**	**399**	**145**					
2019	Lawrence	0.7	Small grain	70	75	80	20								
2019	Lawrence	0.7	Soybean	50	0	10	40	77	90	60	2	0	0	15	-35
2020	Lawrence	0.7	Corn grain	150	130	120	60	0	0	0	-130	-120	-60	-51	-44
2021	Lawrence	0.7	Small grain	70	90	80	20								
2021	Lawrence	0.7	Soybean	50	0	10	40	53	0	0	-37	-90	-60	-75	-95
2022	Lawrence	0.7	Corn grain	150	130	120	60	129	120	25	-1	0	-35	54	-19
2023	Lawrence	0.7	Small grain	70	90	80	20								
2023	Lawrence	0.7	Soybean	50	0	10	40	92	90	60	2	0	0	69	-35
Total	**Lawrence**				**515**	**510**	**300**	**351**	**300**	**145**					
2019	Hodge	3.5	Small grain	70	75	40	40								
2019	Hodge	3.5	Soybean	50	0	20	80	76	60	120	1	0	0	-15	25
2020	Hodge	3.5	Corn grain	150	130	60	120	73	11	52	-57	-49	-68	-55	33
2021	Hodge	3.5	Small grain	70	90	40	40								
2021	Hodge	3.5	Soybean	50	0	20	80	90	60	120	0	0	0	-15	58
2022	Hodge	3.5	Corn grain	150	130	60	120	130	60	120	0	0	0	-6	134
2023	Hodge	3.5	Small grain	70	90	40	40								

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[a]			Nutrients Applied[b]			Balance After Recs[c]			Balance After Removal[d]	
		ac		per ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac
2023	Hodge	3.5	Soybean	50	0	20	80	90	60	120	0	0	0	-15	159
Total	**Hodge**				**515**	**300**	**600**	**459**	**251**	**532**					
2019	McKenzie	6.2	Small grain	70	75	0	0								
2019	McKenzie	6.2	Soybean	50	0	0	0	78	0	0	3	0	0	-75	-95
2020	McKenzie	6.2	Corn grain	150	130	0	0	130	0	0	0	0	0	-66	-44
2021	McKenzie	6.2	Small grain	70	90	0	0								
2021	McKenzie	6.2	Soybean	50	0	0	0	92	0	0	2	0	0	-75	-95
2022	McKenzie	6.2	Corn grain	150	130	0	0	108	0	0	-22	0	0	-66	-44
2023	McKenzie	6.2	Small grain	70	90	0	0								
2023	McKenzie	6.2	Soybean	50	0	0	0	92	0	0	2	0	0	-75	-95
Total	**McKenzie**				**515**	**0**	**0**	**500**	**0**	**0**					
2019	Step Farm	3.0	Small grain	70	75	80	20								
2019	Step Farm	3.0	Soybean	50	0	10	40	42	0	60	-33	-90	0	-75	-35
2020	Step Farm	3.0	Corn grain	150	130	120	60	83	0	60	-47	-120	0	-66	16
2021	Step Farm	3.0	Small grain	70	90	80	20								
2021	Step Farm	3.0	Soybean	50	0	10	40	57	0	60	-33	-90	0	-75	-19
2022	Step Farm	3.0	Corn grain	150	130	120	60	0	0	0	-130	-120	-60	-66	-44
2023	Step Farm	3.0	Small grain	70	90	80	20								
2023	Step Farm	3.0	Soybean	50	0	10	40	53	0	0	-37	-90	-60	-75	-95
Total	**Step Farm**				**515**	**510**	**300**	**235**	**0**	**180**					
2019	Mike Boyd	4.1	Corn grain	150	130	0	0	0	0	0	-130	0	0	-66	-44
2020	Mike Boyd	4.1	Small grain	70	90	0	0								
2020	Mike Boyd	4.1	Soybean	50	0	0	0	92	0	0	2	0	0	-75	-95
2021	Mike Boyd	4.1	Corn grain	150	130	0	0	130	0	0	0	0	0	-66	-44
2022	Mike Boyd	4.1	Small grain	70	90	0	0								
2022	Mike Boyd	4.1	Soybean	50	0	0	0	92	0	0	2	0	0	-75	-95
2023	Mike Boyd	4.1	Corn grain	150	130	0	0	0	0	0	-130	0	0	-66	-44
Total	**Mike Boyd**				**570**	**0**	**0**	**314**	**0**	**0**					
2019	Red Barn 140	2.0	Small grain	70	75	80	40								

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[a]			Nutrients Applied[b]			Balance After Recs[c]			Balance After Removal[d]	
		ac		per ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac
2019	Red Barn 140	2.0	Soybean	50	0	10	80	77	90	120	2	0	0	15	25
2020	Red Barn 140	2.0	Corn grain	150	130	120	120	130	120	120	0	0	0	69	101
2021	Red Barn 140	2.0	Small grain	70	90	80	40								
2021	Red Barn 140	2.0	Soybean	50	0	10	80	92	90	120	2	0	0	84	126
2022	Red Barn 140	2.0	Corn grain	150	130	120	120	3	9	0	-127	-111	-120	27	82
2023	Red Barn 140	2.0	Small grain	70	90	80	40								
2023	Red Barn 140	2.0	Soybean	50	0	10	80	88	90	85	-2	0	-35	42	72
Total	**Red Barn 140**				**515**	**510**	**600**	**390**	**399**	**445**					
2019	New 65	8.6	Small grain	70	75	80	20								
2019	New 65	8.6	Soybean	50	0	10	40	77	90	60	2	0	0	15	-35
2020	New 65	8.6	Corn grain	150	130	120	60	130	120	60	0	0	0	69	16
2021	New 65	8.6	Small grain	70	90	80	20								
2021	New 65	8.6	Soybean	50	0	10	40	92	90	60	2	0	0	84	-19
2022	New 65	8.6	Corn grain	150	130	120	60	3	9	0	-127	-111	-60	27	-44
2023	New 65	8.6	Small grain	70	90	80	20								
2023	New 65	8.6	Soybean	50	0	10	40	88	90	0	-2	0	-60	42	-95
Total	**New 65**				**515**	**510**	**300**	**390**	**399**	**180**					

[a] Fertilizer Recs are the crop fertilizer recommendations. The N rec accounts for any N credit from previous legume crop.

[b] Nutrients Applied are the nutrients expected to be available to the crop from that year's manure applications plus nutrients from that year's commercial fertilizer applications and nitrates from irrigation water. With a double-crop year, the total nutrients applied for both crops and the year's balances are listed on the second crop's line.

[c] For N, Nutrients Applied minus Fertilizer Recs for indicated crop year. Also includes amount of residual N expected to become available that year from prior years' manure applications. For P_2O_5 and K_2O, Nutrients Applied minus Fertilizer Recs *through* the indicated crop year, with positive balances carried forward to subsequent years. Negative values indicate a potential need to apply additional nutrients.

[d] Nutrients Applied minus amount removed by harvested portion of crop through the indicated year. Positive balances are carried forward to subsequent years.

[e] Custom fertilizer recommendation.

[f] Legume crop is assumed to utilize some or all of the supplied N.

[g] Includes residual N expected to become available that year from prior years' manure applications.

3.8. Manure Inventory Annual Summary (Optional)

Manure Source	Plan Period	On Hand at Start of Period	Total Generated	Total Imported	Total Trans-ferred In	Total Applied	Total Exported	Total Trans-ferred Out	On Hand at End of Period	Units
Barn 1	Oct '18 - Sep '19	0	800,000	0	0	400,200	0	0	399,800	gal
Barn 1	Oct '19 - Sep '20	399,800	800,000	0	0	800,400	0	0	399,400	gal
Barn 1	Oct '20 - Sep '21	399,400	800,000	0	0	800,400	0	0	399,000	gal
Barn 1	Oct '21 - Sep '22	399,000	800,000	0	0	800,400	0	0	398,600	gal
Barn 1	Oct '22 - Sep '23	398,600	800,000	0	0	800,400	0	0	398,200	gal

3.9. Fertilizer Material Annual Summary (Optional)

Product Analysis	Plan Period	Product Needed Oct - Dec	Product Needed Jan - Sep	Total Product Needed	Units
18-46-0	Oct '18 - Sep '19	59,935	1,781	61,716	lbs
0-0-60	Oct '18 - Sep '19	46,100	0	46,100	lbs
32-0-0	Oct '18 - Sep '19	0	6,401	6,401	gal
18-46-0	Oct '19 - Sep '20	26,273	41,155	67,428	lbs
0-0-60	Oct '19 - Sep '20	7,900	23,396	31,296	lbs
32-0-0	Oct '19 - Sep '20	0	7,453	7,453	gal
46-0-0	Oct '19 - Sep '20	0	59,925	59,925	lbs
18-46-0	Oct '20 - Sep '21	45,739	22,321	68,060	lbs
0-0-60	Oct '20 - Sep '21	30,926	7,900	38,826	lbs
32-0-0	Oct '20 - Sep '21	0	8,035	8,035	gal
46-0-0	Oct '20 - Sep '21	0	51,260	51,260	lbs
18-46-0	Oct '21 - Sep '22	25,552	35,562	61,114	lbs
0-0-60	Oct '21 - Sep '22	7,900	17,753	25,653	lbs
32-0-0	Oct '21 - Sep '22	0	7,453	7,453	gal
46-0-0	Oct '21 - Sep '22	0	58,050	58,050	lbs
18-46-0	Oct '22 - Sep '23	55,137	23,777	78,914	lbs
0-0-60	Oct '22 - Sep '23	31,430	0	31,430	lbs
32-0-0	Oct '22 - Sep '23	0	8,034	8,034	gal
46-0-0	Oct '22 - Sep '23	0	50,200	50,200	lbs

3.10. Plan Nutrient Balance (Manure-spreadable Area)

	N (lbs)	P_2O_5 (lbs)	K_2O (lbs)
Total Manure Nutrients on Hand at Start of Plan[a]	0	0	0
Total Manure Nutrients Collected[b]	151,600	90,800	126,800
Total Manure Nutrients Imported[c]	0	0	0
Total Manure Nutrients Exported[d]	0	0	0
Total Manure Nutrients Gained/Lost in Transfer[e]	0	0	0
Total Manure Nutrients on Hand at End of Plan[f]	15,092	9,039	12,623
Total Manure Nutrients Applied[g]	136,710	81,585	113,925
Available Manure Nutrients Applied (Utilized by plan's crops)[h]	97,102	77,553	96,978
Available Manure Nutrients Applied (Not utilized by plan's crops)[i]	653	4,032	16,947
Commercial Fertilizer Nutrients Applied (Utilized by plan's crops)[j]	270,274	144,686	95,593
Commercial Fertilizer Nutrients Applied (Not utilized by plan's crops)[k]	0	0	0
Available Nutrients Applied (Manure and fertilizer; utilized by plan's crops)[l]	367,376	222,239	192,571
Nutrient Utilization Potential[m]	809,132	376,175	303,011
Nutrient Balance of Spreadable Acres[n p]	-441,756	-153,936	-110,440
Average Nutrient Balance per Spreadable Acre per Year[o p]	-114	-40	-29

a. Total manure nutrients present in storage at the beginning of the plan.
b. Total manure nutrients collected on the farm.
c. Total manure nutrients imported onto the farm.
d. Total manure nutrients exported from the farm to an external operation.
e. Net change in total manure nutrients due to transfers between storage units with differing analyses.
f. Total manure nutrients present in storage at the end of plan.
g. Total nutrients present in land-applied manure. These values do not account for losses due to rate, timing, and method of application.
h. Manure nutrients applied and available to crops in the plan. These values are based on the total manure nutrients applied after accounting for nutrient losses due to rate, timing, and method of application. Nutrients which will not be utilized by crops in the plan are excluded from these values.
i. Manure nutrients applied that will be utilized by crops outside the plan. This usually results from Fall nutrient applications at the end of the plan intended for crops in subsequent years.
j. Nutrients applied as commercial fertilizers and nitrates contained in irrigation water. Nutrients that will not be utilized by crops in the plan are excluded from these values.
k. Nutrients applied as commercial fertilizer which will be utilized by crops outside the plan.
l. Sum of available manure nutrients applied and commercial fertilizer nutrients applied.
m. Nutrient utilization potential of crops grown. For N the value is based on the N recommendation for non-legume crops and N uptake or other state-imposed limit for N application rates for legumes. P_2O_5 and K_2O values are based on fertilizer recommendations or crop removal (whichever is greater).
n. Available nutrients applied minus crop nutrient utilization potential. Negative values indicate additional nutrient utilization potential and positive values indicate over-application.
o. Average per acre-year nutrient balance. Values are calculated by dividing nutrient balance of spreadable acres by the number of spreadable acres in the plan and by the length of the plan in years. Negative values indicate additional nutrient utilization potential and positive values indicate over-application.

p. Non-trivial, positive values for N indicate that the plan was not properly developed. Negative values for N indicate additional nutrient utilization potential which may or may not be intentional. For example, plans that include legume crops often will not utilize the full N utilization potential for legume crops if manure can be applied to non-legume crops that require N for optimum yield. Positive values for P_2O_5 and/or K_2O do not necessarily indicate that the plan was developed improperly. For example, producers may be allowed to apply N-based application rates of manure to fields with low soil test P values or fields with a low potential P-loss risk based on the risk assessment tool used by the state. Negative values for P_2O_5 and K_2O indicate that planned applications to some fields are less than crop removal rates or fertilizer recommendations.

Plan Nutrient Balance (Non-manure-spreadable Area)

	N (lbs)	P_2O_5 (lbs)	K_2O (lbs)

	N (lbs)	P_2O_5 (lbs)	K_2O (lbs)
Commercial Fertilizer Nutrients Applied[a]	23,450	11,037	8,475
Nutrient Utilization Potential[b]	37,002	22,764	14,940
Nutrient Balance of Non-spreadable Acres[c e]	-13,552	-11,727	-6,465
Average Nutrient Balance per Non-spreadable Acre per Year[d e]	-40	-34	-19

a. Nutrients applied as commercial fertilizers and nitrates contained in irrigation water.
b. Nutrient utilization potential of crops grown based on crop fertilizer recommendations.
c. Commercial fertilizer nutrients applied minus crop nutrient utilization potential. Negative values indicate additional nutrient utilization potential and positive values indicate over-application.
d. Average per acre-year nutrient balance. Values are calculated by dividing nutrient balance of non-spreadable acres by number of non-spreadable acres in plan and by the length of the plan in years. Negative values indicate additional nutrient utilization potential and positive values indicate over-application.

e. Non-trivial, positive values for N indicate that the plan was not properly developed. Negative values for N indicate additional nutrient utilization potential which may or may not be intentional. Positive values for P_2O_5 and/or K_2O do not necessarily indicate that the plan was developed improperly. For example, multiple year applications may have been planned during the final plan year(s) and these nutrients will not be utilized by crops in the current plan. Negative values for P_2O_5 and K_2O indicate that applications to some fields may have been delayed to allow the producer to apply the nutrients in accordance with their fertilization schedule.

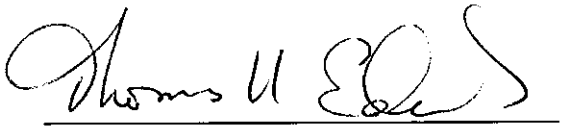
Closure Plan

In the event that Swine production at this location ceases, the following will be done within 360 days:

- All manure in all animal use areas will be removed and spread on the farm or spread elsewhere according to my current Nutrient Management Plan.
- The most current manure analysis will be provided to anyone removing manure from the farm.
- Any dead pigs on the farm will be disposed of at the time of closure according to methods outlined in my current Nutrient Management Plan and or allowable by Tennessee Law.
- Any manure which is land applied will be done so according to the rates discussed in my most recent Nutrient Management Plan.

The following will be completed within a reasonable period as allowable by law using Tennessee Natural Resources Conservation Service (NRCS) Standard Code 360- Closure of Waste Impoundments:

- Any manure storage facility (lagoon) located on the swine farm will be properly decommissioned.
- Any manure currently in storage at the time of closure will be removed and spread on the farm or spread elsewhere according to my current Nutrient Management Plan.
- The lagoon will be breached and backfilled and or converted to freshwater storage according to NRCS standards.



Date: _____

Record Keeping

This section includes a list of key records that Mr. Edwards will keep in order to document and verify implementation of the procedures in this CNMP. Records shall be kept for a minimum of 5 years, or for the length of the contract, rotation, or permit, whichever is longer, for each field where manure is applied.

These general records include but are not limited to:

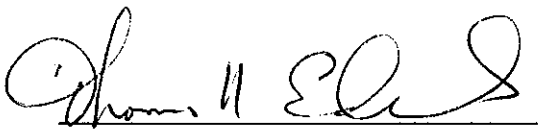
1. Soil Test Results
2. Weather and soil conditions 24 hours prior to, during and 24 hours application of manure, chemicals and pesticides.
3. Type, quantities, and sources of all nutrients generated and collected
4. Type, quantities, and sources of all nutrients applied to each field
5. Dates of manure applications
6. Inspection Reports
7. Operation and Maintenance records of conservation practices and equipment
8. Restricted pesticides used to meet label requirements
9. Equipment Calibration records
10. Crops planted, tillage method and dates planted
11. Crop harvest dates and yield
12. Adjustments to nutrient management plan based on records and changes in farming operations as appropriate
13. Weekly check of volume in pit
14. Annual visual inspection of retention structure (pits), animal holding areas, if applicable and land application areas
15. Records of mortalities and how managed

Section 9. Operation and Maintenance

Declarations to Nutrient Management Plan:

By my signature below, I affirm that I have read, understand, and will comply with the following stipulations from Tennessee's CAFO regulations that apply to my CAFO operation:

1) All animals in confinement are prevented from coming in direct contact with waters of the state.
2) All chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants.
3) Pesticide-contaminated waters will be prevented from discharging into waste retention structures. Waste from pest control and from facilities used to manage potentially hazardous or toxic chemicals shall be handled and disposed of in a manner that will prevent pollutants from entering waste retention structures or waters of the state.
4) Chemicals, manure/litter, and process wastewater will be managed to prevent spills. Spill clean-up plans will be developed and any equipment needed for spill clean-up will be available to facility personnel.
5) All sampling of soil and manure/litter is conducted according to protocols developed by UT Extension.
6) All records outlined in the permit that I am applying for will be maintained and available on-site.
7) Any confinement buildings, waste/wastewater handling or treatment systems, lagoons, holding ponds, and any other agricultural waste containment/treatment structures constructed or modified after April 13, 2006, are or will be located in accordance with NRCS Conservation Practice Standard 313.
8) A copy of the most recent Nutrient Management Plan will be kept as part of the farm records and will be maintained and implemented as written.
9) If applicable, all waste directed to under floor pits shall be composed entirely of wastewater (i.e. washwater and animal waste).
10) The Tennessee Department of Environment and Conservation Division of Water Resources will be notified of any significant wildlife mortalities near retention ponds or following any land application of animal wastes to fields.
11) All employees involved in work activities that relate to permit compliance will receive regular training on proper operation and maintenance (O&M) of the facility and waste disposal. Training shall include appropriate topics, such as land application of wastes, good housekeeping and material management practices, proper O&M of the facility, record keeping, and spill response and clean up. The periodic scheduled dates for such training shall be identified in the current Nutrient Management Plan.
12) There shall be no land application of nutrients within 24 hours of a precipitation event that may cause runoff. The operator shall not land apply nutrients to frozen, flooded, or saturated soils.



Signature of CAFO Owner/Operator

Date

Operation and Maintenance

Mr. Edwards is responsible for safe operation and maintenance of the nutrient management plan including all equipment. Operation and maintenance includes the following items:

1. periodic plan review to determine if adjustments or modifications to the plan are needed. As minimum, plans will be reviewed/revised with each soil test cycle.
2. weekly there will be a visual inspection of pits
3. calibration of application equipment to ensure uniform distribution of material at planned rates.
4. documentation of the actual rate at which nutrients were applied. When the actual rates used differ from or exceed the recommended and planned rates, records will indicate the reasons for the differences.
5. Maintaining records to document plan implementation. As applicable, records include
    a. Soil test results and recommendations for nutrient application
    b. Quantities, analysis and sources of nutrients applied
    c. Dates and method of nutrient applications
    d. Crops planted, planting and harvest dates, yields, and residues removed
    e. Results of water, plant and organic byproduct analysis
    f. Dates of review and person performing the review and recommendations
    g. Conservation practices being applied.

Records will be maintained for five years or for a period longer than five years if required by other Federal, state, or local ordinances or program or contract requirements.

The disposal of material generated by the cleaning nutrient application equipment accomplished properly. Excess material should be collected and stored or field applied in an appropriate manner. Excess material should not be applied on areas of high potential risk for runoff and leaching.

The disposal/recycling of nutrient containers should be according to state and local guidelines or regulations.

Pesticides, toxic chemicals, and petroleum products will not be used in areas where leakage could enter the manure storage facility.

Heavy Use Area Protection

The Operation and Maintenance (O&M) plan shall specify that the treatment areas and associated practices will be inspected annually and after significant storm events to identify repair and maintenance needs. The O&M plan shall contain the operational requirements for managing the heavy use area. Planned scraping intervals, replacement of fine material, storage, treatment, and/or utilization methods will also be described. Provisions for re-establishment of vegetated areas will be included. The O&M plan shall detail the level of repairs needed to maintain the effectiveness and useful life of the practice. If using a front-end loader, recommend back dragging the manure/hay to conserve removal of gravel from the surface. Consider using fabricated large equipment tire for scraping surface. The O&M plan shall be provided to, and discussed with, the operator. The O&M plan must complement the Comprehensive Nutrient Management Plan, as necessary.

Composting Facility

An operation and maintenance (O&M) plan shall be developed consistent with the purposes of this standard, its intended life, safety requirements, and the criteria for its design. The O&M plan shall include recipe ingredients and sequence that they are layered and mixed, maximum and minimum temperature for operation, land application rates, moisture level, management of odors, testing, etc. Make adjustments throughout the composting period to ensure proper composting processes. The compost facility should be inspected regularly when the facility is empty. Replace deteriorated wooden materials or hardware. Patch concrete floors and curbs as necessary to assure water tightness. Roof structures should be examined for structural integrity and repaired as needed. Exposed metal components should be inspected for corrosion. Corroded metal should be wire brushed and painted as necessary. Closely monitor temperatures above 165^{o}F. Take action immediately to cool piles that have reached temperatures above 185^{o}F. The operation and maintenance plan shall state that composting is a biological process. It requires a combination of art and science for success. Hence, the operation may need to undergo some trial and error in the start-up of a new composting facility.

Nutrient Management (590)

The owner/client is responsible for safe operation and maintenance of the nutrient management plan including all equipment. Operation and maintenance addresses the following:

1. periodic plan review to determine if adjustments or modifications to the plan are needed. As a minimum, plans will be reviewed/revised with each soil test cycle.
2. protection of fertilizer and organic byproduct storage facilities from weather and accidental leakage or spillage.
3. calibration of application equipment to ensure uniform distribution of material at planned rates.
4. documentation of the actual rate at which nutrients were applied. When the actual rates used differ from or exceed the recommended and planned rates, records will indicate the reasons for the differences.
5. Maintaining records to document plan implementation. As applicable, records include:
   soil test results and recommendations for nutrient application,

   quantities, analyses and sources of nutrients applied,

dates and method of nutrient applications,

crops planted, planting and harvest dates, yields, and residues removed,

results of water, plant, and organic byproduct analyses, and

dates of review and person performing the review, and recommendations.

Records should be maintained for five years or for a period longer than five years if required by other Federal, state, or local ordinances, or program or contract requirements. Workers shall be protected from and avoid unnecessary contact with chemical fertilizers and organic by-products. Protection should include the use of protective clothing when working with plant nutrients. Extra caution must be taken when handling ammonia sources of nutrients, or when dealing with organic wastes stored in unventilated enclosures. The disposal of material generated by the cleaning nutrient application equipment should be accomplished properly. Excess material should be collected and stored or field applied in an appropriate manner. Excess material should not be applied on areas of high potential risk for runoff and leaching. The disposal/recycling of nutrient containers should be according to state and local guidelines or regulations.

UT Extension
W252

Land-filling Large Animal Mortalities in Tennessee

Shawn Hawkins, Assistant Professor, and Forbes Walker, Associate Professor
Biosystems Engineering and Soil Science

Land-filling can be an inexpensive (≈ $35/ton) and sometimes convenient disposal option for large animal mortalities, particularly if on-farm burial is not feasible. However, an accommodating landfill must be nearby. Most beef and dairy producers and horse owners don't know which landfills accept dead livestock. This publication provides a map (Figure 1) and phone numbers (Table 1) for Tennessee's Class 1 landfills that are allowed to accept dead animals. University of Tennessee Extension faculty contacted these landfills in fall 2010; the symbols in Figure 1 indicate which landfills will likely accept deadstock (many refuse to accept large animal carcasses, probably because of placement and covering regulations or odor concerns). The shaded counties in Figure 1 currently participate in a pickup and landfill disposal service with Appertain Corporation (931-363-8284). Otherwise, the landfills generally don't provide on-farm pickup, so you'll probably have to make arrangements to transport the carcass to the landfill. Call ahead to verify acceptance and follow these simple guidelines:

1. Transport the dead animal to the landfill as soon as possible, preferably within 48 hours.
2. Make sure the animal is completely and securely covered with a tarp during transport.
3. Schedule the carcass delivery early in the morning for discreet offloading.
4. Have a disposable but sturdy rope tied to the carcass for quick offloading.

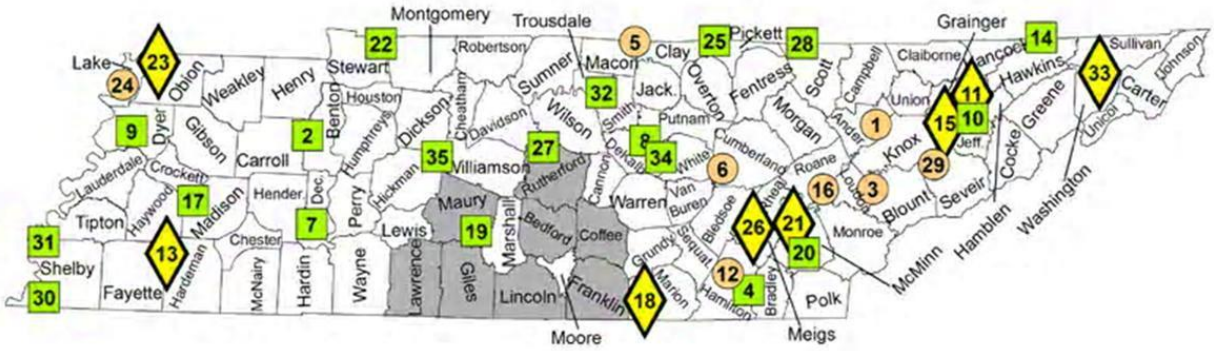


Figure 1. Tennessee's Class I landfills.

Squares, diamonds and circles denote landfills that will readily accept deadstock, those with restrictions (for example, only accepting from in-county farms) and those unlikely to accept deadstock, respectively. The shaded counties participate in a pickup and landfill disposal service with Appertain Corporation. For more detailed information on mortality disposal options, go to: http://wastemgmt.ag.utk.edu/.

Table 1. Contact information for Tennessee's Class 1 landfills

No.	County	Name	Phone Number
1	Anderson	Chestnut Ridge Landfill And Recycling Center	865-457-7810
2	Benton	West Camden Sanitary Landfill	731-584-7734
3	Blount	Alcoa /Maryville/ Blount Co. Class I Landfill	865-995-2892
4	Bradley	Bradley County Class I Landfill	423-476-8118
5	Clay	Upper Cumberland Landfill	931-258-3954
6	Cumberland	Cumberland County Landfill	931-788-6127
7	Decatur	Decatur Landfill	731-549-3567
8	DeKalb	Dekalb County Landfill	931-761-5588
9	Dyer	Dyersburg City Landfill	731-286-0450
10	Hamblen	Morristown Balefill Landfill	423-585-4805
11	Hamblen	Lakeway Sanitation And Recycling, Inc. Landfill	423-581-5655
12	Hamilton	City Of Chattanooga Landfill	423-344-9737
13	Hardeman	Bolivar-Hardeman County Landfill	731-658-6138
14	Hawkins	Carter Valley Landfill	423-357-6777
15	Jefferson	Jefferson County Landfill	865-397-3544
16	Loudon	Loudon County Landfill	865-458-2651
17	Madison	Madison County Development, LLC	901-872-7258
18	Marion	Marion County Landfill	423-942-8011
19	Marshall	Cedar Ridge Landfill, Inc.	931-270-0950
20	McMinn	Mcminn County Landfill	423-745-3244
21	McMinn	Meadow Branch Landfill Inc	423-745-6396
22	Montgomery	Bi-County Snl Balefill	931-648-5751
23	Obion	Northwest Tennessee Disposal Company	731-885-1941
24	Obion	Alan's Industrial Services Inc	731-264-5316
25	Pickett	Pickett County Landfill	931-864-3158
26	Rhea	Rhea County Class I Landfill	423-570-8920
27	Rutherford	BFI Middle Point Landfill	615-896-2075
28	Scott	Volunteer Regional Landfill	423-569-5702
29	Sevier	Sevier Solid Waste Inc.	865-453-5676
30	Shelby	BFI South Shelby Landfill	901-794-8071
31	Shelby	BFI North Shelby Landfill	901-794-3800
32	Smith	Smith County Landfill	615-735-1941
33	Washington	Iris Glen Environmental Center	423-926-8375
34	White	White County Landfill	931-761-7441
35	Williamson	Williamson County Landfill	615-790-0742

THE UNIVERSITY of TENNESSEE UT
INSTITUTE of AGRICULTURE

Visit the UT Extension website at
http://utextension.tennessee.edu

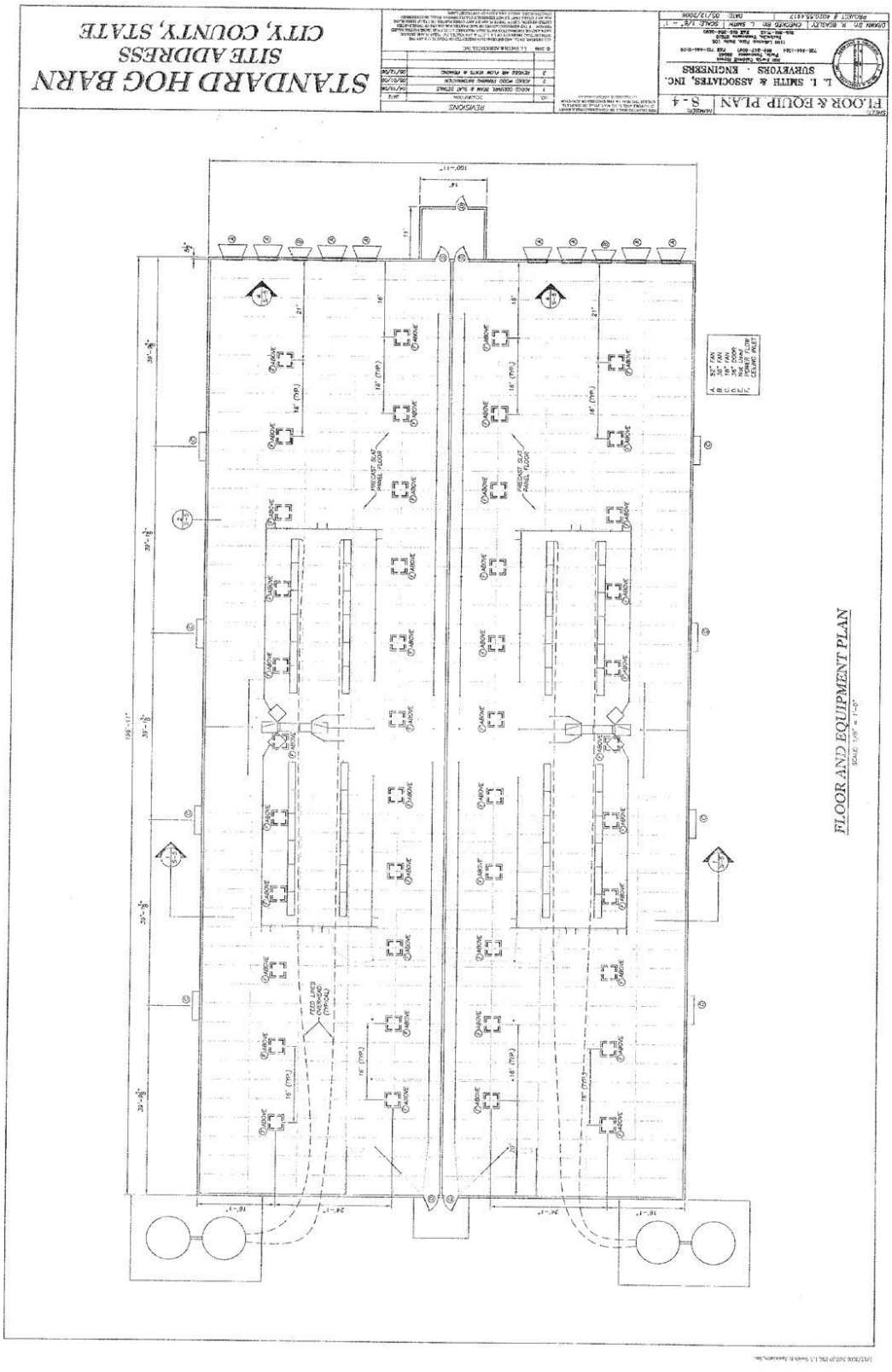
W-252 2/11 11-0122

Programs in agriculture and natural resources, 4-H youth development, family and consumer sciences, and resource development.
University of Tennessee Institute of Agriculture, U.S. Department of Agriculture and county governments cooperating.
UT Extension provides equal opportunities in programs and employment.

STANDARD HOG BARN
SITE ADDRESS
CITY, COUNTY, STATE
L. I. SMITH & ASSOCIATES, INC.
SURVEYORS · ENGINEERS
DETAILS
S-2
SLAB CONSTRUCTION JOINT DETAIL
SLAB CONTRACTION JOINT DETAIL
WALL CONSTRUCTION JOINT DETAIL
PIT FAN OPENING DETAIL
PIT SECTION 1 - 1
PIT END WALL DETAIL
PIT SIDE WALL DETAIL
SUMP PIT DETAIL
COLUMN CAP DETAIL

STANDARD HOG BARN
SITE ADDRESS
CITY, COUNTY, STATE
L. I. SMITH & ASSOCIATES, INC.
SURVEYORS · ENGINEERS
FOUNDATION PLAN
S-1
PIT FLOOR AND FOUNDATION PLAN
SCALE: 1/8" = 1'-0"
CONTRACTION JOINT
BEAM POCKETS 3'X12" (TYP.)
12" DIA. CONC. COLUMNS (TYP.)
LOCATION OF THIS PAD TO BE DETERMINED BY SITE SPECIFIC LAYOUT
LOAD-OUT CHUTE PAD, AS REQUIRED BY SITE SPECIFIC

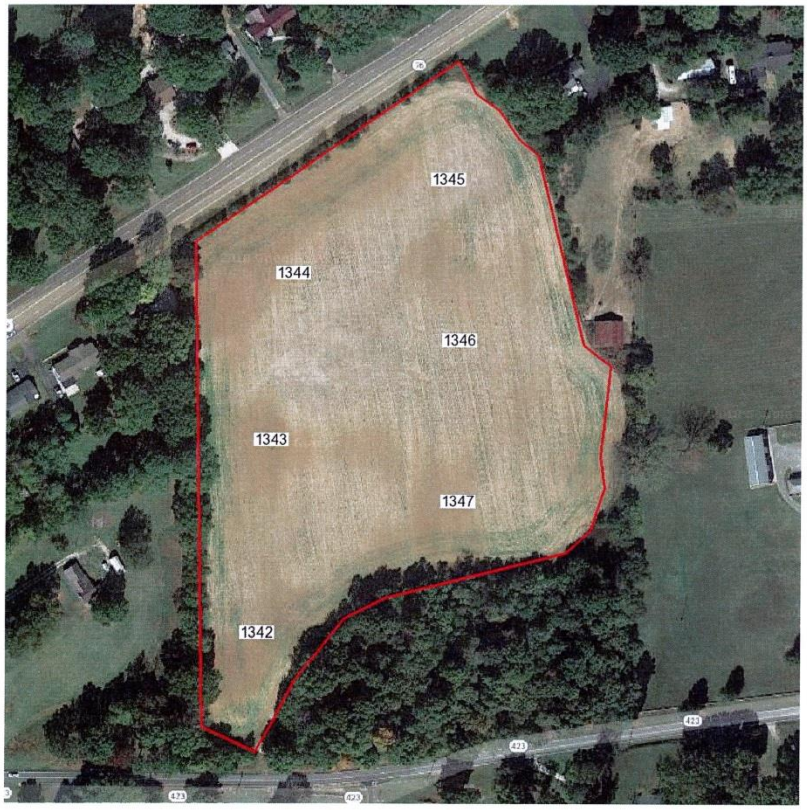
STANDARD HOG BARN
SITE ADDRESS
CITY, COUNTY, STATE
DETAILS
S-3
L. I. SMITH & ASSOCIATES, INC.
SURVEYORS · ENGINEERS
PRE-CAST CONC. SLATS
PRE-CAST PIT FAN BASE
CONCRETE COLUMNS
SLAB TURN-DOWN DETAIL
PRE-CAST CONC. BEAM
PRE-CAST CONC. T-BEAM


STANDARD HOG BARN
SITE ADDRESS
CITY, COUNTY, STATE
L. I. SMITH & ASSOCIATES, INC.
SURVEYORS · ENGINEERS
FLOOR & EQUIP PLAN
S-4
FLOOR AND EQUIPMENT PLAN

STANDARD HOG BARN
SITE ADDRESS
CITY, COUNTY, STATE
L. I. SMITH & ASSOCIATES, INC.
SURVEYORS · ENGINEERS
DETAILS
S-5
BUILDING SECTION 1-1
CEILING INLET DETAIL
WALL SECTION
END WALL FRAMING

Master Soil Book

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	Step Farm	Step Farm	11.46 acres	36.134061, -88.499184



	Min	Max	Avg
P	12.0 L	40.0 M	23.7 L
K	108 L	268 O	198 M
Mg	64.0 L	368 VH	216 M
Ca	1050	2464	1671
Na	14.0	38.0	25.3
S	22.0 M	60.0 O	38.3 M
B	0.20 VL	0.40 L	0.37 L
Cu	1.2 L	1.8 M	1.5 L
Fe	194 M	294 O	241 O
Mn	88.0 M	532 VH	258 M
Zn	2.8 L	4.8 M	3.8 M
pH	5.5	6.3	5.8
bpH	7.8	7.8	7.8
OM	2.3 L	2.9 L	2.7 L
ENR	90.0	102	98.7
CEC	4.2	8.9	6.5
%K	3.0	5.1	3.9
%Mg	6.3	17.2	12.9
%Ca	54.6 M	69.2 M	63.4 M
%H	10.1	26.2	19.2
HMeq	0.90	1.4	1.1
%Na	0.60 VL	1.4 VL	0.90 VL

Sample Date: 2017-04-08 Soil Lab: Waypoint Analytical Tennessee

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1342	36.0	268	254	1998	24.0	28.0	0.40	1.4	222	136	3.4	6.0	7.8	2.8	100	7.5	4.6	14.1	66.6	14.7	1.1	0.70
1343	12.0	228	368	2464	24.0	60.0	0.40	1.6	194	88.0	2.8	6.3	7.8	2.9	102	8.9	3.3	17.2	69.2	10.1	0.90	0.60
1344	12.0	168	248	1332	38.0	38.0	0.20	1.2	236	128	4.2	5.6	7.8	2.8	100	6.1	3.5	16.9	54.6	23.0	1.4	1.4
1345	40.0	108	88.0	1144	28.0	38.0	0.40	1.4	274	434	4.8	5.5	7.8	2.8	100	4.6	3.0	8.0	62.2	26.1	1.2	1.3
1346	28.0	166	64.0	1050	14.0	44.0	0.40	1.8	294	532	3.8	5.5	7.8	2.3	90.0	4.2	5.1	6.3	62.5	26.2	1.1	0.70
1347	14.0	252	276	2036	24.0	22.0	0.40	1.4	224	230	3.8	6.0	7.8	2.8	100	7.8	4.1	14.7	65.3	15.4	1.2	0.70

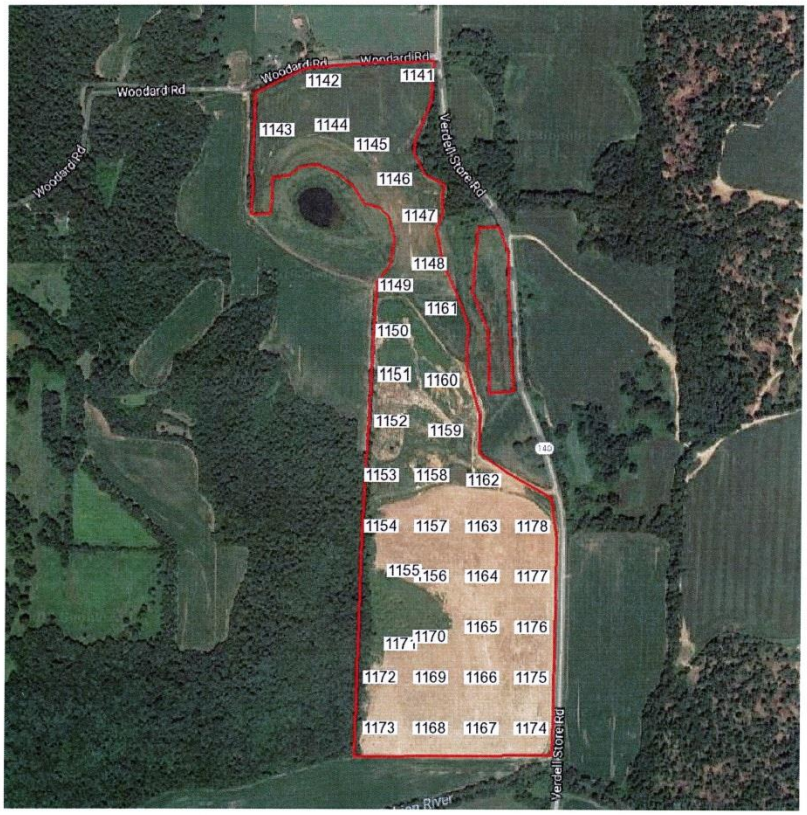
Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

04/16/18 01:06 PM

INCOMPASS AG TECHNOLOGY

Master Soil Book

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	Revell Hwy140	new 65	101.03 acres	36.277124, -88.512569



	Min	Max	Avg
P	6.0 VL	66.0 O	29.4 M
K	78.0 VL	262 O	145 L
Mg	84.0 L	496 VH	256 M
Ca	468	2806	1364
Na	4.0	50.0	24.8
S	14.0 L	82.0 VH	40.3 O
B	0.20 VL	0.60 L	0.39 L
Cu	0.60 VL	4.2 M	2.0 M
Fe	208 O	748 VH	399 O
Mn	144 M	738 VH	351 O
Zn	1.0 VL	5.2 M	2.8 L
pH	4.9	7.1	5.8
bpH	7.5	7.9	7.8
OM	0.60 VL	2.9 L	2.0 L
ENR	55.0	102	84.3
CEC	1.9	9.1	6.1
%K	1.2	6.3	3.2
%Mg	10.9	25.2	17.1
%Ca	33.8 L	81.4 VH	56.5 M
%H	0.00	44.0	22.2
HMeq	0.00	4.0	1.4
%Na	0.20 VL	2.4 L	0.92 VL

Sample Date: 2017-03-23 Soil Lab: Waypoint Analytical Tennessee

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1141	22.0	132	138	1242	4.0	26.0	0.40	1.2	212	186	2.4	6.5	7.9	2.4	92.0	4.2	4.0	13.7	73.9	7.1	0.30	0.20
1142	16.0	252	186	2004	12.0	28.0	0.40	2.2	240	208	2.8	6.8	7.9	2.5	94.0	6.3	5.1	12.3	79.5	3.2	0.20	0.40
1143	24.0	138	228	2182	12.0	36.0	0.40	2.2	242	250	2.8	6.9	7.9	2.7	98.0	6.7	2.6	14.2	81.4	1.5	0.10	0.40
1144	38.0	210	404	2806	16.0	16.0	0.40	2.6	244	256	2.4	7.1	7.9	2.1	86.0	9.0	3.0	18.7	77.9	0.00	0.00	0.40
1145	30.0	162	446	2318	18.0	50.0	0.20	2.4	242	212	1.8	6.9	7.9	1.8	80.0	8.0	2.6	23.2	72.4	1.3	0.10	0.50
1146	26.0	178	496	2284	30.0	44.0	0.40	1.8	224	182	1.6	6.6	7.9	1.6	76.0	8.6	2.7	24.0	66.4	5.8	0.50	0.80
1147	32.0	136	378	1778	20.0	34.0	0.20	1.6	228	162	1.6	6.3	7.9	1.4	72.0	6.9	2.5	22.8	64.4	10.1	0.70	0.60
1148	24.0	130	432	1778	18.0	40.0	0.20	2.2	276	200	2.2	5.9	7.8	2.3	90.0	7.8	2.1	23.1	57.0	16.7	1.3	0.50
1149	28.0	196	436	1478	20.0	32.0	0.20	2.0	276	202	2.6	5.8	7.8	1.8	80.0	7.2	3.5	25.2	51.3	19.4	1.4	0.60
1150	6.0	194	416	1238	8.0	50.0	0.20	1.0	282	238	1.2	5.3	7.7	2.2	88.0	7.4	3.4	23.4	41.8	31.1	2.3	0.20
1151	14.0	84.0	182	1398	14.0	24.0	0.40	1.2	342	238	1.6	5.5	7.8	1.9	82.0	5.9	1.8	12.9	59.2	25.4	1.5	0.50
1152	22.0	124	194	1190	12.0	26.0	0.40	1.4	352	360	1.6	5.6	7.8	1.7	78.0	5.2	3.1	15.5	57.2	23.1	1.2	0.50
1153	54.0	92.0	90.0	468	10.0	18.0	0.20	0.60	208	144	1.0	6.3	7.9	1.2	68.0	1.9	6.2	19.7	61.6	10.5	0.20	1.1
1154	54.0	186	204	1226	34.0	42.0	0.60	4.2	748	340	4.2	5.4	7.8	2.7	98.0	5.9	4.0	14.4	51.9	28.8	1.7	1.3

HFC CO-OP

Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

04/16/18 01:06 PM

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1155	66.0	172	194	1384	30.0	52.0	0.60	3.2	662	298	5.0	5.4	7.8	2.4	92.0	6.4	3.4	12.6	54.1	28.1	1.8	1.0
1156	38.0	196	288	1160	42.0	36.0	0.60	2.8	696	592	3.8	5.7	7.8	2.4	92.0	5.6	4.5	21.4	51.8	21.4	1.2	1.6
1157	32.0	156	268	1584	50.0	54.0	0.60	2.8	556	632	4.2	5.7	7.8	2.4	92.0	6.8	2.9	16.4	58.2	20.6	1.4	1.6
1158	54.0	200	148	1224	4.0	14.0	0.60	1.2	390	296	2.2	6.7	7.9	1.4	72.0	4.1	6.3	15.0	74.6	4.9	0.20	0.20
1159	28.0	108	136	766	8.0	24.0	0.40	1.4	438	262	1.6	6.1	7.9	1.2	68.0	3.0	4.6	18.9	63.8	13.3	0.40	0.60
1160	16.0	126	244	1038	18.0	28.0	0.40	1.6	326	478	1.6	5.3	7.8	2.2	88.0	5.5	2.9	18.5	47.2	30.9	1.7	0.70
1161	20.0	140	300	1740	14.0	70.0	0.40	1.6	374	248	2.4	5.3	7.7	2.9	102	8.4	2.1	14.9	51.8	31.0	2.6	0.40
1162	50.0	192	244	1924	26.0	34.0	0.60	2.4	574	226	4.8	6.1	7.8	2.5	94.0	7.1	3.5	14.3	67.7	14.1	1.0	0.80
1163	20.0	104	234	1108	36.0	42.0	0.40	2.0	408	432	2.8	5.5	7.8	1.8	80.0	5.4	2.5	18.1	51.3	25.9	1.4	1.4
1164	24.0	78.0	86.0	728	22.0	24.0	0.20	0.80	340	382	1.4	5.5	7.8	0.60	55.0	3.1	3.2	11.6	58.7	25.8	0.80	1.5
1165	34.0	128	252	1170	50.0	56.0	0.40	2.0	360	484	2.2	5.4	7.8	1.6	76.0	5.9	2.8	17.8	49.6	28.8	1.7	1.8
1166	32.0	142	224	1348	32.0	66.0	0.40	2.4	460	372	3.6	5.2	7.7	2.2	88.0	7.0	2.6	13.3	48.1	34.3	2.4	1.0
1167	34.0	178	296	1220	36.0	82.0	0.40	2.6	468	738	3.4	4.9	7.6	2.6	96.0	8.2	2.8	15.0	37.2	43.9	3.6	1.0
1168	26.0	116	208	1170	22.0	38.0	0.40	2.0	366	402	3.4	5.1	7.7	2.4	92.0	6.4	2.3	13.5	45.7	37.5	2.4	0.70
1169	18.0	86.0	324	1448	28.0	44.0	0.40	3.0	392	412	3.4	4.9	7.5	2.2	88.0	9.1	1.2	14.8	39.8	44.0	4.0	0.70
1170	20.0	110	288	1058	30.0	46.0	0.40	2.4	400	538	3.2	5.4	7.8	2.2	88.0	5.7	2.5	21.1	46.4	28.1	1.6	1.1
1171	34.0	124	250	918	40.0	56.0	0.40	2.4	508	494	3.8	5.1	7.7	2.6	96.0	5.8	2.7	18.0	39.6	37.9	2.2	1.5
1172	40.0	262	378	1578	50.0	46.0	0.60	3.4	698	652	4.4	5.7	7.8	2.8	100	7.6	4.4	20.7	51.9	21.1	1.6	1.4
1173	18.0	174	366	1136	44.0	74.0	0.40	2.6	442	464	4.2	4.9	7.6	2.6	96.0	8.4	2.7	18.2	33.8	44.0	3.7	1.1
1174	24.0	86.0	84.0	770	10.0	28.0	0.20	1.4	292	292	3.8	5.5	7.8	1.3	70.0	3.2	3.4	10.9	60.2	25.0	0.80	0.70
1175	22.0	86.0	148	846	26.0	24.0	0.20	1.0	246	322	1.2	5.7	7.8	1.2	68.0	3.7	3.0	16.7	57.2	21.6	0.80	1.5
1176	24.0	112	104	624	36.0	34.0	0.40	1.2	558	302	2.0	5.3	7.8	1.6	76.0	3.2	4.5	13.5	48.8	31.3	1.0	2.4
1177	26.0	118	252	1188	38.0	50.0	0.40	2.2	578	370	3.0	5.4	7.8	2.1	86.0	6.0	2.5	17.5	49.5	28.3	1.7	1.4
1178	28.0	100	192	1330	24.0	42.0	0.40	2.2	512	488	5.2	5.9	7.8	1.1	66.0	5.2	2.5	15.4	63.9	17.3	0.90	1.0

INCOMPASS AG TECHNOLOGY

Master Soil Book

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	Red Barn 140	Red Barn 140	37.56 acres	36.265045, -88.513134

	Min	Max	Avg
P	8.0 L	54.0 M	27.1 L
K	28.0 VL	356 O	94.6 VL
Mg	108 L	848 VH	270 M
Ca	1058	2674	1826
Na	14.0	56.0	34.7
S	10.0 L	88.0 VH	36.7 M
B	0.20 VL	0.80 M	0.49 L
Cu	1.2 L	3.4 M	2.2 M
Fe	302 O	776 VH	504 VH
Mn	124 M	610 VH	373 O
Zn	1.4 L	3.6 M	2.1 L
pH	5.3	7.4	6.3
bpH	7.5	7.9	7.8
OM	1.6 VL	2.7 L	2.2 L
ENR	76.0	98.0	87.3
CEC	3.9	13.6	6.8
%K	0.70	3.8	1.5
%Mg	7.9	26.0	14.5
%Ca	41.5 L	90.7 VH	71.7 O
%H	0.00	31.3	11.0
HMeq	0.00	3.9	0.92
%Na	0.40 VL	2.6 L	1.3 VL

Sample Date: 2017-03-23 Soil Lab: Waypoint Analytical Tennessee

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1179	18.0	34.0	112	1198	28.0	30.0	0.40	1.4	380	590	1.6	6.5	7.9	2.0	84.0	3.9	1.1	12.0	76.8	7.7	0.30	1.6
1180	16.0	38.0	140	1322	36.0	38.0	0.20	1.4	418	610	1.4	5.9	7.8	2.0	84.0	4.8	1.0	12.2	68.9	16.7	0.80	1.6
1181	28.0	36.0	108	1058	46.0	42.0	0.40	1.2	528	270	1.6	5.9	7.9	2.0	84.0	3.9	1.2	11.5	67.8	17.9	0.70	2.6
1182	8.0	52.0	168	1474	54.0	50.0	0.40	1.4	442	572	1.4	5.6	7.8	2.1	86.0	6.0	1.1	11.7	61.4	23.3	1.4	2.0
1183	54.0	68.0	208	2124	48.0	26.0	0.80	3.0	694	430	2.4	6.4	7.9	2.3	90.0	7.0	1.2	12.4	75.9	8.6	0.60	1.5
1184	36.0	42.0	154	1598	28.0	20.0	0.40	2.2	528	350	2.4	6.8	7.9	1.8	80.0	4.9	1.1	13.1	81.5	2.0	0.10	1.2
1185	18.0	50.0	164	1730	14.0	26.0	0.40	1.8	406	306	2.0	7.4	7.9	2.5	94.0	5.1	1.3	13.4	84.8	0.00	0.00	0.60
1186	44.0	46.0	196	1816	36.0	20.0	0.60	3.4	502	314	3.6	7.1	7.9	2.7	98.0	5.5	1.1	14.8	82.5	0.00	0.00	1.4
1187	14.0	48.0	166	1666	34.0	18.0	0.60	2.6	612	366	2.2	6.5	7.9	1.6	76.0	5.4	1.1	12.8	77.1	7.4	0.40	1.4
1188	26.0	28.0	116	1802	40.0	10.0	0.60	2.2	642	380	1.6	7.0	7.9	2.2	88.0	5.1	0.70	9.5	88.3	0.00	0.00	1.7
1189	54.0	78.0	188	2674	56.0	20.0	0.80	2.8	776	418	2.6	6.9	7.9	2.1	86.0	7.8	1.3	10.0	85.7	1.3	0.10	1.6
1190	22.0	54.0	172	1798	40.0	24.0	0.40	3.0	558	472	2.6	6.5	7.9	2.1	86.0	5.8	1.2	12.4	77.5	6.9	0.40	1.5
1191	44.0	56.0	114	1638	36.0	26.0	0.40	3.0	534	552	2.4	6.2	7.9	1.9	82.0	5.3	1.4	9.0	77.3	11.3	0.60	1.5
1192	34.0	62.0	116	2212	24.0	30.0	0.60	2.6	650	386	2.2	7.0	7.9	2.1	86.0	6.1	1.3	7.9	90.7	0.00	0.00	0.90

HFC CO-OP

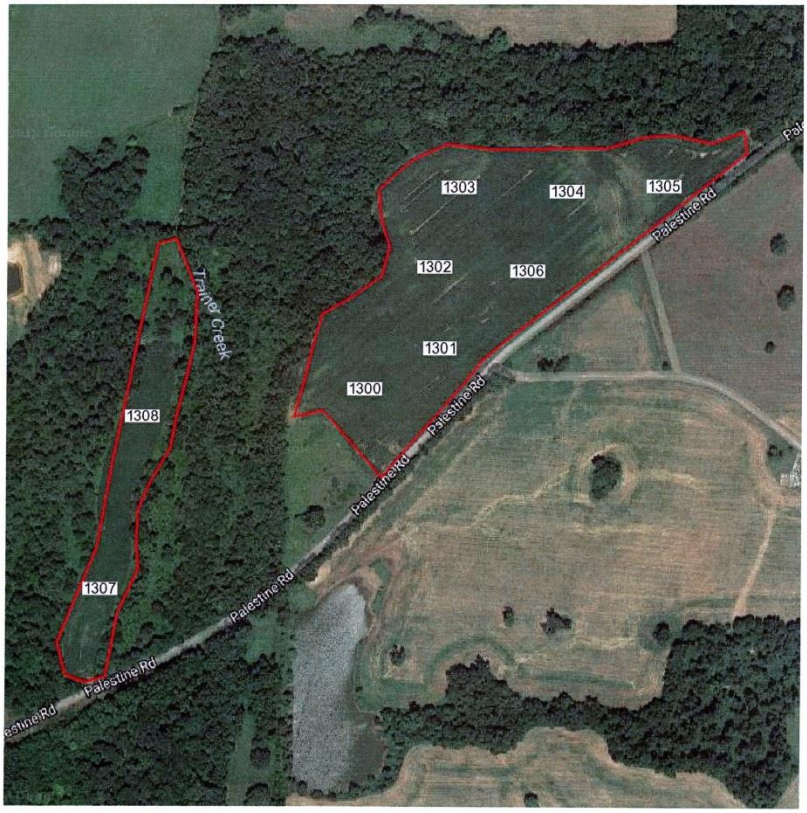
Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

04/16/18 01:06 PM

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1193	28.0	356	848	2260	22.0	80.0	0.40	1.8	302	124	1.4	5.4	7.5	2.3	90.0	13.6	3.4	26.0	41.5	28.7	3.9	0.40
1194	8.0	118	688	1938	32.0	54.0	0.60	2.0	380	136	1.4	5.3	7.6	2.3	90.0	11.5	1.3	24.9	42.1	31.3	3.6	0.60
1195	14.0	254	700	2202	24.0	88.0	0.40	2.2	408	164	2.2	5.6	7.7	2.6	96.0	11.5	2.8	25.4	47.9	23.5	2.7	0.50
1196	22.0	282	494	2356	26.0	58.0	0.40	2.0	304	266	2.8	6.3	7.8	2.4	92.0	9.4	3.8	21.9	62.7	10.6	1.0	0.60

Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	Ray Ray	Ray Ray	20.42 acres	36.254806, -88.412896



	Min	Max	Avg
P	18.0 L	76.0 O	48.0 M
K	122 L	398 VH	230 M
Mg	144 M	464 VH	301 O
Ca	750	3068	2065
Na	32.0	64.0	44.9
S	24.0 M	50.0 O	36.4 M
B	0.20 VL	0.60 L	0.47 L
Cu	2.4 M	6.0 O	4.2 M
Fe	222 O	366 O	292 O
Mn	106 M	554 VH	228 M
Zn	3.0 L	12.4 O	6.4 O
pH	5.0	6.4	5.7
bpH	7.6	7.8	7.7
OM	1.9 VL	3.0 L	2.5 L
ENR	82.0	104	93.3
CEC	3.7	12.0	8.7
%K	2.0	6.4	3.6
%Mg	12.1	17.6	14.4
%Ca	41.3 L	74.4 O	58.8 M
%H	8.6	41.3	22.1
HMeq	0.80	3.1	1.9
%Na	0.80 VL	3.3 L	1.3 VL

Sample Date: 2017-04-08 Soil Lab: Waypoint Analytical Tennessee

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1300	40.0	284	250	2256	32.0	30.0	0.60	4.6	238	188	12.4	6.0	7.8	2.5	94.0	8.4	4.3	12.4	67.1	15.5	1.3	0.80
1301	18.0	172	464	2252	40.0	50.0	0.40	2.4	350	154	3.0	5.4	7.6	2.4	92.0	11.0	2.0	17.6	51.2	28.2	3.1	0.80
1302	76.0	304	236	2252	64.0	40.0	0.60	5.6	366	554	7.0	6.2	7.8	2.4	92.0	8.1	4.8	12.1	69.5	12.3	1.0	1.7
1303	72.0	398	414	3068	44.0	44.0	0.60	5.4	270	106	7.4	5.9	7.7	3.0	104	12.0	4.3	14.4	63.9	16.7	2.0	0.80
1304	22.0	154	292	2060	44.0	50.0	0.40	2.6	256	288	3.0	5.6	7.7	2.3	90.0	8.7	2.3	14.0	59.2	23.0	2.0	1.1
1305	52.0	210	410	2142	50.0	26.0	0.40	3.6	260	128	4.8	5.4	7.6	1.9	82.0	10.4	2.6	16.4	51.5	28.8	3.0	1.0
1306	48.0	238	290	2766	42.0	34.0	0.60	6.0	222	226	7.2	6.4	7.8	2.7	98.0	9.3	3.3	13.0	74.4	8.6	0.80	1.0
1307	76.0	186	144	750	56.0	24.0	0.40	4.2	364	158	8.0	5.6	7.8	2.4	92.0	3.7	6.4	16.2	50.7	24.3	0.90	3.3
1308	28.0	122	208	1040	32.0	30.0	0.20	3.6	302	254	5.2	5.0	7.7	2.6	96.0	6.3	2.5	13.8	41.3	41.3	2.6	1.1

Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

04/16/18 01:06 PM

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	Phelcher	Phelcher	23.08 acres	36.247327, -88.499981

	Min	Max	Avg
P	2.0 VL	6.0 VL	3.8 VL
K	54.0 VL	126 VL	102 VL
Mg	196 M	876 VH	500 VH
Ca	1880	2872	2211
Na	34.0	118	60.9
S	12.0 L	56.0 O	25.3 M
B	0.20 VL	0.40 L	0.27 L
Cu	1.0 L	1.6 L	1.2 L
Fe	252 O	332 O	283 O
Mn	70.0 M	634 VH	213 M
Zn	1.0 VL	1.4 L	1.2 L
pH	5.4	6.5	6.0
bpH	7.7	7.9	7.8
OM	1.9 VL	3.0 L	2.4 L
ENR	82.0	104	92.2
CEC	6.8	11.4	9.4
%K	1.0	1.6	1.4
%Mg	12.0	32.0	21.4
%Ca	47.3 L	77.0 O	59.4 M
%H	7.4	28.9	16.4
HMeq	0.50	2.8	1.6
%Na	0.90 VL	2.3 L	1.4 VL

Sample Date: 2017-03-31 Soil Lab: Waypoint Analytical Tennessee

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1248	4.0	106	876	2308	118	16.0	0.20	1.4	284	102	1.4	6.1	7.8	1.9	82.0	11.4	1.2	32.0	50.6	14.0	1.6	2.3
1249	6.0	54.0	196	2094	62.0	16.0	0.20	1.0	274	634	1.4	6.5	7.9	2.2	88.0	6.8	1.0	12.0	77.0	7.4	0.50	2.0
1250	2.0	124	544	2872	48.0	22.0	0.40	1.4	256	246	1.2	6.5	7.8	2.4	92.0	10.5	1.5	21.6	68.4	7.6	0.80	1.0
1251	4.0	126	544	2392	56.0	30.0	0.40	1.2	276	128	1.2	5.9	7.8	2.6	96.0	10.2	1.6	22.2	58.6	16.7	1.7	1.2
1252	4.0	94.0	372	2238	34.0	14.0	0.20	1.2	312	284	1.4	6.0	7.8	3.0	104	8.6	1.4	18.0	65.1	15.1	1.3	0.90
1253	6.0	86.0	378	2148	38.0	12.0	0.20	1.6	332	232	1.4	6.0	7.8	2.6	96.0	8.4	1.3	18.8	63.9	15.5	1.3	1.0
1254	4.0	114	582	1950	70.0	46.0	0.20	1.2	252	134	1.0	5.5	7.7	2.4	92.0	10.3	1.4	23.5	47.3	26.2	2.7	1.5
1255	2.0	118	452	1880	76.0	56.0	0.20	1.0	264	70.0	1.0	5.4	7.7	2.1	86.0	9.7	1.6	19.4	48.5	28.9	2.8	1.7
1256	2.0	94.0	558	2020	46.0	16.0	0.40	1.2	294	90.0	1.2	5.9	7.8	2.5	94.0	9.1	1.3	25.5	55.5	16.5	1.5	1.1

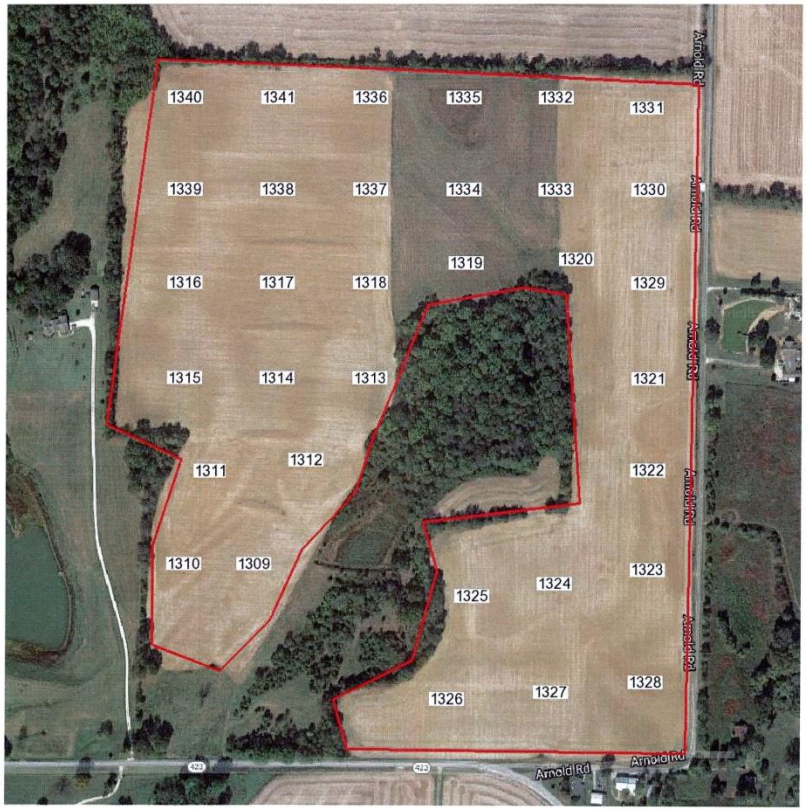
Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

04/16/18 01:06 PM

INCOMPASS AG TECHNOLOGY

Master Soil Book

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	Mckenzie	Mckenzie	84.67 acres	36.127223, -88.47155



	Min	Max	Avg
P	10.0 L	202 VH	66.2 O
K	162 M	480 VH	294 O
Mg	100 L	560 VH	211 M
Ca	1184	3150	1935
Na	14.0	74.0	35.6
S	20.0 L	60.0 O	37.9 M
B	0.40 L	0.80 M	0.61 M
Cu	1.2 L	5.8 M	2.7 M
Fe	166 M	328 O	231 O
Mn	126 M	512 VH	273 M
Zn	1.6 L	19.6 VH	4.4 M
pH	5.4	6.4	5.9
bpH	7.7	7.9	7.8
OM	1.9 VL	3.2 M	2.4 L
ENR	82.0	108	92.2
CEC	4.8	11.6	7.4
%K	3.2	10.6	5.3
%Mg	8.2	23.6	11.5
%Ca	49.3 L	75.2 O	65.4 M
%H	8.6	28.6	16.8
HMeq	0.50	2.5	1.2
%Na	0.50 VL	2.3 L	1.1 VL

Sample Date: 2017-04-08 Soil Lab: Waypoint Analytical Tennessee

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1309	52.0	232	144	1282	32.0	44.0	0.40	2.8	208	282	3.6	5.5	7.8	2.3	90.0	5.7	5.2	10.5	56.2	26.3	1.5	1.2
1310	22.0	228	220	1582	28.0	40.0	0.40	1.6	196	136	2.2	5.6	7.8	2.6	96.0	6.8	4.3	13.5	58.2	23.5	1.6	0.90
1311	12.0	214	422	1858	24.0	52.0	0.40	1.4	166	136	1.6	5.9	7.8	2.0	84.0	8.1	3.4	21.7	57.3	17.3	1.4	0.60
1312	20.0	280	236	1242	34.0	60.0	0.40	1.2	206	180	1.8	5.4	7.8	2.3	90.0	6.3	5.7	15.6	49.3	28.6	1.8	1.2
1313	36.0	246	202	1840	34.0	28.0	0.40	2.2	198	240	2.8	5.8	7.8	2.2	88.0	7.2	4.4	11.7	63.9	19.4	1.4	1.0
1314	84.0	432	180	2002	28.0	36.0	0.80	3.4	236	244	5.0	5.9	7.8	2.7	98.0	7.7	7.2	9.7	65.0	16.9	1.3	0.80
1315	132	480	138	1574	62.0	36.0	0.60	5.4	242	426	8.0	6.4	7.9	2.1	86.0	5.8	10.6	9.9	67.8	8.6	0.50	2.3
1316	40.0	308	204	2120	34.0	52.0	0.60	2.6	206	290	3.2	6.1	7.8	2.5	94.0	7.7	5.1	11.0	68.8	14.3	1.1	1.0
1317	22.0	288	208	2220	74.0	52.0	0.60	2.4	198	264	2.6	6.1	7.8	2.3	90.0	8.0	4.6	10.8	69.4	13.8	1.1	2.0
1318	108	444	166	1886	48.0	40.0	0.80	3.8	276	288	5.8	6.0	7.8	2.7	98.0	7.2	7.9	9.6	65.5	15.3	1.1	1.4
1319	28.0	162	154	1184	14.0	32.0	0.60	1.6	322	436	3.4	5.4	7.8	2.8	100	5.3	3.9	12.1	55.8	28.3	1.5	0.60
1320	88.0	390	274	2170	34.0	44.0	0.60	2.8	242	166	4.8	5.5	7.7	2.8	100	9.6	5.2	11.9	56.5	26.0	2.5	0.80
1321	74.0	310	204	2154	20.0	32.0	0.60	1.8	256	274	3.4	5.8	7.8	2.4	92.0	8.3	4.8	10.2	64.9	19.3	1.6	0.50
1322	202	390	146	2026	32.0	48.0	0.80	2.6	328	126	4.4	6.1	7.8	2.8	100	7.2	6.9	8.4	70.3	13.9	1.0	1.0

HFC CO-OP

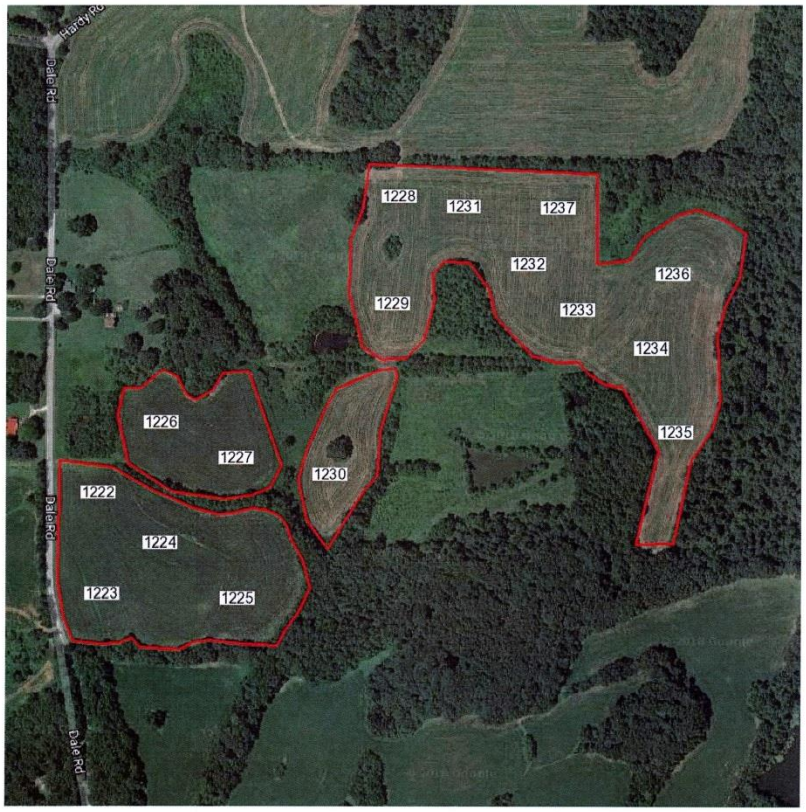
Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

04/16/18 01:06 PM

INCOMPASS AG TECHNOLOGY

Master Soil Book

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	McCurdy	McCurdy	34.58 acres	36.240398, -88.494501



	Min	Max	Avg
P	6.0 VL	28.0 L	13.6 L
K	104 VL	204 L	147 L
Mg	154 M	550 VH	344 M
Ca	2320	4348	3028
Na	18.0	50.0	34.8
S	10.0 L	48.0 O	20.0 L
B	0.40 L	1.0 M	0.65 M
Cu	1.4 L	5.6 M	2.6 M
Fe	198 M	350 O	262 O
Mn	78.0 M	492 O	260 M
Zn	2.4 L	6.6 O	3.8 M
pH	5.6	7.2	6.5
bpH	7.6	7.9	7.8
OM	1.9 VL	3.4 M	2.5 L
ENR	82.0	112	93.7
CEC	7.0	13.7	10.1
%K	1.4	2.4	1.9
%Mg	9.2	21.8	14.0
%Ca	57.4 M	87.8 VH	75.3 O
%H	0.00	23.8	8.1
HMeq	0.00	3.0	0.84
%Na	0.40 VL	1.0 VL	0.75 VL

Sample Date: 2017-03-23 Soil Lab: Waypoint Analytical Tennessee

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1222	28.0	116	154	2458	26.0	16.0	1.0	2.4	298	466	5.8	7.0	7.9	2.2	88.0	7.0	2.1	9.2	87.8	0.00	0.00	0.80
1223	22.0	154	322	2840	38.0	22.0	0.80	3.2	302	236	4.4	6.2	7.8	2.8	100	9.9	2.0	13.6	71.7	12.1	1.2	0.80
1224	18.0	166	236	2918	18.0	12.0	0.80	2.6	256	372	6.6	6.8	7.9	2.6	96.0	8.8	2.4	11.2	82.9	3.4	0.30	0.40
1225	8.0	116	290	3016	24.0	10.0	0.60	2.8	226	158	2.6	6.8	7.9	2.3	90.0	9.2	1.6	13.1	82.0	3.3	0.30	0.60
1226	14.0	160	382	4348	40.0	14.0	1.0	3.6	330	222	4.6	7.1	7.9	3.4	112	12.9	1.6	12.3	84.3	0.80	0.10	0.70
1227	20.0	190	466	4306	50.0	20.0	0.80	5.6	262	162	5.0	6.7	7.9	2.8	100	13.7	1.8	14.2	78.6	4.4	0.60	0.80
1228	8.0	118	324	3202	42.0	14.0	0.80	2.8	350	308	3.2	7.2	7.9	2.7	98.0	9.6	1.6	14.1	83.4	0.00	0.00	1.0
1229	6.0	190	550	3040	38.0	14.0	0.60	1.6	228	142	2.4	6.8	7.9	2.8	100	10.5	2.3	21.8	72.4	2.9	0.30	0.80
1230	12.0	130	370	2890	46.0	24.0	0.40	2.4	198	92.0	2.8	6.6	7.9	1.9	82.0	9.6	1.7	16.1	75.3	6.3	0.60	1.0
1231	12.0	104	246	2508	26.0	12.0	0.60	2.2	260	492	2.8	6.6	7.9	2.2	88.0	8.0	1.7	12.8	78.4	6.3	0.50	0.70
1232	8.0	154	278	2486	32.0	24.0	0.40	1.4	250	362	2.6	6.0	7.8	2.1	86.0	8.9	2.2	13.0	69.8	14.6	1.3	0.80
1233	12.0	114	352	3290	32.0	12.0	0.60	2.4	220	276	2.6	6.7	7.9	2.0	84.0	10.4	1.4	14.1	79.1	4.8	0.50	0.70
1234	6.0	136	434	2916	40.0	48.0	0.40	2.0	278	180	3.0	6.0	7.8	2.3	90.0	11.1	1.6	16.3	65.7	15.3	1.7	0.80
1235	24.0	174	384	2320	40.0	34.0	0.60	2.4	264	78.0	4.6	5.6	7.7	2.7	98.0	10.1	2.2	15.8	57.4	23.8	2.4	0.90

HFC CO-OP

Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

04/16/18 01:06 PM

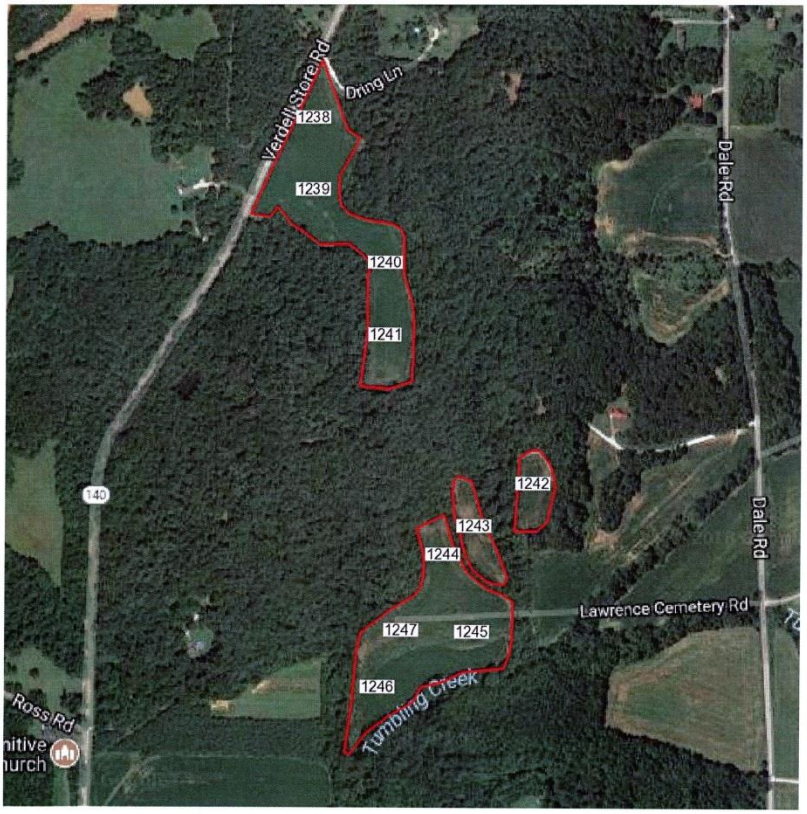
ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1236	10.0	204	480	2934	32.0	28.0	0.60	2.4	248	182	5.2	5.6	7.6	2.9	102	12.7	2.1	15.7	57.8	23.6	3.0	0.50
1237	10.0	132	242	2968	32.0	16.0	0.40	1.8	230	428	2.6	6.5	7.9	2.1	86.0	9.4	1.8	10.7	78.9	7.4	0.70	0.70

Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

INCOMPASS AG TECHNOLOGY

Master Soil Book

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	Lawerence Cemetery	Lawerence Cemetery	19.11 acres	36.235898, -88.503492



	Min	Max	Avg
P	6.0 VL	40.0 M	20.8 L
K	30.0 VL	216 L	128 L
Mg	66.0 L	570 VH	268 M
Ca	1058	3208	2092
Na	12.0	28.0	22.6
S	10.0 L	40.0 M	21.2 M
B	0.20 VL	0.40 L	0.38 L
Cu	0.60 VL	2.4 M	1.6 L
Fe	206 O	362 O	263 O
Mn	108 M	560 VH	266 M
Zn	1.8 L	6.8 O	4.2 M
pH	5.4	6.9	6.1
bpH	7.7	7.9	7.8
OM	1.6 VL	2.5 L	2.1 L
ENR	76.0	94.0	86.2
CEC	3.9	11.4	7.7
%K	0.80	3.0	2.0
%Mg	6.0	21.4	13.0
%Ca	54.6 M	89.1 VH	69.0 M
%H	2.2	28.0	15.1
HMeq	0.10	2.3	1.1
%Na	0.50 VL	1.0 VL	0.68 VL

Sample Date: 2017-03-23 Soil Lab: Waypoint Analytical Tennessee

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1238	12.0	216	424	2742	28.0	26.0	0.40	2.4	252	144	3.4	6.2	7.8	2.5	94.0	10.2	2.7	17.3	67.2	11.8	1.2	0.60
1239	18.0	184	294	2540	28.0	18.0	0.40	2.0	268	332	5.2	6.3	7.8	2.2	88.0	8.8	2.7	13.9	72.2	10.2	0.90	0.70
1240	24.0	162	374	3208	26.0	28.0	0.40	2.4	238	154	5.0	6.1	7.8	2.5	94.0	11.4	1.8	13.7	70.4	14.0	1.6	0.50
1241	12.0	204	340	1922	26.0	32.0	0.40	1.6	260	246	3.6	5.5	7.7	2.1	86.0	8.8	3.0	16.1	54.6	26.1	2.3	0.60
1242	6.0	182	570	2976	24.0	10.0	0.40	1.6	220	108	1.8	6.4	7.8	2.2	88.0	11.1	2.1	21.4	67.0	9.0	1.0	0.50
1243	14.0	120	318	1776	22.0	40.0	0.20	0.60	206	152	2.0	5.6	7.8	2.0	84.0	7.8	2.0	17.0	56.9	23.1	1.8	0.60
1244	40.0	88.0	110	1176	24.0	26.0	0.40	1.0	290	340	6.8	5.4	7.8	1.6	76.0	5.0	2.3	9.2	58.8	28.0	1.4	1.0
1245	16.0	46.0	112	1886	18.0	10.0	0.40	1.6	230	560	3.8	6.7	7.9	2.3	90.0	5.5	1.1	8.5	85.7	3.6	0.20	0.70
1246	34.0	50.0	68.0	1058	12.0	10.0	0.40	1.2	306	214	5.2	5.6	7.8	1.7	78.0	3.9	1.6	7.3	67.8	23.1	0.90	0.70
1247	32.0	30.0	66.0	1640	18.0	12.0	0.40	1.6	362	408	5.0	6.9	7.9	2.0	84.0	4.6	0.80	6.0	89.1	2.2	0.10	0.90

HFC

Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

04/16/18 01:06 PM

INCOMPASS AG TECHNOLOGY

Master Soil Book

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	House	Tyson Rd	29.81 acres	36.259178, -88.434428

	Min	Max	Avg
P	34.0 M	134 VH	70.2 O
K	132 L	378 VH	197 M
Mg	98.0 L	234 M	181 M
Ca	1198	2926	2049
Na	20.0	48.0	28.7
S	6.0 VL	24.0 M	14.2 L
B	0.20 VL	0.60 L	0.47 L
Cu	2.4 M	6.2 O	4.0 M
Fe	190 M	258 O	226 O
Mn	284 M	556 VH	394 O
Zn	3.2 M	9.8 O	5.9 M
pH	5.2	6.3	5.8
bpH	7.7	7.9	7.8
OM	2.2 L	2.8 L	2.6 L
ENR	88.0	100	95.8
CEC	4.9	10.1	7.7
%K	2.3	5.4	3.3
%Mg	7.4	11.9	9.8
%Ca	54.5 M	75.6 O	66.7 M
%H	10.2	34.5	19.4
HMeq	0.50	2.2	1.5
%Na	0.60 VL	1.4 VL	0.84 VL

Sample Date: 2017-04-10 Soil Lab: Waypoint Analytical Tennessee

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1438	40.0	148	122	1482	20.0	12.0	0.40	3.6	242	556	4.4	6.3	7.9	2.7	98.0	4.9	3.9	10.4	75.6	10.2	0.50	0.90
1439	58.0	186	206	1846	26.0	22.0	0.40	3.4	214	380	4.8	5.8	7.8	2.7	98.0	7.2	3.3	11.9	64.1	19.4	1.4	0.80
1440	52.0	142	144	1798	20.0	10.0	0.40	3.4	200	326	5.0	5.6	7.8	2.2	88.0	6.9	2.6	8.7	65.1	23.2	1.6	0.60
1441	104	138	98.0	1198	30.0	24.0	0.20	4.2	258	410	6.6	5.2	7.7	2.2	88.0	5.5	3.2	7.4	54.5	34.5	1.9	1.2
1442	72.0	190	224	2334	24.0	10.0	0.40	5.4	242	344	7.6	5.6	7.7	2.6	96.0	9.3	2.6	10.0	62.7	23.7	2.2	0.60
1443	134	270	216	1812	36.0	8.0	0.40	6.2	240	418	9.8	5.5	7.7	2.6	96.0	8.0	4.3	11.3	56.6	26.3	2.1	1.0
1444	38.0	186	234	2926	28.0	10.0	0.60	3.4	244	320	4.0	6.0	7.8	2.8	100	10.1	2.4	9.7	72.4	14.9	1.5	0.60
1445	50.0	206	186	2452	22.0	18.0	0.60	4.0	192	384	5.8	6.0	7.8	2.6	96.0	8.5	3.1	9.1	72.1	15.3	1.3	0.60
1446	38.0	220	182	2420	22.0	16.0	0.60	3.4	190	426	5.0	6.2	7.8	2.8	100	8.1	3.5	9.4	74.7	12.3	1.0	0.60
1447	128	378	228	2174	44.0	6.0	0.60	4.4	250	380	6.4	5.7	7.7	2.6	96.0	8.9	5.4	10.7	61.1	21.3	1.9	1.1
1448	34.0	132	176	2048	24.0	10.0	0.40	2.4	204	284	3.2	5.9	7.8	2.8	100	7.3	2.3	10.0	70.1	16.4	1.2	0.70
1449	94.0	170	156	2100	48.0	24.0	0.60	4.8	242	504	7.8	6.0	7.8	2.5	94.0	7.3	3.0	8.9	71.9	15.1	1.1	1.4

HFC

Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

04/16/18 01:06 PM

INCOMPASS AG TECHNOLOGY

Master Soil Book

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	House	South of Shop	50.33 acres	36.25299, -88.433519

	Min	Max	Avg
P	8.0 L	76.0 O	23.3 L
K	92.0 L	304 M	213 M
Mg	122 M	410 O	247 M
Ca	1268	4006	2479
Na	8.0	24.0	15.9
S	2.0 VL	32.0 M	15.7 L
B	0.20 VL	0.60 L	0.44 L
Cu	1.6 L	6.6 O	3.2 M
Fe	148 M	240 O	185 M
Mn	100 M	534 VH	256 M
Zn	2.4 L	9.8 O	4.5 M
pH	5.7	7.0	6.4
bpH	7.8	7.9	7.9
OM	2.3 L	3.2 M	2.8 L
ENR	90.0	108	101
CEC	4.9	12.2	8.2
%K	1.6	5.6	3.5
%Mg	9.9	19.1	12.4
%Ca	64.7 M	84.2 VH	75.0 O
%H	0.80	20.4	8.6
HMeq	0.10	1.6	0.67
%Na	0.20 VL	0.80 VL	0.43 VL

Sample Date: 2017-04-11 Soil Lab: Waypoint Analytical Tennessee

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1465	76.0	274	164	1862	18.0	20.0	0.40	4.6	240	444	8.0	5.9	7.8	2.9	102	6.9	5.1	9.9	67.5	17.4	1.2	0.60
1466	26.0	234	172	1426	16.0	20.0	0.40	2.8	212	426	3.8	6.0	7.8	2.3	90.0	5.4	5.6	13.3	66.0	14.8	0.80	0.60
1467	46.0	204	254	2540	22.0	22.0	0.40	4.2	176	312	6.8	6.7	7.9	2.8	100	8.1	3.2	13.1	78.4	4.9	0.40	0.60
1468	44.0	212	232	2558	20.0	28.0	0.60	6.6	220	534	9.8	6.4	7.8	2.9	102	8.5	3.2	11.4	75.2	9.4	0.80	0.50
1469	16.0	126	188	1898	14.0	12.0	0.40	2.4	192	324	3.6	6.6	7.9	2.9	102	6.1	2.6	12.8	77.8	6.6	0.40	0.50
1470	12.0	92.0	188	2338	12.0	6.0	0.40	3.0	176	274	4.6	6.6	7.9	2.6	96.0	7.2	1.6	10.9	81.2	5.6	0.40	0.40
1471	20.0	196	282	3182	14.0	12.0	0.60	3.6	180	200	4.8	6.7	7.9	2.6	96.0	9.8	2.6	12.0	81.2	4.1	0.40	0.30
1472	20.0	304	238	2382	12.0	14.0	0.60	3.6	158	226	5.0	6.6	7.9	2.9	102	7.9	4.9	12.6	75.4	6.3	0.50	0.30
1473	10.0	268	336	2766	12.0	2.0	0.40	2.8	176	166	3.2	6.5	7.9	3.2	108	9.4	3.7	14.9	73.6	7.4	0.70	0.30
1474	18.0	210	280	3158	12.0	8.0	0.60	3.0	174	240	3.8	6.6	7.9	3.2	108	10.0	2.7	11.7	79.0	6.0	0.60	0.30
1475	32.0	204	256	2130	8.0	22.0	0.40	4.0	196	276	5.0	6.3	7.8	2.9	102	7.5	3.5	14.2	71.0	10.7	0.80	0.20
1476	34.0	172	140	1416	18.0	20.0	0.40	3.8	196	406	5.4	6.3	7.9	2.3	90.0	4.9	4.5	11.9	72.2	10.2	0.50	0.80
1477	26.0	150	122	1268	12.0	6.0	0.20	2.2	192	286	3.4	5.7	7.8	2.3	90.0	4.9	3.9	10.4	64.7	20.4	1.0	0.50
1478	14.0	220	410	3724	22.0	18.0	0.40	3.0	208	194	3.8	6.5	7.8	3.1	106	12.2	2.3	14.0	76.3	7.4	0.90	0.40

HFC

Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

04/16/18 01:06 PM

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1479	10.0	152	408	2328	22.0	32.0	0.20	1.6	170	100	2.8	6.2	7.8	2.4	92.0	8.9	2.2	19.1	65.4	12.4	1.1	0.50
1480	8.0	172	300	2890	14.0	18.0	0.40	2.0	150	144	2.4	6.5	7.9	2.8	100	9.4	2.3	13.3	76.9	7.4	0.70	0.30
1481	12.0	182	274	3032	24.0	18.0	0.60	3.0	148	140	4.0	6.4	7.8	3.0	104	9.9	2.4	11.5	76.6	9.1	0.90	0.50
1482	24.0	260	158	1932	10.0	14.0	0.40	2.6	178	290	3.8	6.7	7.9	2.6	96.0	6.1	5.5	10.8	79.2	4.9	0.30	0.40
1483	20.0	208	196	2526	8.0	6.0	0.40	2.4	156	156	3.6	6.7	7.9	3.0	104	7.7	3.5	10.6	82.0	3.9	0.30	0.20
1484	14.0	304	212	2460	16.0	8.0	0.40	2.4	178	244	3.2	6.6	7.9	3.0	104	8.0	4.9	11.0	76.9	6.3	0.50	0.40
1485	30.0	290	218	2622	16.0	18.0	0.60	3.8	214	210	6.2	6.6	7.9	3.2	108	8.4	4.4	10.8	78.0	6.0	0.50	0.40
1486	8.0	200	348	4006	24.0	16.0	0.60	2.4	166	118	3.0	7.0	7.9	2.9	102	11.9	2.2	12.2	84.2	0.80	0.10	0.40
1487	16.0	254	296	2584	20.0	22.0	0.40	3.0	208	170	4.0	5.9	7.8	3.2	108	9.7	3.4	12.7	66.6	16.5	1.6	0.40

INCOMPASS AG TECHNOLOGY

Master Soil Book

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	House	SouthEast of House	190.46 acres	36.25199, -88.426061

	Min	Max	Avg
P	12.0 L	160 VH	57.2 M
K	112 L	456 VH	250 M
Mg	76.0 L	484 VH	216 M
Ca	1308	4512	2398
Na	4.0	60.0	26.7
S	4.0 VL	44.0 O	19.2 L
B	0.20 VL	1.0 M	0.48 L
Cu	1.4 L	6.8 O	3.5 M
Fe	194 M	478 VH	248 O
Mn	76.0 M	640 VH	319 O
Zn	2.4 L	11.0 O	5.2 M
pH	5.2	6.8	6.1
bpH	7.5	7.9	7.8
OM	1.9 VL	3.9 M	2.7 L
ENR	82.0	122	97.5
CEC	4.6	14.1	8.5
%K	1.9	8.5	3.9
%Mg	5.7	19.1	10.3
%Ca	51.3 M	84.0 VH	70.7 O
%H	2.8	34.5	14.5
HMeq	0.20	3.9	1.3
%Na	0.10 VL	1.7 VL	0.73 VL

Sample Date: 2017-04-10 Soil Lab: Waypoint Analytical Tennessee

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1362	92.0	216	106	1666	26.0	24.0	0.80	3.2	284	508	4.8	6.3	7.9	2.3	90.0	5.5	5.0	8.0	75.7	10.9	0.60	1.0
1363	148	346	100	1400	28.0	14.0	0.60	3.8	342	596	6.0	6.0	7.8	2.7	98.0	5.2	8.5	8.0	67.3	15.4	0.80	1.2
1364	84.0	264	172	2074	42.0	26.0	0.60	5.0	226	432	7.4	6.5	7.9	2.7	98.0	6.8	5.0	10.5	76.3	7.4	0.50	1.3
1365	28.0	376	338	2706	16.0	28.0	0.60	4.0	214	190	5.2	5.9	7.8	3.3	110	10.5	4.6	13.4	64.4	17.1	1.8	0.30
1366	16.0	330	450	3676	26.0	32.0	0.40	2.6	198	98.0	3.0	6.6	7.9	3.4	112	12.2	3.5	15.4	75.3	5.7	0.70	0.50
1367	32.0	290	454	2274	22.0	28.0	0.40	3.2	208	106	4.2	5.8	7.7	3.1	106	9.9	3.8	19.1	57.4	19.2	1.9	0.50
1368	50.0	270	162	1766	22.0	26.0	0.60	3.2	250	352	4.8	6.2	7.9	2.4	92.0	6.2	5.6	10.9	71.2	11.3	0.70	0.80
1369	62.0	248	142	2090	28.0	30.0	0.60	4.2	248	494	7.2	6.6	7.9	2.4	92.0	6.6	4.8	9.0	79.2	6.1	0.40	0.90
1370	68.0	226	120	1498	22.0	22.0	0.60	2.2	260	442	3.8	6.2	7.9	2.5	94.0	5.2	5.6	9.6	72.0	11.5	0.60	0.90
1371	58.0	302	136	1790	28.0	28.0	0.40	3.4	230	480	4.8	6.4	7.9	2.5	94.0	6.0	6.5	9.4	74.6	8.3	0.50	1.0
1372	38.0	152	122	1988	28.0	36.0	0.40	3.2	320	628	4.8	6.5	7.9	2.2	88.0	6.2	3.1	8.2	80.2	8.1	0.50	1.0
1373	48.0	228	244	2376	28.0	34.0	0.40	4.0	226	292	4.8	5.7	7.7	2.6	96.0	9.2	3.2	11.1	64.6	20.7	1.9	0.70
1374	72.0	200	208	2540	28.0	24.0	0.40	4.8	208	318	6.6	5.9	7.8	2.6	96.0	9.0	2.8	9.6	70.6	16.7	1.5	0.70
1375	34.0	112	124	1692	28.0	22.0	0.20	2.6	208	326	2.6	6.2	7.9	2.5	94.0	5.7	2.5	9.1	74.2	12.3	0.70	1.1

HFC

Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

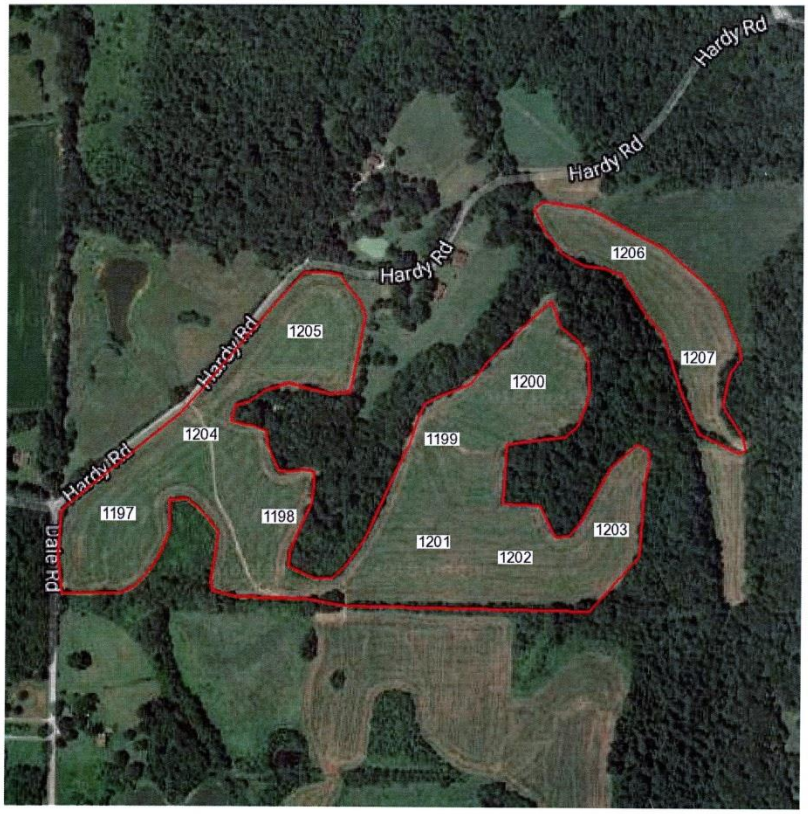
04/16/18 01:06 PM

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1419	28.0	148	208	2058	14.0	14.0	0.20	2.2	274	132	3.6	5.4	7.7	3.0	104	8.7	2.2	10.0	59.1	28.7	2.5	0.30
1420	14.0	242	356	3230	16.0	10.0	0.40	3.0	256	84.0	3.4	6.1	7.8	3.5	114	11.5	2.7	12.9	70.2	13.9	1.6	0.30
1421	32.0	186	206	1468	24.0	8.0	0.20	2.2	214	108	2.4	5.9	7.8	1.9	82.0	5.8	4.1	14.8	63.3	17.2	1.0	0.90
1422	18.0	172	280	3248	48.0	14.0	0.40	2.4	236	96.0	3.6	5.9	7.7	3.2	108	11.5	1.9	10.1	70.6	16.5	1.9	0.90
1423	16.0	180	212	2742	16.0	12.0	0.60	2.8	214	244	3.6	6.2	7.8	3.0	104	9.1	2.5	9.7	75.3	12.1	1.1	0.40
1424	18.0	184	228	1724	8.0	12.0	0.40	1.4	236	76.0	2.4	5.2	7.6	2.9	102	8.4	2.8	11.3	51.3	34.5	2.9	0.20
1425	44.0	208	150	1670	16.0	14.0	0.40	2.0	284	286	5.2	5.8	7.8	2.7	98.0	6.3	4.2	9.9	66.3	19.0	1.2	0.60
1426	32.0	200	298	2340	18.0	20.0	0.40	2.6	290	138	3.8	5.2	7.5	3.7	118	11.3	2.3	11.0	51.8	34.5	3.9	0.30
1427	14.0	176	262	3196	10.0	16.0	0.60	3.0	230	226	3.8	6.2	7.8	3.3	110	10.6	2.1	10.3	75.4	12.3	1.3	0.20
1428	12.0	224	332	4512	24.0	4.0	1.0	3.0	236	198	3.6	6.5	7.8	3.9	122	14.1	2.0	9.8	80.0	7.8	1.1	0.40
1429	22.0	220	222	3396	18.0	18.0	0.60	2.8	236	322	5.2	6.6	7.9	3.1	106	10.3	2.7	9.0	82.4	5.8	0.60	0.40
1430	30.0	304	242	3558	16.0	12.0	0.80	3.0	202	242	5.0	6.8	7.9	3.0	104	10.6	3.7	9.5	83.9	2.8	0.30	0.30
1431	22.0	294	210	2660	22.0	8.0	0.80	2.2	194	288	5.6	6.7	7.9	3.4	112	8.3	4.5	10.5	80.1	4.8	0.40	0.60
1432	24.0	330	484	2998	28.0	34.0	0.40	4.0	246	92.0	4.8	5.6	7.6	3.3	110	13.1	3.2	15.4	57.2	23.7	3.1	0.50
1433	36.0	206	152	1630	18.0	30.0	0.40	2.6	226	340	3.8	5.6	7.8	2.5	94.0	6.5	4.1	9.7	62.7	23.1	1.5	0.60
1434	16.0	234	398	2192	20.0	14.0	0.40	2.4	210	120	3.2	5.8	7.8	3.2	108	9.3	3.2	17.8	58.9	19.4	1.8	0.50
1435	46.0	294	268	4332	12.0	6.0	0.80	3.8	236	220	5.4	6.7	7.9	3.3	110	12.9	2.9	8.7	84.0	4.7	0.60	0.20
1436	12.0	272	438	2306	22.0	26.0	0.40	1.8	240	76.0	2.4	5.5	7.7	3.0	104	10.8	3.2	16.9	53.4	25.9	2.8	0.40
1437	22.0	456	364	4088	22.0	16.0	0.60	4.4	224	126	4.6	6.2	7.8	3.0	104	14.1	4.1	10.8	72.5	12.1	1.7	0.30

INCOMPASS AG TECHNOLOGY

Master Soil Book

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	Hardy Rd	Hardy Rd	43.04 acres	36.244311, -88.493502



	Min	Max	Avg
P	2.0 VL	30.0 M	10.7 L
K	46.0 VL	204 L	117 L
Mg	74.0 L	412 O	256 M
Ca	1296	2902	2084
Na	10.0	32.0	23.1
S	4.0 VL	38.0 M	23.8 M
B	0.20 VL	0.80 M	0.47 L
Cu	1.0 L	2.4 M	1.6 M
Fe	168 M	334 O	218 O
Mn	132 M	354 O	229 M
Zn	1.6 L	3.8 M	2.7 L
pH	5.8	6.7	6.2
bpH	7.7	7.9	7.8
OM	1.7 VL	3.0 L	2.3 L
ENR	78.0	104	90.4
CEC	4.0	10.7	7.4
%K	1.4	2.8	2.0
%Mg	7.7	19.0	13.6
%Ca	63.6 M	85.8 VH	71.5 O
%H	4.5	19.2	12.2
HMeq	0.20	1.9	0.95
%Na	0.50 VL	1.0 VL	0.69 VL

Sample Date: 2017-03-23 Soil Lab: Waypoint Analytical Tennessee

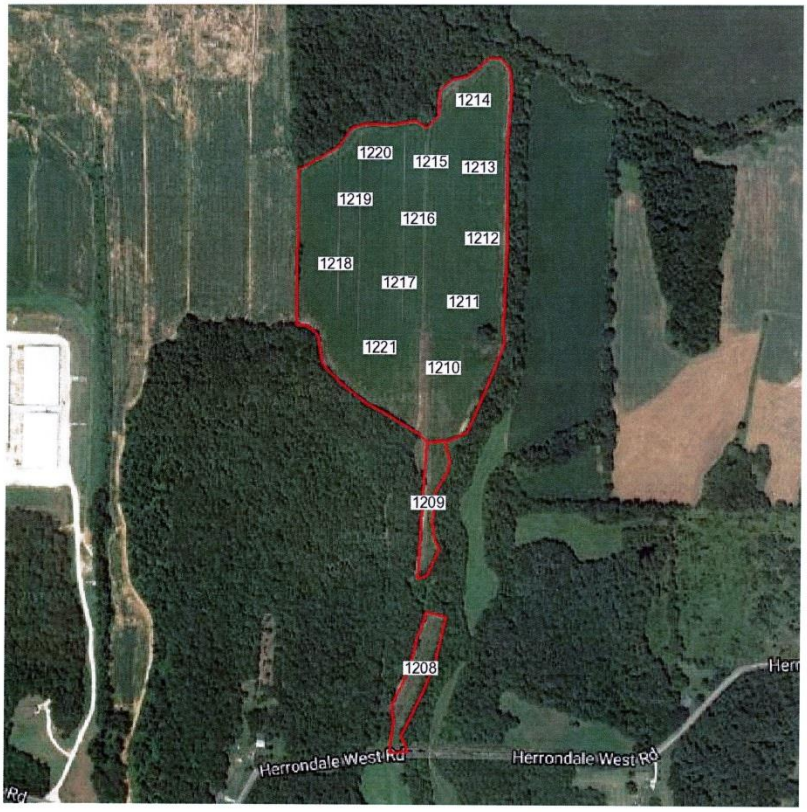
ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1197	6.0	66.0	142	1382	24.0	30.0	0.20	1.4	200	170	2.0	5.8	7.8	1.7	78.0	5.2	1.6	11.4	66.4	19.2	1.0	1.0
1198	4.0	126	352	1964	22.0	34.0	0.40	1.0	192	166	2.0	6.1	7.8	2.3	90.0	7.7	2.1	19.0	63.8	14.3	1.1	0.60
1199	14.0	204	358	2568	32.0	38.0	0.80	1.8	274	134	3.2	5.8	7.7	2.5	94.0	10.1	2.6	14.8	63.6	18.8	1.9	0.70
1200	2.0	156	268	2418	28.0	30.0	0.60	1.2	226	292	1.6	6.4	7.9	1.9	82.0	8.1	2.5	13.8	74.6	8.6	0.70	0.80
1201	12.0	130	356	2350	30.0	30.0	0.60	2.2	334	264	3.0	6.0	7.8	2.4	92.0	8.9	1.9	16.7	66.0	14.6	1.3	0.70
1202	6.0	156	412	2902	28.0	4.0	0.40	2.4	198	132	2.2	6.1	7.8	2.3	90.0	10.7	1.9	16.0	67.8	14.0	1.5	0.60
1203	6.0	150	218	1898	16.0	20.0	0.40	1.4	188	262	3.4	6.0	7.8	2.6	96.0	6.9	2.8	13.2	68.8	14.5	1.0	0.50
1204	4.0	102	308	2442	22.0	18.0	0.60	1.6	208	316	3.4	6.3	7.8	3.0	104	8.5	1.5	15.1	71.8	10.6	0.90	0.60
1205	8.0	102	242	2196	30.0	26.0	0.40	2.2	168	210	3.8	6.6	7.9	2.5	94.0	7.1	1.8	14.2	77.3	5.6	0.40	0.90
1206	26.0	48.0	86.0	1510	10.0	16.0	0.40	1.8	210	354	3.0	6.7	7.9	2.1	86.0	4.4	1.4	8.1	85.8	4.5	0.20	0.50
1207	30.0	46.0	74.0	1296	12.0	16.0	0.40	1.0	198	220	2.4	6.4	7.9	2.2	88.0	4.0	1.5	7.7	81.0	10.0	0.40	0.70

HFC CO-OP

Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

04/16/18 01:06 PM

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	Hodge	Hodge	36.3 acres	36.255094, -88.476476



	Min	Max	Avg
P	8.0 L	96.0 O	39.6 M
K	22.0 VL	94.0 VL	42.0 VL
Mg	34.0 L	120 M	68.1 L
Ca	864	1614	1130
Na	8.0	30.0	17.6
S	16.0 L	46.0 O	27.3 M
B	0.20 VL	0.60 L	0.39 L
Cu	0.80 L	1.8 M	1.2 L
Fe	196 M	634 VH	316 O
Mn	190 M	636 VH	394 O
Zn	1.0 VL	8.0 O	4.2 M
pH	5.6	6.9	6.2
bpH	7.8	7.9	7.9
OM	1.4 VL	2.3 L	1.8 VL
ENR	72.0	90.0	79.0
CEC	2.6	5.5	3.6
%K	0.60	3.1	1.5
%Mg	3.4	12.6	7.8
%Ca	62.8 M	89.0 VH	77.6 O
%H	2.2	23.6	12.1
HMeq	0.10	1.3	0.45
%Na	0.50 VL	2.0 VL	1.1 VL

Sample Date: 2017-03-23 Soil Lab: Waypoint Analytical Tennessee

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1208	30.0	94.0	118	980	24.0	36.0	0.40	1.2	270	370	1.6	5.7	7.8	1.9	82.0	3.9	3.1	12.6	62.8	20.5	0.80	1.3
1209	8.0	60.0	120	1434	14.0	26.0	0.20	0.80	196	190	1.0	5.6	7.8	1.7	78.0	5.5	1.4	9.1	65.2	23.6	1.3	0.60
1210	26.0	68.0	58.0	864	10.0	32.0	0.20	1.2	232	466	1.4	6.2	7.9	1.5	74.0	2.8	3.1	8.6	77.1	10.7	0.30	0.80
1211	26.0	32.0	34.0	1364	16.0	24.0	0.40	1.2	282	636	5.2	6.1	7.9	1.6	76.0	4.2	1.0	3.4	81.2	14.3	0.60	0.80
1212	96.0	22.0	88.0	1614	16.0	28.0	0.40	1.8	306	460	8.0	6.9	7.9	2.1	86.0	4.6	0.60	8.0	87.7	2.2	0.10	0.80
1213	86.0	36.0	80.0	1602	10.0	26.0	0.40	1.4	328	378	7.8	6.8	7.9	1.4	72.0	4.5	1.0	7.4	89.0	2.2	0.10	0.50
1214	42.0	30.0	54.0	900	10.0	16.0	0.40	0.80	244	258	5.4	6.7	7.9	1.5	74.0	2.6	1.5	8.7	86.5	3.8	0.10	0.80
1215	34.0	42.0	46.0	916	14.0	16.0	0.40	1.4	286	322	3.8	5.8	7.9	1.8	80.0	3.2	1.7	6.0	71.6	18.8	0.60	1.0
1216	44.0	34.0	62.0	946	30.0	32.0	0.40	1.6	290	422	4.4	5.8	7.9	2.3	90.0	3.3	1.3	7.8	71.7	18.2	0.60	2.0
1217	48.0	50.0	70.0	904	28.0	46.0	0.60	1.8	634	510	4.8	6.0	7.9	1.4	72.0	3.2	2.0	9.1	70.6	15.6	0.50	1.9
1218	18.0	34.0	74.0	1016	22.0	28.0	0.40	1.2	358	508	3.6	6.5	7.9	1.7	78.0	3.1	1.4	9.9	81.9	6.5	0.20	1.5
1219	22.0	34.0	52.0	956	20.0	26.0	0.40	1.0	310	306	3.0	6.2	7.9	1.6	76.0	3.1	1.4	7.0	77.1	12.9	0.40	1.4
1220	38.0	22.0	48.0	1268	24.0	22.0	0.40	1.0	376	244	3.2	6.3	7.9	2.1	86.0	3.9	0.70	5.1	81.3	10.3	0.40	1.3
1221	36.0	30.0	50.0	1060	8.0	24.0	0.40	1.0	312	446	6.0	6.3	7.9	1.9	82.0	3.2	1.2	6.5	82.8	9.4	0.30	0.50

Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

04/16/18 01:06 PM

INCOMPASS AG TECHNOLOGY

Master Soil Book

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	Fennell	Fennell	79.91 acres	36.285729, -88.138019

	Min	Max	Avg
P	6.0 VL	42.0 M	17.1 L
K	62.0 VL	244 M	146 L
Mg	118 M	354 VH	229 M
Ca	912	2778	1964
Na	16.0	48.0	30.6
S	14.0 L	66.0 O	35.2 M
B	0.20 VL	0.80 M	0.45 L
Cu	0.40 VL	2.8 M	1.4 L
Fe	124 M	486 VH	221 O
Mn	20.0 VL	642 VH	205 M
Zn	1.0 VL	3.6 M	2.0 L
pH	5.4	6.7	6.1
bpH	7.7	7.9	7.8
OM	2.2 L	3.3 M	2.6 L
ENR	88.0	110	96.5
CEC	4.0	9.4	7.1
%K	1.6	5.5	2.7
%Mg	7.8	18.1	13.4
%Ca	53.0 M	83.7 VH	69.3 M
%H	4.2	27.9	13.5
HMeq	0.30	2.0	0.96
%Na	0.50 VL	2.3 L	0.98 VL

Sample Date: 2017-04-08 Soil Lab: Waypoint Analytical Tennessee

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1269	20.0	160	264	2654	28.0	26.0	0.60	1.4	186	120	2.4	6.5	7.9	2.7	98.0	8.6	2.4	12.8	77.2	7.0	0.60	0.70
1270	28.0	198	298	2352	26.0	32.0	0.60	1.8	170	160	2.8	6.1	7.8	3.3	110	8.6	3.0	14.4	68.4	14.0	1.2	0.70
1271	8.0	164	278	1720	40.0	52.0	0.40	1.0	226	106	1.6	5.5	7.7	2.6	96.0	7.8	2.7	14.9	55.1	25.6	2.0	1.1
1272	10.0	112	176	2154	24.0	34.0	0.40	1.0	270	290	2.0	6.7	7.9	2.6	96.0	6.6	2.2	11.1	81.6	4.5	0.30	0.80
1273	8.0	88.0	208	1926	32.0	16.0	0.20	0.60	172	146	1.0	6.5	7.9	2.6	96.0	6.4	1.8	13.5	75.2	7.8	0.50	1.1
1274	6.0	114	316	2626	40.0	56.0	0.20	1.0	184	58.0	1.4	6.1	7.8	2.6	96.0	9.4	1.6	14.0	69.8	13.8	1.3	0.90
1275	8.0	114	276	2332	48.0	46.0	0.40	1.8	344	340	2.2	5.9	7.8	2.8	100	8.7	1.7	13.2	67.0	17.2	1.5	1.2
1276	6.0	122	170	1782	32.0	14.0	0.40	1.2	254	242	1.6	5.9	7.8	2.4	92.0	6.5	2.4	10.9	68.5	16.9	1.1	1.1
1277	14.0	116	262	2158	34.0	30.0	0.40	2.0	246	274	2.2	6.4	7.9	3.0	104	7.4	2.0	14.8	72.9	9.5	0.70	1.0
1279	20.0	92.0	156	1866	32.0	44.0	0.60	2.6	362	566	2.2	6.4	7.9	2.8	100	6.0	2.0	10.8	77.8	8.3	0.50	1.2
1280	14.0	78.0	118	2110	30.0	36.0	0.40	0.80	212	266	1.2	6.6	7.9	2.7	98.0	6.3	1.6	7.8	83.7	6.3	0.40	1.0
1281	8.0	62.0	122	1236	24.0	34.0	0.20	0.40	186	552	1.0	6.5	7.9	2.4	92.0	4.0	2.0	12.7	77.3	7.5	0.30	1.3
1282	16.0	90.0	130	1708	34.0	34.0	0.20	1.2	238	348	1.8	6.5	7.9	2.6	96.0	5.4	2.1	10.0	79.1	7.4	0.40	1.4
1283	8.0	128	260	2778	28.0	36.0	0.60	2.2	248	238	2.0	6.7	7.9	2.8	100	8.7	1.9	12.5	79.8	4.6	0.40	0.70

HFC CO-OP

Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

04/16/18 01:06 PM

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1284	16.0	164	270	1840	26.0	28.0	0.60	1.2	190	90.0	1.4	5.8	7.8	2.5	94.0	7.4	2.8	15.2	62.2	18.9	1.4	0.80
1285	26.0	154	268	1956	16.0	34.0	0.40	1.4	200	158	2.2	5.8	7.8	2.8	100	7.7	2.6	14.5	63.5	19.5	1.5	0.50
1286	28.0	158	218	2036	24.0	38.0	0.60	1.2	234	276	2.0	5.6	7.7	2.6	96.0	8.2	2.5	11.1	62.1	23.2	1.9	0.60
1348	20.0	196	184	1114	28.0	28.0	0.40	1.0	180	154	2.8	5.7	7.8	2.8	100	4.9	5.1	15.6	56.8	20.4	1.0	1.2
1349	22.0	202	140	1200	22.0	22.0	0.40	1.0	124	56.0	2.0	5.9	7.8	2.4	92.0	4.7	5.5	12.4	63.8	17.0	0.80	1.0
1350	16.0	156	180	1664	28.0	28.0	0.40	1.2	276	220	1.8	6.4	7.9	2.3	90.0	5.7	3.5	13.2	73.0	8.8	0.50	1.1
1351	20.0	132	286	1774	28.0	20.0	0.40	1.0	180	72.0	2.0	6.3	7.9	2.3	90.0	6.6	2.6	18.1	67.2	10.6	0.70	0.90
1352	16.0	152	314	1828	28.0	38.0	0.40	0.80	132	26.0	1.6	5.6	7.7	2.3	90.0	8.0	2.4	16.4	57.1	23.8	1.9	0.80
1353	20.0	196	354	2066	48.0	66.0	0.60	1.6	152	20.0	2.0	5.9	7.8	2.5	94.0	8.4	3.0	17.6	61.5	16.7	1.4	1.2
1354	36.0	118	144	912	46.0	44.0	0.40	2.8	486	122	3.2	5.4	7.8	2.2	88.0	4.3	3.5	14.0	53.0	27.9	1.2	2.3
1355	26.0	138	236	2410	30.0	46.0	0.40	1.6	260	44.0	2.4	6.1	7.8	2.5	94.0	8.5	2.1	11.6	70.9	14.1	1.2	0.80
1356	18.0	172	218	1774	16.0	30.0	0.40	1.4	196	84.0	2.2	5.8	7.8	2.6	96.0	6.9	3.2	13.2	64.3	18.8	1.3	0.50
1357	20.0	172	180	2296	26.0	28.0	0.60	1.0	150	136	2.0	6.7	7.9	2.5	94.0	7.1	3.1	10.6	80.8	4.2	0.30	0.80
1358	14.0	186	296	2136	30.0	38.0	0.60	1.4	164	86.0	2.0	6.1	7.8	2.6	96.0	8.0	3.0	15.4	66.8	13.8	1.1	0.80
1359	42.0	244	186	2206	34.0	22.0	0.80	2.2	260	642	3.6	6.7	7.9	3.0	104	7.0	4.5	11.1	78.8	4.3	0.30	1.1
1360	10.0	176	336	2016	36.0	66.0	0.40	1.4	156	186	1.8	6.0	7.8	2.6	96.0	7.9	2.9	17.7	63.8	15.2	1.2	1.0
1361	6.0	162	270	2266	32.0	26.0	0.60	1.2	210	276	1.8	6.2	7.8	3.0	104	8.1	2.6	13.9	69.9	12.3	1.0	0.90

Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

INCOMPASS AG TECHNOLOGY

Master Soil Book

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	Dale	Dale	28.51 acres	36.217784, -88.52699

	Min	Max	Avg
P	6.0 VL	38.0 M	21.7 L
K	78.0 VL	224 M	156 L
Mg	124 M	436 O	264 M
Ca	1808	3440	2543
Na	10.0	34.0	24.3
S	4.0 VL	30.0 M	16.3 L
B	0.40 L	0.80 M	0.58 L
Cu	1.0 L	2.4 M	1.9 M
Fe	208 O	334 O	252 O
Mn	122 M	524 VH	298 M
Zn	2.4 L	7.2 O	4.5 M
pH	6.0	7.1	6.6
bpH	7.8	7.9	7.9
OM	1.9 VL	2.6 L	2.3 L
ENR	82.0	96.0	89.5
CEC	5.8	11.0	8.2
%K	1.6	3.0	2.5
%Mg	8.3	19.2	12.9
%Ca	62.6 M	89.1 VH	78.4 O
%H	0.00	15.5	5.7
HMeq	0.00	1.3	0.48
%Na	0.40 VL	1.0 VL	0.67 VL

Sample Date: 2017-03-31 Soil Lab: Waypoint Analytical Tennessee

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1257	28.0	128	162	1808	26.0	8.0	0.60	1.8	246	406	5.2	6.5	7.9	2.1	86.0	5.8	2.8	11.6	77.9	6.9	0.40	1.0
1258	24.0	144	124	2196	10.0	10.0	0.80	1.6	242	524	7.2	7.0	7.9	2.1	86.0	6.2	3.0	8.3	88.5	0.00	0.00	0.40
1259	18.0	162	436	2554	30.0	24.0	0.60	2.2	334	274	4.4	6.2	7.8	2.5	94.0	9.7	2.1	18.7	65.8	12.4	1.2	0.70
1260	20.0	176	328	2798	30.0	22.0	0.60	1.4	312	268	4.0	6.4	7.8	2.5	94.0	9.6	2.4	14.2	72.9	9.4	0.90	0.70
1261	14.0	200	380	3422	34.0	20.0	0.60	2.4	252	208	3.0	6.7	7.9	2.4	92.0	11.0	2.3	14.4	77.8	4.5	0.50	0.70
1262	38.0	182	204	2598	22.0	6.0	0.60	2.4	248	312	4.4	6.7	7.9	2.0	84.0	8.0	2.9	10.6	81.2	5.0	0.40	0.60
1263	16.0	142	388	2102	20.0	26.0	0.40	1.4	228	122	2.4	6.0	7.8	2.0	84.0	8.4	2.2	19.2	62.6	15.5	1.3	0.50
1264	16.0	116	230	2468	22.0	4.0	0.60	2.2	232	318	4.6	6.7	7.9	2.2	88.0	7.6	2.0	12.6	81.2	3.9	0.30	0.60
1265	18.0	78.0	126	2210	22.0	18.0	0.60	1.4	208	308	4.0	7.1	7.9	2.5	94.0	6.2	1.6	8.5	89.1	0.00	0.00	0.80
1266	6.0	224	404	3440	32.0	14.0	0.60	2.4	234	232	7.0	6.9	7.9	2.6	96.0	10.8	2.7	15.6	79.6	1.9	0.20	0.60
1267	26.0	114	136	1894	24.0	14.0	0.40	1.0	242	374	3.6	6.7	7.9	1.9	82.0	5.8	2.5	9.8	81.6	5.2	0.30	0.90
1268	36.0	212	252	3022	20.0	30.0	0.60	2.0	246	226	4.0	6.8	7.9	2.5	94.0	9.2	3.0	11.4	82.1	3.3	0.30	0.50

HFC CO-OP

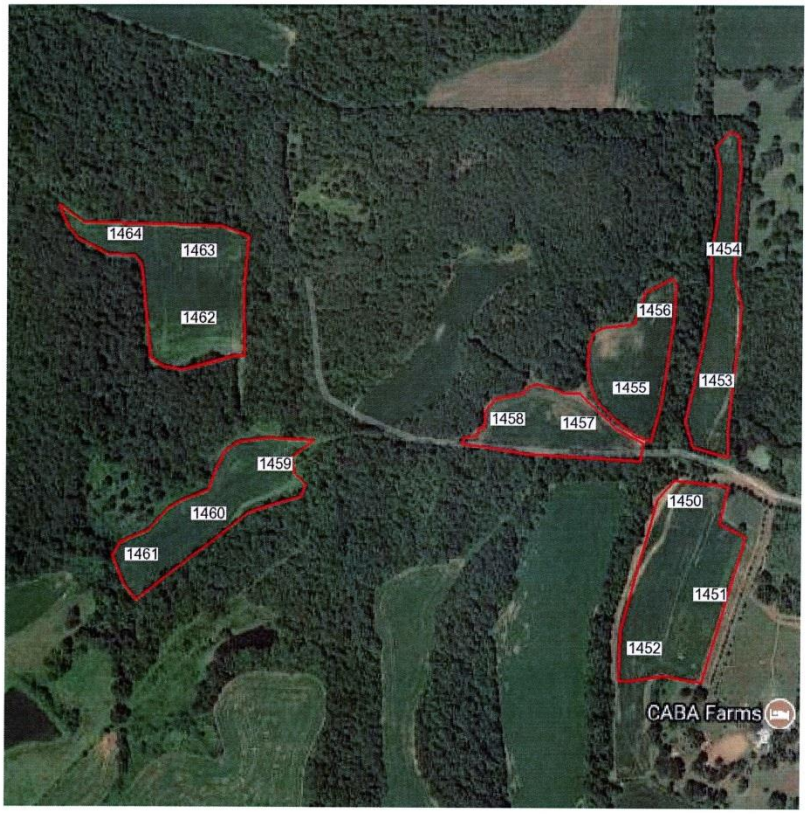
Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

04/16/18 01:06 PM

INCOMPASS AG TECHNOLOGY

Master Soil Book

Location	Grower	Farm	Field	Area	Centroid
Henry Farmers Co Op	Bub Edwards Thomas	Mike Boyd	Mike Boyd	30.66 acres	36.230166, -88.43626



	Min	Max	Avg
P	34.0 M	294 VH	105 VH
K	128 L	328 VH	210 M
Mg	56.0 L	266 M	138 M
Ca	756	2346	1703
Na	8.0	48.0	24.5
S	6.0 VL	44.0 O	19.6 L
B	0.20 VL	0.60 L	0.33 L
Cu	1.4 L	5.2 M	2.9 M
Fe	188 M	466 VH	277 O
Mn	140 M	386 O	235 M
Zn	1.8 L	11.6 O	5.5 M
pH	4.9	6.3	5.7
bpH	7.7	7.9	7.8
OM	1.7 VL	2.9 L	2.4 L
ENR	78.0	102	92.0
CEC	4.1	9.2	6.5
%K	2.8	7.1	4.2
%Mg	5.2	12.0	8.4
%Ca	46.1 L	79.7 O	65.2 M
%H	10.3	43.9	21.5
HMeq	0.60	2.6	1.4
%Na	0.30 VL	1.6 VL	0.81 VL

Sample Date: 2017-04-11 Soil Lab: Waypoint Analytical Tennessee

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1450	84.0	228	198	2242	38.0	12.0	0.60	4.8	284	322	8.2	5.9	7.8	2.8	100	8.2	3.6	10.1	68.4	17.1	1.4	1.0
1451	66.0	248	198	1754	18.0	12.0	0.40	3.0	316	214	11.6	5.5	7.7	2.9	102	7.6	4.2	10.9	57.7	26.3	2.0	0.50
1452	120	328	162	1486	32.0	18.0	0.40	4.2	238	168	7.4	5.9	7.8	2.0	84.0	5.9	7.1	11.4	63.0	16.9	1.0	1.2
1453	114	184	116	1286	34.0	26.0	0.20	3.2	466	234	6.4	5.1	7.7	2.4	92.0	6.5	3.6	7.4	49.5	38.5	2.5	1.1
1454	156	152	56.0	756	8.0	6.0	0.20	1.8	286	150	2.6	4.9	7.8	1.9	82.0	4.1	4.8	5.7	46.1	43.9	1.8	0.40
1455	92.0	226	228	1808	34.0	44.0	0.40	5.2	408	140	8.6	5.3	7.7	2.7	98.0	8.4	3.4	11.3	53.8	31.0	2.6	0.90
1456	94.0	216	104	1502	26.0	24.0	0.40	3.2	214	208	4.6	5.5	7.8	2.4	92.0	6.1	4.5	7.1	61.6	26.2	1.6	0.90
1457	294	256	114	1474	32.0	14.0	0.40	4.6	382	182	9.0	6.1	7.9	1.7	78.0	5.3	6.2	9.0	69.5	13.2	0.70	1.3
1458	128	192	126	1968	48.0	24.0	0.40	4.4	248	294	7.0	6.3	7.9	2.4	92.0	6.5	3.8	8.1	75.7	10.8	0.70	1.6
1459	92.0	128	86.0	1848	18.0	12.0	0.40	1.4	270	386	2.2	6.3	7.9	2.4	92.0	5.8	2.8	6.2	79.7	10.3	0.60	0.70
1460	108	184	66.0	1626	12.0	18.0	0.20	1.6	226	302	2.6	6.2	7.9	2.5	94.0	5.2	4.5	5.3	78.2	11.5	0.60	0.50
1461	76.0	158	64.0	1414	16.0	30.0	0.20	1.4	230	294	1.8	5.7	7.8	2.3	90.0	5.1	4.0	5.2	69.3	21.6	1.1	0.70
1462	70.0	204	122	1922	20.0	28.0	0.20	2.2	196	272	4.0	5.7	7.8	2.4	92.0	7.1	3.7	7.2	67.7	21.1	1.5	0.60
1463	34.0	204	158	2116	10.0	6.0	0.40	1.4	188	208	2.6	6.1	7.8	2.6	96.0	7.2	3.6	9.1	73.5	13.9	1.0	0.30

HFC CO-OP

Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

04/16/18 01:06 PM

ID	P lbs/ac	K lbs/ac	Mg lbs/ac	Ca lbs/ac	Na lbs/ac	S lbs/ac	B lbs/ac	Cu lbs/ac	Fe lbs/ac	Mn lbs/ac	Zn lbs/ac	pH	bpH	OM %	ENR lbs/ac	CEC meq	%K %	%Mg %	%Ca %	%H %	HMeq meq	%Na %
1464	52.0	240	266	2346	22.0	20.0	0.20	1.8	200	154	3.2	5.7	7.7	2.6	96.0	9.2	3.3	12.0	63.8	20.7	1.9	0.50

Henry Farmers Co Op
4075 US HWY 641 S
Murray, KY 42071
270-767-0048

Tennessee Phosphorus Index

Operation: Edwards Farms ***County:*** Henry ***Plan Saved:*** 5/22/2018
Plan File: BubEdwards.mmp ***State:*** Tennessee ***Init. File Rev:*** 10/20/2017
Plan Folder: \\Jt\i\CNMP NMP\MMP\Hog Barn Export\Bub Edwards ***Soils File Rev:*** 1/11/2017

Field: Tyson Road
Crop Year: 2019

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 67	1	
RUSLE2	2.3 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	111 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	70 lbs/ac (Mehlich-3 ICP)	2	
P application rate	Total P_2O_5 applied (all sources): 111 lbs/ac	11	
Application timing	16-45 days before planting	2	
Application method	Injected	1	
	Management Total	16	
	Phosphorus Index (Site Total x Management Total)	176	Medium

Field: Tyson Road
Crop Year: 2020

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 67	1	
RUSLE2	1.9 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	111 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	70 lbs/ac (Mehlich-3 ICP)	2	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	4	
	Phosphorus Index (Site Total x Management Total)	44	Low

Field: Tyson Road
Crop Year: 2021

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 68	1	
RUSLE2	2.8 t/ac	1	
Permanent veg. buffer	None	8	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Non-application width from surface water	111 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	70 lbs/ac (Mehlich-3 ICP)	2	
P application rate	Total P_2O_5 applied (all sources): 111 lbs/ac	11	
Application timing	16-45 days before planting	2	
Application method	Injected	1	
	Management Total	16	
	Phosphorus Index (Site Total x Management Total)	176	Medium

Field: Tyson Road
Crop Year: 2022

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 69	1	
RUSLE2	2.1 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	111 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	70 lbs/ac (Mehlich-3 ICP)	2	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	4	
	Phosphorus Index (Site Total x Management Total)	44	Low

Field: Tyson Road
Crop Year: 2023

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 69	1	
RUSLE2	1.9 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	111 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	70 lbs/ac (Mehlich-3 ICP)	2	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	4	
	Phosphorus Index (Site Total x Management Total)	44	Low

Field: South Shop
Crop Year: 2019

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 67	2	
RUSLE2	3.0 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	478 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	23 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 111 lbs/ac	11	
Application timing	16-45 days before planting	2	
Application method	Injected	1	
	Management Total	15	
	Phosphorus Index (Site Total x Management Total)	180	Medium

Field: South Shop
Crop Year: 2020

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 67	2	
RUSLE2	2.6 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	478 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	23 lbs/ac (Mehlich-3 ICP)	1	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	3	
	Phosphorus Index (Site Total x Management Total)	36	Low

Field: South Shop
Crop Year: 2021

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 68	2	
RUSLE2	3.6 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	478 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	23 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 111 lbs/ac	11	
Application timing	16-45 days before planting	2	
Application method	Injected	1	
	Management Total	15	
	Phosphorus Index (Site Total x Management Total)	180	Medium

Field: South Shop
Crop Year: 2022

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 68	2	
RUSLE2	2.8 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	478 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	23 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	228	Medium

Field: South Shop
Crop Year: 2023

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 69	2	
RUSLE2	2.6 t/ac	1	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Permanent veg. buffer	None	8	
Non-application width from surface water	478 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	23 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 120 lbs/ac	12	
Application timing	W/in 15 days before planting	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	22	
	Phosphorus Index (Site Total x Management Total)	264	Medium

Field: SE House
Crop Year: 2019

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 76	2	
RUSLE2	3.0 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	135 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	57 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 10 lbs/ac	1	
Application timing	16-45 days before planting	2	
Application method	Injected	1	
	Management Total	5	
	Phosphorus Index (Site Total x Management Total)	60	Low

Field: SE House
Crop Year: 2020

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 76	2	
RUSLE2	2.2 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	135 ft	1	
	Site Total	12	
Management Characteristics			

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Soil test P	57 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 60 lbs/ac	6	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	16	
	Phosphorus Index (Site Total x Management Total)	192	Medium

Field: SE House
Crop Year: 2021

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 76	2	
RUSLE2	3.0 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	135 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	57 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 62 lbs/ac	6	
Application timing	16-45 days before planting	2	
Application method	Injected	1	
	Management Total	10	
	Phosphorus Index (Site Total x Management Total)	120	Low

Field: SE House
Crop Year: 2022

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 76	2	
RUSLE2	2.2 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	135 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	57 lbs/ac (Mehlich-3 ICP)	1	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	3	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
	Phosphorus Index (Site Total x Management Total)	36	Low

Field: SE House
Crop Year: 2023

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 76	2	
RUSLE2	3.0 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	135 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	57 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 60 lbs/ac	6	
Application timing	16-45 days before planting	2	
Application method	Surface applied (no incorporation)	8	
	Management Total	17	
	Phosphorus Index (Site Total x Management Total)	204	Medium

Field: Ray
Crop Year: 2019

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 68	1	
RUSLE2	1.7 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	270 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	48 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 60 lbs/ac	6	
Application timing	W/in 15 days before planting	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	16	
	Phosphorus Index (Site Total x Management Total)	176	Medium

Field: Ray
Crop Year: 2020

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 69	1	
RUSLE2	1.3 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	270 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	48 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 60 lbs/ac	6	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	16	
	Phosphorus Index (Site Total x Management Total)	176	Medium

Field: Ray
Crop Year: 2021

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 67	1	
RUSLE2	1.3 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	270 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	48 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 60 lbs/ac	6	
Application timing	W/in 15 days before planting	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	16	
	Phosphorus Index (Site Total x Management Total)	176	Medium

Field: Ray
Crop Year: 2022

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 67	1	
RUSLE2	1.1 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	270 ft	1	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
	Site Total	11	
Management Characteristics			
Soil test P	48 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 60 lbs/ac	6	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	16	
	Phosphorus Index (Site Total x Management Total)	176	Medium

Field: Ray
Crop Year: 2023

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 65	1	
RUSLE2	2.0 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	270 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	48 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 112 lbs/ac	11	
Application timing	16-45 days before planting	2	
Application method	Injected	1	
	Management Total	15	
	Phosphorus Index (Site Total x Management Total)	165	Medium

Field: Fennell
Crop Year: 2019

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 81	4	
RUSLE2	2.8 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	537 ft	1	
	Site Total	14	
Management Characteristics			
Soil test P	17 lbs/ac (Mehlich-3 ICP)	1	
P application rate	None applied	0	
Application timing	None applied	1	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Application method	None applied	1	
	Management Total	3	
	Phosphorus Index (Site Total x Management Total)	42	Low

Field: Fennell
Crop Year: 2020

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 81	4	
RUSLE2	2.2 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	537 ft	1	
	Site Total	14	
Management Characteristics			
Soil test P	17 lbs/ac (Mehlich-3 ICP)	1	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	3	
	Phosphorus Index (Site Total x Management Total)	42	Low

Field: Fennell
Crop Year: 2021

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 80	2	
RUSLE2	2.3 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	537 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	17 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 120 lbs/ac	12	
Application timing	W/in 15 days before planting	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	22	
	Phosphorus Index (Site Total x Management Total)	264	Medium

Field: Fennell
Crop Year: 2022

Tennessee Phosphorus Index

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 80	2	
RUSLE2	1.8 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	537 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	17 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	228	Medium

Field: Fennell
Crop Year: 2023

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 79	2	
RUSLE2	3.4 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	537 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	17 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 111 lbs/ac	11	
Application timing	16-45 days before planting	2	
Application method	Injected	1	
	Management Total	15	
	Phosphorus Index (Site Total x Management Total)	180	Medium

Field: Dale
Crop Year: 2019

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 74	2	
RUSLE2	1.2 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	156 ft	1	

Tennessee Phosphorus Index

Operation: Edwards Farms ***County:*** Henry ***Plan Saved:*** 5/22/2018
Plan File: BubEdwards.mmp ***State:*** Tennessee ***Init. File Rev:*** 10/20/2017
Plan Folder: \\Jt\i\CNMP NMP\MMP\Hog Barn Export\Bub Edwards ***Soils File Rev:*** 1/11/2017

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
	Site Total	12	
Management Characteristics			
Soil test P	21 lbs/ac (Mehlich-3 ICP)	1	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	3	
	Phosphorus Index (Site Total x Management Total)	36	Low

Field: Dale
Crop Year: 2020

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 73	2	
RUSLE2	2.1 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	156 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	21 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 111 lbs/ac	11	
Application timing	16-45 days before planting	2	
Application method	Injected	1	
	Management Total	15	
	Phosphorus Index (Site Total x Management Total)	180	Medium

Field: Dale
Crop Year: 2021

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 75	2	
RUSLE2	1.9 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	156 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	21 lbs/ac (Mehlich-3 ICP)	1	
P application rate	None applied	0	
Application timing	None applied	1	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Application method	None applied	1	
	Management Total	3	
	Phosphorus Index (Site Total x Management Total)	36	Low

Field: Dale
Crop Year: 2022

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 75	2	
RUSLE2	1.8 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	156 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	21 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 120 lbs/ac	12	
Application timing	W/in 15 days before planting	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	22	
	Phosphorus Index (Site Total x Management Total)	264	Medium

Field: Dale
Crop Year: 2023

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 75	2	
RUSLE2	1.4 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	156 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	21 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	228	Medium

Field: Phelcher
Crop Year: 2019

Tennessee Phosphorus Index

Operation: Edwards Farms ***County:*** Henry ***Plan Saved:*** 5/22/2018
Plan File: BubEdwards.mmp ***State:*** Tennessee ***Init. File Rev:*** 10/20/2017
Plan Folder: \\Jt\i\CNMP NMP\MMP\Hog Barn Export\Bub Edwards ***Soils File Rev:*** 1/11/2017

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 67	2	
RUSLE2	1.7 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	1426 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	3 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	228	Medium

Field: Phelcher
Crop Year: 2020

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 65	1	
RUSLE2	3.1 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	1426 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	3 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 120 lbs/ac	12	
Application timing	16-45 days before planting	2	
Application method	Surface applied (no incorporation)	8	
	Management Total	23	
	Phosphorus Index (Site Total x Management Total)	253	Medium

Field: Phelcher
Crop Year: 2021

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 67	2	
RUSLE2	2.7 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	1426 ft	1	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
	Site Total	12	
Management Characteristics			
Soil test P	3 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	228	Medium

Field: Phelcher
Crop Year: 2022

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 68	2	
RUSLE2	2.6 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	1426 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	3 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 120 lbs/ac	12	
Application timing	W/in 15 days before planting	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	22	
	Phosphorus Index (Site Total x Management Total)	264	Medium

Field: Phelcher
Crop Year: 2023

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 68	2	
RUSLE2	2.0 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	1426 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	3 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	228	Medium

Field: Hardy
Crop Year: 2019

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 67	2	
RUSLE2	1.7 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	88 ft	2	
	Site Total	13	
Management Characteristics			
Soil test P	10 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	247	Medium

Field: Hardy
Crop Year: 2020

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 65	1	
RUSLE2	3.1 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	88 ft	2	
	Site Total	12	
Management Characteristics			
Soil test P	10 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 111 lbs/ac	11	
Application timing	16-45 days before planting	2	
Application method	Injected	1	
	Management Total	15	
	Phosphorus Index (Site Total x Management Total)	180	Medium

Field: Hardy
Crop Year: 2021

Tennessee Phosphorus Index

Operation: Edwards Farms ***County:*** Henry ***Plan Saved:*** 5/22/2018
Plan File: BubEdwards.mmp ***State:*** Tennessee ***Init. File Rev:*** 10/20/2017
Plan Folder: \\Jt\i\CNMP NMP\MMP\Hog Barn Export\Bub Edwards ***Soils File Rev:*** 1/11/2017

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 67	2	
RUSLE2	2.7 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	88 ft	2	
	Site Total	13	
Management Characteristics			
Soil test P	10 lbs/ac (Mehlich-3 ICP)	1	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	3	
	Phosphorus Index (Site Total x Management Total)	39	Low

Field: Hardy
Crop Year: 2022

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 68	2	
RUSLE2	2.6 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	88 ft	2	
	Site Total	13	
Management Characteristics			
Soil test P	10 lbs/ac (Mehlich-3 ICP)	1	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	3	
	Phosphorus Index (Site Total x Management Total)	39	Low

Field: Hardy
Crop Year: 2023

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 7%, RCN: 68	2	
RUSLE2	2.0 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	88 ft	2	

Tennessee Phosphorus Index

Operation: Edwards Farms ***County:*** Henry ***Plan Saved:*** 5/22/2018
Plan File: BubEdwards.mmp ***State:*** Tennessee ***Init. File Rev:*** 10/20/2017
Plan Folder: \\Jt\i\CNMP NMP\MMP\Hog Barn Export\Bub Edwards ***Soils File Rev:*** 1/11/2017

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
	Site Total	13	
Management Characteristics			
Soil test P	10 lbs/ac (Mehlich-3 ICP)	1	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	3	
	Phosphorus Index (Site Total x Management Total)	39	Low

Field: McCurdy
Crop Year: 2019

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 67	1	
RUSLE2	0.9 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	285 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	13 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	209	Medium

Field: McCurdy
Crop Year: 2020

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 65	1	
RUSLE2	1.4 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	285 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	13 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 120 lbs/ac	12	
Application timing	16-45 days before planting	2	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Application method	Surface applied (no incorporation)	8	
	Management Total	23	
	Phosphorus Index (Site Total x Management Total)	253	Medium

Field: McCurdy
Crop Year: 2021

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 67	1	
RUSLE2	1.2 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	285 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	13 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	209	Medium

Field: McCurdy
Crop Year: 2022

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 68	1	
RUSLE2	1.2 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	285 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	13 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 120 lbs/ac	12	
Application timing	W/in 15 days before planting	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	22	
	Phosphorus Index (Site Total x Management Total)	242	Medium

Field: McCurdy
Crop Year: 2023

Tennessee Phosphorus Index

Operation: Edwards Farms ***County:*** Henry ***Plan Saved:*** 5/22/2018
Plan File: BubEdwards.mmp ***State:*** Tennessee ***Init. File Rev:*** 10/20/2017
Plan Folder: \\Jt\i\CNMP NMP\MMP\Hog Barn Export\Bub Edwards ***Soils File Rev:*** 1/11/2017

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 68	1	
RUSLE2	1.0 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	285 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	13 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	209	Medium

Field: Lawrence
Crop Year: 2019

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 80	2	
RUSLE2	1.2 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	159 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	20 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	228	Medium

Field: Lawrence
Crop Year: 2020

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 79	2	
RUSLE2	2.2 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	159 ft	1	

Tennessee Phosphorus Index

Operation: Edwards Farms ***County:*** Henry ***Plan Saved:*** 5/22/2018
Plan File: BubEdwards.mmp ***State:*** Tennessee ***Init. File Rev:*** 10/20/2017
Plan Folder: \\Jt\i\CNMP NMP\MMP\Hog Barn Export\Bub Edwards ***Soils File Rev:*** 1/11/2017

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
	Site Total	12	
Management Characteristics			
Soil test P	20 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 111 lbs/ac	11	
Application timing	16-45 days before planting	2	
Application method	Injected	1	
	Management Total	15	
	Phosphorus Index (Site Total x Management Total)	180	Medium

Field: Lawrence
Crop Year: 2021

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 81	2	
RUSLE2	1.9 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	159 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	20 lbs/ac (Mehlich-3 ICP)	1	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	3	
	Phosphorus Index (Site Total x Management Total)	36	Low

Field: Lawrence
Crop Year: 2022

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 81	2	
RUSLE2	1.8 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	159 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	20 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 120 lbs/ac	12	
Application timing	W/in 15 days before planting	1	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Application method	Surface applied (no incorporation)	8	
	Management Total	22	
	Phosphorus Index (Site Total x Management Total)	264	Medium

Field: Lawrence
Crop Year: 2023

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 81	2	
RUSLE2	1.4 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	159 ft	1	
	Site Total	12	
Management Characteristics			
Soil test P	20 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	228	Medium

Field: Hodge
Crop Year: 2019

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 1%, RCN: 74	1	
RUSLE2	0.4 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	168 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	39 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 60 lbs/ac	6	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	16	
	Phosphorus Index (Site Total x Management Total)	176	Medium

Field: Hodge
Crop Year: 2020

Tennessee Phosphorus Index

Operation: Edwards Farms ***County:*** Henry ***Plan Saved:*** 5/22/2018
Plan File: BubEdwards.mmp ***State:*** Tennessee ***Init. File Rev:*** 10/20/2017
Plan Folder: \\Jt\i\CNMP NMP\MMP\Hog Barn Export\Bub Edwards ***Soils File Rev:*** 1/11/2017

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 1%, RCN: 73	1	
RUSLE2	0.7 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	168 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	39 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 60 lbs/ac	6	
Application timing	16-45 days before planting	2	
Application method	Surface applied (no incorporation)	8	
	Management Total	17	
	Phosphorus Index (Site Total x Management Total)	187	Medium

Field: Hodge
Crop Year: 2021

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 1%, RCN: 75	1	
RUSLE2	0.6 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	168 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	39 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 60 lbs/ac	6	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	16	
	Phosphorus Index (Site Total x Management Total)	176	Medium

Field: Hodge
Crop Year: 2022

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 1%, RCN: 75	1	
RUSLE2	0.6 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	168 ft	1	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
	Site Total	11	
Management Characteristics			
Soil test P	39 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 60 lbs/ac	6	
Application timing	W/in 15 days before planting	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	16	
	Phosphorus Index (Site Total x Management Total)	176	Medium

Field: Hodge
Crop Year: 2023

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 1%, RCN: 75	1	
RUSLE2	0.5 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	168 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	39 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 60 lbs/ac	6	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	16	
	Phosphorus Index (Site Total x Management Total)	176	Medium

Field: McKenzie
Crop Year: 2019

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 68	1	
RUSLE2	1.3 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	578 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	66 lbs/ac (Mehlich-3 ICP)	2	
P application rate	None applied	0	
Application timing	None applied	1	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Application method	None applied	1	
	Management Total	4	
	Phosphorus Index (Site Total x Management Total)	44	Low

Field: McKenzie
Crop Year: 2020

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 66	1	
RUSLE2	1.3 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	578 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	66 lbs/ac (Mehlich-3 ICP)	2	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	4	
	Phosphorus Index (Site Total x Management Total)	44	Low

Field: McKenzie
Crop Year: 2021

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 67	1	
RUSLE2	1.1 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	578 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	66 lbs/ac (Mehlich-3 ICP)	2	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	4	
	Phosphorus Index (Site Total x Management Total)	44	Low

Field: McKenzie
Crop Year: 2022

Tennessee Phosphorus Index

Operation: Edwards Farms ***County:*** Henry ***Plan Saved:*** 5/22/2018
Plan File: BubEdwards.mmp ***State:*** Tennessee ***Init. File Rev:*** 10/20/2017
Plan Folder: \\Jt\i\CNMP NMP\MMP\Hog Barn Export\Bub Edwards ***Soils File Rev:*** 1/11/2017

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 65	1	
RUSLE2	2.0 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	578 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	66 lbs/ac (Mehlich-3 ICP)	2	
P application rate	Total P_2O_5 applied (all sources): 31 lbs/ac	3	
Application timing	16-45 days before planting	2	
Application method	Injected	1	
	Management Total	8	
	Phosphorus Index (Site Total x Management Total)	88	Low

Field: McKenzie
Crop Year: 2023

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 67	1	
RUSLE2	1.7 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	578 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	66 lbs/ac (Mehlich-3 ICP)	2	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	4	
	Phosphorus Index (Site Total x Management Total)	44	Low

Field: Step Farm
Crop Year: 2019

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 66	1	
RUSLE2	1.0 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	756 ft	1	

Tennessee Phosphorus Index

Operation: Edwards Farms ***County:*** Henry ***Plan Saved:*** 5/22/2018
Plan File: BubEdwards.mmp ***State:*** Tennessee ***Init. File Rev:*** 10/20/2017
Plan Folder: \\Jt\i\CNMP NMP\MMP\Hog Barn Export\Bub Edwards ***Soils File Rev:*** 1/11/2017

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
	Site Total	11	
Management Characteristics			
Soil test P	23 lbs/ac (Mehlich-3 ICP)	1	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	3	
	Phosphorus Index (Site Total x Management Total)	33	Low

Field: Step Farm
Crop Year: 2020

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 65	1	
RUSLE2	1.2 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	756 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	23 lbs/ac (Mehlich-3 ICP)	1	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	3	
	Phosphorus Index (Site Total x Management Total)	33	Low

Field: Step Farm
Crop Year: 2021

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 66	1	
RUSLE2	1.0 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	756 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	23 lbs/ac (Mehlich-3 ICP)	1	
P application rate	None applied	0	
Application timing	None applied	1	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Application method	None applied	1	
	Management Total	3	
	Phosphorus Index (Site Total x Management Total)	33	Low

Field: Step Farm
Crop Year: 2022

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 65	1	
RUSLE2	1.2 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	756 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	23 lbs/ac (Mehlich-3 ICP)	1	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	3	
	Phosphorus Index (Site Total x Management Total)	33	Low

Field: Step Farm
Crop Year: 2023

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 4%, RCN: 66	1	
RUSLE2	1.0 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	756 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	23 lbs/ac (Mehlich-3 ICP)	1	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	3	
	Phosphorus Index (Site Total x Management Total)	33	Low

Field: Mike Boyd
Crop Year: 2019

Tennessee Phosphorus Index

Operation: Edwards Farms ***County:*** Henry ***Plan Saved:*** 5/22/2018
Plan File: BubEdwards.mmp ***State:*** Tennessee ***Init. File Rev:*** 10/20/2017
Plan Folder: \\Jt\i\CNMP NMP\MMP\Hog Barn Export\Bub Edwards ***Soils File Rev:*** 1/11/2017

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 1%, RCN: 75	1	
RUSLE2	0.6 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	135 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	105 lbs/ac (Mehlich-3 ICP)	2	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	4	
	Phosphorus Index (Site Total x Management Total)	44	Low

Field: Mike Boyd
Crop Year: 2020

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 1%, RCN: 76	1	
RUSLE2	0.5 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	135 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	105 lbs/ac (Mehlich-3 ICP)	2	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	4	
	Phosphorus Index (Site Total x Management Total)	44	Low

Field: Mike Boyd
Crop Year: 2021

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 1%, RCN: 74	1	
RUSLE2	0.5 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	135 ft	1	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
	Site Total	11	
Management Characteristics			
Soil test P	105 lbs/ac (Mehlich-3 ICP)	2	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	4	
	Phosphorus Index (Site Total x Management Total)	44	Low

Field: Mike Boyd
Crop Year: 2022

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 1%, RCN: 74	1	
RUSLE2	0.4 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	135 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	105 lbs/ac (Mehlich-3 ICP)	2	
P application rate	None applied	0	
Application timing	None applied	1	
Application method	None applied	1	
	Management Total	4	
	Phosphorus Index (Site Total x Management Total)	44	Low

Field: Mike Boyd
Crop Year: 2023

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 1%, RCN: 73	1	
RUSLE2	0.7 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	135 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	105 lbs/ac (Mehlich-3 ICP)	2	
P application rate	Total P_2O_5 applied (all sources): 111 lbs/ac	11	
Application timing	16-45 days before planting	2	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Application method	Injected	1	
	Management Total	16	
	Phosphorus Index (Site Total x Management Total)	176	Medium

Field: Red Barn 140
Crop Year: 2019

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 2%, RCN: 75	1	
RUSLE2	0.7 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	401 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	27 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	209	Medium

Field: Red Barn 140
Crop Year: 2020

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 2%, RCN: 74	1	
RUSLE2	0.7 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	401 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	27 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 120 lbs/ac	12	
Application timing	W/in 15 days before planting	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	22	
	Phosphorus Index (Site Total x Management Total)	242	Medium

Field: Red Barn 140
Crop Year: 2021

Tennessee Phosphorus Index

Operation: Edwards Farms ***County:*** Henry ***Plan Saved:*** 5/22/2018
Plan File: BubEdwards.mmp ***State:*** Tennessee ***Init. File Rev:*** 10/20/2017
Plan Folder: \\Jt\i\CNMP NMP\MMP\Hog Barn Export\Bub Edwards ***Soils File Rev:*** 1/11/2017

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 2%, RCN: 74	1	
RUSLE2	0.6 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	401 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	27 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	209	Medium

Field: Red Barn 140
Crop Year: 2022

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 2%, RCN: 73	1	
RUSLE2	1.0 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	401 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	27 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 120 lbs/ac	12	
Application timing	16-45 days before planting	2	
Application method	Surface applied (no incorporation)	8	
	Management Total	23	
	Phosphorus Index (Site Total x Management Total)	253	Medium

Field: Red Barn 140
Crop Year: 2023

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 2%, RCN: 75	1	
RUSLE2	0.9 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	401 ft	1	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
	Site Total	11	
Management Characteristics			
Soil test P	27 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	209	Medium

Field: New 65
Crop Year: 2019

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 1%, RCN: 68	1	
RUSLE2	0.5 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	159 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	29 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	209	Medium

Field: New 65
Crop Year: 2020

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 1%, RCN: 66	1	
RUSLE2	0.5 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	159 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	29 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 120 lbs/ac	12	
Application timing	W/in 15 days before planting	1	

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Application method	Surface applied (no incorporation)	8	
	Management Total	22	
	Phosphorus Index (Site Total x Management Total)	242	Medium

Field: New 65
Crop Year: 2021

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 1%, RCN: 67	1	
RUSLE2	0.4 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	159 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	29 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	209	Medium

Field: New 65
Crop Year: 2022

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 1%, RCN: 65	1	
RUSLE2	0.7 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	159 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	29 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 120 lbs/ac	12	
Application timing	16-45 days before planting	2	
Application method	Surface applied (no incorporation)	8	
	Management Total	23	
	Phosphorus Index (Site Total x Management Total)	253	Medium

Field: New 65
Crop Year: 2023

Tennessee Phosphorus Index

Operation:	Edwards Farms	***County:***	Henry	***Plan Saved:***	5/22/2018
Plan File:	BubEdwards.mmp	***State:***	Tennessee	***Init. File Rev:***	10/20/2017
Plan Folder:	\\Jt\i\CNMP NMP\MMP\Hog Barn Export\Bub Edwards			***Soils File Rev:***	1/11/2017

Site Information	Information Used to Determine P Loss Rating	Value for P Index Calculation	
Site Characteristics			
Runoff class	Slope: 1%, RCN: 67	1	
RUSLE2	0.6 t/ac	1	
Permanent veg. buffer	None	8	
Non-application width from surface water	159 ft	1	
	Site Total	11	
Management Characteristics			
Soil test P	29 lbs/ac (Mehlich-3 ICP)	1	
P application rate	Total P_2O_5 applied (all sources): 90 lbs/ac	9	
Application timing	Actively growing crop	1	
Application method	Surface applied (no incorporation)	8	
	Management Total	19	
	Phosphorus Index (Site Total x Management Total)	209	Medium