

***Grazing Management Plan
for the Property of:***

***Client Name
Address
City, IL Zip Code***

County:

Township:

N

Range:

W

Section(s):

Farm(s):

Tract(s):

Grassland Acres:

Farmland Acres:

Date Prepared:

Prepared by:

Job Position

Address

City, IL Zip Code

() - Ext 3

FirstName.LastName@il.usda.gov

1. Introduction

Livestock producer, _____, operates a livestock operation consisting of a herd/flock of _____ on approximately _____ acres. (Include additional information for tract(s)/fields that are grazed in rotation and with acres in grazing plan. Include acres where livestock may be wintered etc...)

2. Goals and Objectives

The _____ Farm goals are to _____. This will be accomplished by _____.

The objectives of this plan are to:

(Select the following as appropriate, add any as needed, or delete any not needed)

- Improve livestock production, forage utilization, and water quality
- Improve or maintain desired species composition and vigor of plant communities,
- Improve or maintain quantity and quality of forage for grazing and browsing animals' health and productivity,
- Improve or maintain surface and/or subsurface water quality and quantity,
- Improve or maintain riparian and watershed function,
- Reduce accelerated soil erosion,
- Maintain or improve soil condition,
- Improve or maintain the quantity and quality of food and/or cover available for wildlife,
- Extend the grazing season.

3. Resource Data

a. Soils

(Include general soil map description for applicable soil group here if available. Otherwise include individual soil descriptions and soils map in a table in an appendix from Web Soil Survey. If placed in the appendix, note that the soils information is placed in the appendix. Table 1 can be deleted if all soils information is included in the appendix.)

Table 1 – Soils

Map Unit Symbol	Soil Map Unit Name	Acres
	Insert Soils Information from Soils Inventory Worksheet via	
	ArcMap / Toolkit. Then plug in your soil map unit name.	
	Or attach soils information and map to appendix	
	Total	

b. Current Grazing Management

(Identify current grazing management such as current stocking rate, grazing cycle, grazing period, etc. and any problems/limitations here)

c. Forages

(Identify current forage species and any problems/limitations here)

d. Water

(Identify current water sources and any problems/limitations here)

e. Animal Health

(Identify current animal health concerns and problems/limitations here)

f. Erosion

(Identify current erosion concerns and problems/limitations here)

g. Cultural Resources

(Identify known cultural resources of importance here)

h. Endangered and Threatened (E&T) Species

(Identify known E&T species here)

i. Pasture Condition Score:

Pasture condition scoring was completed on the current grazing system. The overall PCS indicator score is currently . Refer to the attached pasture condition score sheet for more information on the recommended management changes.

It is expected that after implementation of the grazing plan that the majority of the individual indicator scores will be 4 or greater. Scores of 3 or greater are acceptable for erosion, plant diversity, and percent desirable plants. The grazing management plan calls for the following individual indicators to be addressed:

(Select the following as appropriate, or delete those that will not be addressed)

- Percent desirable plants
- Live plant cover
- Plant diversity
- Plant residue
- Plant vigor
- Percent legume
- Uniformity of use
- Livestock concentration areas
- Soil compaction
- Erosion

4. Grazing Management

a. Carrying Capacity and Stocking Rates

The estimated carrying capacity is based on forage productivity, harvest efficiency; animal weight and forage demand per cow per day (Refer to Graze4 Worksheets in Appendix). Harvest

efficiency is the percentage of available forage actually consumed by the animals. The harvest efficiency is influenced by the animal's ability to grasp and tear available forage with the mouth, the travel distance to water and shade, grazing pressure and other factors that could potentially limit intake. Increasing harvest efficiency by moving cattle more frequently and adding additional pastures will allow for an increase in the stocking rate of the pastures and improve forage quality. The estimated carrying capacity, as shown in the first line of Table 2, is based on a pasture rotation, with an estimated day grazing cycle (harvest efficiency), for head of .

By dividing the pastures further or changing the grazing cycle, the carrying capacity may be increased as shown below.

Table 2. Estimated carrying capacity for planned and alternative systems.

System	Number of Pastures	Grazing Cycle (Number of days, i.e. 2, 3, 4, 5, 6, 7 day)	% Harvest Efficiency	Total Days Grazed during the Season	Number of Animals	AU's (No. of animals X avg. wt. lbs./1000 = AU's)
Planned System						
Alternative 1						
Alternative 2						

b. Planned Prescribed Grazing Management

Prescribed grazing is the controlled harvest of vegetation with grazing or browsing animals, managed with the intent to achieve a specified objective. Rotational grazing is needed on individual or a mixture of species to maintain stand longevity and maximum forage production.

The following management guidelines are recommended for maintaining a stable and desired plant community: **(Delete any bullets that are not applicable)**

Carrying capacity (number of animals/grazing area) will be managed to prevent overgrazing while maintaining plant health and vigor. The length of grazing will vary per pasture, depending on the growth rate of the forage and the size of the pasture.

- **Maintain forage in a vegetative state!** During spring forage green-up, shorter rest periods and more frequent moves may be necessary to keep the forage in a vegetative state. Begin grazing the first cool season grass pasture at 3-4” and move livestock rapidly until you get to a pasture that has reached the desired turn in height of 6-10”.
- Begin grazing the first warm season grass pasture at 18”.
- The factors used to design prescribed grazing systems vary considerably with environmental extremes and management decisions. Producers should monitor their pastures for minimum grazing heights in order to maintain vigorous and healthy forage stands. Always move animals when the minimum specified grazing height has been reached regardless of the number of days that they have been in the pasture.
- Do not graze cool season grass/legume pastures less than 3-4 inches tall.

- Do not graze Perennial Warm Season Grasses pastures less than 8-10 inch minimum grazed stubble heights.
- Before initial grazing of a new seeding, test the establishment of existing plants and newly seeded plants by pulling on them. This will determine if the roots are established or not.
- Where practical, begin the grazing sequence in a different pasture each year.
- If seed heads appear or the forage is not grazed uniformly, the pastures may need to be clipped to promote even forage growth and maintain the forage in a vegetative state.
- In the spring, if the forage growth is greater than the animals can consume, remove one or more pastures from the grazing cycle and harvest for hay or clip/mow. After hay cutting, resume grazing the pasture(s) once growth reaches 6-8 inches.
- Remove livestock when pastures are wet or ponded to reduce the potential for soil compaction.
- Allow forage to rest 25-45 days between grazing periods in each pasture to maintain legumes in the stand. Fifteen days rest may be sufficient in the spring during rapid growth, however as the forage growth rate slows the rest periods should get longer (in a dry summer as much as 40-50 days may be needed).
- Salt, mineral and other supplements should be distributed away from the water to promote uniform grazing.
- Mowing or herbicide spraying may be needed to control weeds. Pastures should be surveyed regularly during the growing season and weeds should be treated with suitable control methods.
- Grazing strategies shall consider wildlife populations present within the grazing unit. Requirements of food, water, cover, nesting and breeding habitats should be met during the practice application.
- Fall grazing without a rest period is harmful to legumes and certain grasses. To maintain the stand, begin a rest period on the dates listed below, depending on temperature and moisture conditions, to allow for 6-8 inches (cool season grasses and legumes) or 10-15 inches (warm season grasses) of regrowth of plants before the first killing frost.

Species	Plant Suitability Zones		
	I (North)	II (Central)	III (South)
Cool Season	9/1 – 10/1	9/15 – 10/15	9/20 – 10/20
Warm Season	9/10 – 10/10	9/15 – 10/15	9/20 – 10/20

5. Accelerating and Facilitating Practices

a. Pasture Establishment

Approximately _____ acres of cropland/pasture will be seeded/renovated to a grass/legume pasture mix. Soil testing will be completed prior to seeding/renovation. Nutrients will be applied per soil test recommendations for the specific forage(s) and pH levels. No-till methodology is recommended for pasture seeding. This method will leave adequate residue and provide erosion protection. If tillage operations are performed, they should be completed across the general slope of the land. Refer to Job Sheet 512 for the specific seed mixes, planting dates,

seedbed preparation, planting methods and fertility needs. Refer to Illinois Agronomy Handbook or per Item 5-f., Nutrient Management, for minimum fertility levels.

(Include information for warm season natives if a part of the plan.)

Restrict grazing until the pastures are well established to the seeded species. Avoid grazing immature plants during wet weather or until firmly established in the soil. Grazing newly established pasture is not recommended during the first growing season or until seed heads begin to form. Clipping or mowing/baling may be completed during this period. However, do not mow perennial cool season grasses and legumes closer than 3-4 inches from the soil surface during the growing season.

(Do not include Pasture Establishment in the plan if no new pastures will be renovated or established.)

b. Pasture Improvement

Approximately _____ acres will be improved by inter-seeding _____ into the existing grass stand. Inoculate any legumes planted with the proper inoculants for the specific legume. Soil testing will be completed prior to inter-seeding. Nutrients will be applied per soil test recommendations for the specific forage(s) and pH levels. To improve forage nutrition and supply ample nitrogen for grass growth, legumes should comprise at least 30% of the forage stand, by dry matter weight. **CAUTION:** Do not exceed 20%, by dry matter weight, of legumes in forage stands for sheep, to avoid breeding problems. Weed control should be completed prior to legume inter-seeding.

Interseeding may be done by using one of the following methods:

- 1) No-till drill in spring after the last killing frost. If forage is too thick and will out compete the inter-seeding, apply herbicide at a rate to set back forage in order for germination and establishment. Follow all herbicide recommendations.
 - 2) No-till drill in late summer. If broadleaf weeds are abundant, control with an herbicide a week to 10 days prior to seeding.
 - 3) Frost Seed:
 - a. Graze close in late fall or early winter
 - b. Broadcast legume seed on the surface from February 1st to March 1st
 - c. If livestock are present, remove livestock 10 days to two weeks after seeding.
 - 4) Frost Seed:
 - a. Graze or mow in late fall.
 - b. If heavy sod exists, till the field between late October and late December with a disc to destroy at least 25 percent of the existing grass stand.
 - c. Broadcast legume seed starting February 1st to March 1st.
 - d. If livestock are present, remove livestock 10 days to two weeks after seeding.
- Weed control is best accomplished during the fall season prior to spring seeding.
 - Frost seeding legumes in an existing grass stand can be successful if seed is broadcast from February 1st to March 1st while there is still freezing and thawing occurring, or if

there is a light covering of snow. Good “soil to seed contact” is a must for successful frost seeding.

- Grazing inter-seeded legumes is not recommended until the legumes have reached at least the three leaf stage.
- Grazing of inter-seeded grasses is not recommended until the grass has reached the stage where it cannot be pulled out of the ground by grazing animals.

Refer to attached Forage and Biomass Planting Job Sheet 512 for the specific seed mixes and planting dates for inter-seeding or frost-seeding and inoculating the legumes.

(If pastures will not or are not likely to be improved, do not include Pasture Improvement in the plan.)

c. Nutrient Management

Soil samples should be collected to represent each pasture and/or soil type to determine the nutrient status of the soil. Samples should be collected at a 7-inch depth. Sample pastures every four years to use as a guide for the timing and amounts of nutrients to be added. Composite samples should be collected by field. No composite sample should represent more than 20 acres for pastures that are uniform and 10 acres for pastures that are non-uniform. Additional samples should be collected where soil types, topography, or other features are non-uniform. Composite samples are obtained by collecting at least 15-20 sub-samples.

Legumes grow best in pastures with a soil pH of 6.5-7.0. As a general rule, if 100 or more pounds of actual nitrogen/acre is planned, apply the first 50 or so lbs. in early to mid-June after the first flush of grass is over and the second application in July or Early August. Nitrogen should not be applied if legumes comprise more than 30-40 percent of the stand. Phosphorus and potassium should be applied per soil test recommendations. Applications should be made in late summer or early fall to help strengthen the plants going into winter.

For additional information on soil sampling and nutrient recommendations, refer to the [Illinois Grazing Manual](#) and/or the [Illinois Agronomy Handbook](#).

Minimum adequate soil test levels for grazed pastures

Legume	pH	P1 lbs/ac	K lbs/ac
Alfalfa	6.5	30	300
Red Clover	6.0	25	250
Ladino Clover	5.5	25	250
Birdsfoot Trefoil	5.5	20	225
Annual Lespedeza	5.0	20	200

*Conservation Practice Standard- Forage and Biomass Planting (512)

d. Water Sources

A travel distance of 800 feet or less is recommended from the watering point to the farthest point of the pasture. This improves forage utilization and reduces livestock trailing and erosion. The water source will be a well, pond, or rural water. Approximately _____ feet of pipeline will be installed to _____ water points within the planned grazing system. Water will be available within _____ feet of each pasture to facilitate optimum forage utilization. _____ Heavy Use Area, HUA, pads will be planned and installed at tank locations with the sizes of _____ ' X _____ '.

(Revise narrative and/or add a table if needed to describe multiple watering systems in multiple pastures.)

e. Fencing

Planned fencing includes approximately _____ feet of _____ fence for perimeter fencing and _____ feet of _____ fence for interior fencing. Use materials indicated in IL Job Sheet(s) 382E and/or 382NE and installation methods indicated in 382 fence construction specifications. Do not begin construction until reviewing the standard drawings provided by NRCS.

f. Extending the Grazing Season

(Select from the options below for crop residues, annual forages, and/or stockpiled forage if they will be used to extend the grazing season, delete those not used)

_____ acres of crop after math (corn stalks/grain sorghum) will be utilized by the livestock as soon as possible following the harvest of the crop. If the field(s) are labeled as HEL, assure that the required amount of residue is left to meet HEL criteria.

_____ acres of stockpiled forages (tall fescue/big bluestem/other) will be grown starting in August and strip grazed after grazing the crop aftermath. Some cool season species such as Orchardgrass and smooth brome grass should be grazed within a few weeks after a hard freeze.

_____ acres of winter annuals (turnips/oats/wheat/rye/other) will be grown and available for grazing.

Strip grazing of any forage's, used to extend the grazing season, will achieve the highest utilization and grazing efficiency.

This will allow for approximately _____ additional grazing days.

Refer to the attached Stockpiling Forage fact sheet, "Extending the grazing season to reduce stored feeds needs".

(Include specific information on how the grazing season will be extended to reduce stored feed use here)

g. Winter Feeding Management

Hay feeding can be done on annual crop fields as long as weather permits and the minimum amount of residue is left to avoid any sheet and rill erosion concerns. Livestock may also be fed

on Heavy Use Area pads, or Winter Feeding Stations or barn lots for the winter, to avoid plugging the pastures, and help reduce livestock stress and livestock health concerns.

The use of sacrifice pastures (paddocks) is commonly used. However, these locations should be moved annually and reseeded as needed. If an area is used commonly and permanent vegetation cannot be maintained, then this area should be planted to summer and/or winter annuals and used in a rotation to keep a vegetative cover growing during the growing season. The annual forages will minimize erosion and maintain the area in order to protect the remainder of the pasture forages from plugging.

(Include any winter feeding specifications and/or management recommendations such as location of planned HUA feeding pad or WFS)

h. Woodland and Riparian Area Management

Livestock should be excluded from the existing woodlands, lakes, ponds, and/or streams. Flash grazing may be allowed depending on the amount of available forage, to reduce erosion, improve water quality, and aid in control of unwanted herbaceous or woody species. Caution should be used if poisonous plants are present. Exclusionary fencing may consist of two electrified hot wires. The fences should be setback a minimum distance of 25 feet (50 feet for water quality purposes) from the normal waterline of any water bodies.

(Include any specific woodland/riparian area management recommendations here. If there are no woodland or riparian areas in the management unit, do not include in the plan.)

i. Birthing Areas

The areas used to calve, lamb, kid or foal should have a good grass stand and be free from diseases. After birth and after the mother and offspring are paired up, the pair should be moved to fresh grass as soon as possible to avoid scours or other health problems. Any predators should be controlled to the degree possible. The use of guard animals is common.

(Include any other specific calving area management recommendations here)

j. Erosion

(Include any specific erosion control recommendations here)

k. Wildlife and/or E&T Species

Leave an individual pasture or some percent of the pasture unmowed until after the nesting season (April 15 to August 1) to aid in preservation and enhancement of wildlife. Mowing practices shall be done during daylight hours from one side of the field to the other or from the center of the field out to allow wildlife to flush and escape. (Include any specific wildlife habitat recommendations/requirements here)

l. Brush Management/Herbaceous Weed Control

Brush Management/Herbaceous Weed Control will be applied on _____ acres in pasture number(s) _____, _____ and _____. Mowing, small ruminant grazing, or chemical control will be

used to control the growth and spread of list species to be controlled. Refer to the Illinois 314/315 Job Sheet(s) for the specifications on species and control methods selected.

(Include any other specific Brush Management/Herbaceous Weed Control recommendations or requirements here)

Additionally, mowing and spot spraying should be used throughout the pasture as needed to control unwanted vegetation. The use of grazing goats can aid in the control and management of invasive, woody and vegetative species alike. (Discuss with participant but delete if goats will not be used.)

m. Forage Harvest Management

When pastures will be clipped for hay, forage will be harvested at a frequency and height that optimizes the desired forage stand, plant community, and stand life. Refer to the Illinois 511 Job Sheet for the specifications for forage harvest based on stage of maturity, moisture content, length of cut, stubble height and harvest interval. (Delete if not applicable.)

6. Animal Health (Delete any paragraph that is not applicable)

Alfalfa, red clover, white clover (including ladino clover), alsike clover, and kura clover cause bloat in cattle. Caution should be taken when grazing cattle on pastures containing these legumes. Alsike clover can also cause photosensitivity in horses and should not be included in horse pastures.

To reduce bloat, assure that animals are full of long stemmed forage before turning out to pasture. Rotate pastures in the afternoon when plants are dry to avoid the dew or frost. Feed Poloxalene (bloat guard) product several days before grazing legumes. Consider non bloating legumes like birdsfoot trefoil, lespedeza or vetch in the forage mixture.

Management of both tall fescue and cattle grazing is important to minimize fescue foot and other diseases found in cattle that graze fungus-infected tall fescue. Maintaining a legume with the fescue will dilute the level of fungus that is ingested.

To reduce the possibility of animals ingesting ergot alkaloids that form on grass heads, clip pastures to restrict grazing of grass heads.

Where applicable, biosecurity safeguards should be put in place to prevent the spread of disease between on-farm or ranch classes of livestock, and between livestock farm or ranch units. Wear clean clothes, wear plastic boots or scrub your shoes/boots with disinfectant, and wash hands thoroughly when visiting other farms. Keep equipment and vehicles clean and insist that all machinery and vehicles are cleaned before entering your property. Maintain programs to control birds and rodents that can carry and spread diseases. Allow an isolation period for new livestock brought to the current livestock operation.

7. Contingency Plan for Drought, Fire, Flood, Mud, Mortality etc.

If 50% of the normal moisture is not received by June 1, or during times of severe drought:

1. The stocking rate should be adjusted. To avoid overgrazing, reduce the herd size by-

- a. culling older animals
- b. selling young offspring
2. Rent or lease additional acreage
3. Establish or utilize additional forage such as warm season grasses and/or summer or winter annuals to aid in short forage growth periods.
4. Remove livestock from pastures and supplement at winter feeding areas, sacrifice pastures, or in barn lots. If a sacrifice pasture is used, reseed as needed and allow proper rest until the forage has adequate growth before grazing.
5. Do not open all gates and allow animals to roam continuously among all pastures, as this will create more stress on the forages.
6. Allow all the pastures to grow to the recommended forage height before returning livestock to graze them, even if it is the following growing season.

Drought outlook should be monitored by using the data from the Climate Prediction Center (www.cpc.ncep.noaa.gov/). The sooner that you recognize and react to a drought, the easier it will be to manage the forages and livestock through the dry conditions without harming your forage resources.

Insects- Grasshoppers and Army worms can invade and devastate pastures and forage areas as well. Some spraying may be needed for insect control; however any needed grazing restrictions should be determined ahead of the chemical applications.

Fire- Allow the proper forage regrowth to occur before reintroducing the livestock to the grazing or browsing areas.

Flooding- Remove animals to a safe area and allow the flooded areas to be re-vegetated and soil moisture to return to normal levels.

8. Monitoring and Evaluation

Cool Season Grass /Legume pastures should be monitored for minimum grazing height (3-4 inches) in order to maintain vigorous and healthy stands. Perennial Warm Season Grasses require 8 -10 inch minimum grazing heights. **(Delete warm season grasses if not applicable.)** Pasture condition scoring is recommended as a systematic way to check how well a pasture is managed. Pasture condition is evaluated by rating key indicators and causative factors common to all pastures. Conditions that typically express themselves as pasture resource concerns are poor plant growth, weedy species invasion, poor animal performance, visible soil loss, increased runoff and impaired water quality. Scoring should be conducted at least once during the growing season. Key critical management periods are:

- Before placing livestock on the pasture
- At peak forage supply periods
- At low forage supply periods
- When plant stress appears
- Near the end of the grazing period

Utilize the Guide to Pasture Condition Scoring and the Pasture Condition Score Sheet (June 2007) to assist with monitoring.

Record keeping is a key to managing a Prescribed Grazing System. Recording the information on the following chart or in an electronic system will assist you in evaluating your grazing system from year to year. Utilize the attached blank copy of the “Documentation Record for Grazing Management IL-528-1” for continued record keeping.

Record Actual Observations:

Example Documentation Record for Grazing Management IL-528-1

Tract & Pasture	Acres	Livestock Species/class	Livestock Avg wt. *	Livestock Number	Key forage species	Date Livestock in	Begin Graze Ht *	Date Livestock Out	End Graze Ht.*	Days Grazed	Days Rest
T1000, P5	10	Beef Cows	1200	45	Tall Fescue	6/1	8"	6/6	3"	5	30
T1000, P6	12	Beef Cows	1200	45	Tall Fescue	6/7	10"	6/13	3"	6	30

*Note: Livestock Weight, Begin Graze Height, and End Graze Height are estimates.

9. Operation and Maintenance

Prescribed Grazing Management will be applied on a continuing basis. Adjustments will be made as needed to ensure that the goals and objectives of the grazing plan are met. An evaluation of the current prescribed grazing prescription should be made periodically to monitor the results of the prescription on all of the resources, and the planned goals and objectives. If the planned goals or objectives are not being met or there is degradation of any of the resources including animal performance, the prescription needs to be adjusted accordingly. All facilitating and accelerating practices that are needed to effect adequate grazing and/or browsing distribution will be maintained in good working order and will be operated as intended.

Pastures should be soil tested every four years to monitor soil fertility. Approximately, 80% of the phosphorus and potassium of the eaten forage is recycled back to pastures in the urine and manure. Maximizing grazing uniformity and forage utilization will enhance the value of the nutrients in the excrement.

References:

University of Illinois, Urbana-Champaign, 2000. Average Crop, Pasture, and Forestry Productivity Ratings for Illinois Soils. Bulletin 810. 82 pp.

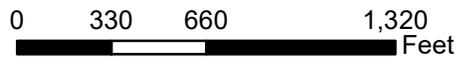
USDA-Natural Resources Conservation Service, Grazing in Illinois Manual.

USDA-Natural Resources Conservation Service, Grazing Lands Technology Institute, 2001. Guide to Pasture Condition Scoring. 7 pp.

USDA- Natural Resources Conservation Service, Soil Survey of [redacted] County, Illinois.

Appendix:

Planned Pasture



Legend

- Watering Facility

Livestock Pipeline

Type

- Deep Buried Pipeline

- - - Surface Pipeline

Fence

Type

- Existing Exterior Fence

- Existing Interior Fence

- +·+ Planned Exterior 3 Strand HTE

- + -+ Planned Interior 1 Strand HTE

Type

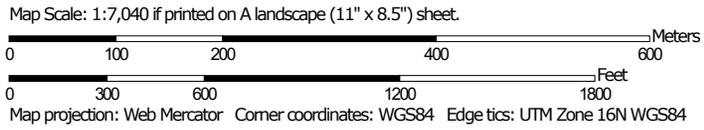
- Forest

- Low Area

Soil Map—Columbia County, Wisconsin



Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Columbia County, Wisconsin
Survey Area Data: Version 17, Jun 8, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 29, 2011—Sep 10, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
FtB	Friesland fine sandy loam, 1 to 6 percent slopes	7.2	3.3%
GeB	Grellon fine sandy loam, 1 to 6 percent slopes	8.7	4.0%
LaB	Lapeer fine sandy loam, 2 to 6 percent slopes	86.7	39.6%
LaC2	Lapeer fine sandy loam, 6 to 12 percent slopes, eroded	28.9	13.2%
LaE2	Lapeer fine sandy loam, 20 to 30 percent slopes, eroded	2.3	1.1%
MnB	Millitary fine sandy loam, 2 to 6 percent slopes	4.4	2.0%
OKB	Okee loamy fine sand, 2 to 6 percent slopes	33.6	15.4%
PtC	Plainfield loamy fine sand, 6 to 12 percent slopes	0.2	0.1%
PkB	Plainfield loamy fine sand, loamy substratum, 2 to 6 percent slopes	6.8	3.1%
PuB	Puchyan loamy fine sand, 2 to 6 percent slopes	2.9	1.3%
RoC	Rodman gravelly loam, 2 to 12 percent slopes	5.2	2.4%
RoD	Rodman gravelly loam, 12 to 20 percent slopes	4.8	2.2%
RtC2	Rotamer loam, 6 to 12 percent slopes, eroded	3.7	1.7%
SbB	Salter fine sandy loam, 2 to 6 percent slopes	2.7	1.3%
SnB	Sisson fine sandy loam, 2 to 6 percent slopes	0.3	0.1%
SnC2	Sisson fine sandy loam, 6 to 12 percent slopes, eroded	0.1	0.0%
SnE	Sisson fine sandy loam, 20 to 30 percent slopes	0.7	0.3%
WoC2	Wycocena loamy sand, 6 to 12 percent slopes, eroded	12.4	5.7%
WoD2	Wycocena loamy sand, 12 to 20 percent slopes, eroded	4.6	2.1%
WxC2	Wycocena sandy loam, 6 to 12 percent slopes, eroded	2.6	1.2%
Totals for Area of Interest		218.9	100.0%

LIVESTOCK NEEDS AND DEMAND SCHEDULE

! by using the "Save As" option to save a copy of the model to your computer. Enter the general information for the producer you are working with into the yellow cells. Then select the livestock class (or classes) model by selecting the check box next to the livestock class name. You can select as many livestock classes to model as needed. If you selected a livestock class in error, clicking the check box again will remove livestock class from the chosen options. Depending on the livestock class chosen, there may be additional management information to enter by selecting the button for "Mgt Info" next to the livestock class e. Enter the management information within the button (if available) and then enter the required information in the yellow cells to capture the total forage demand. For Cow/Calf, Dairy, Bulls, and Horses tock classes the "Mgt Info" button will have options to manage the animals on the grazing system all year or an alternative pasture or a dry lot for a portion of the year. The selected option will be reflected :tly below the livestock class name.

<p>General Info</p> <p>Name: <input type="text"/></p> <p>System ID: <input type="text"/></p> <p>Date: <input type="text"/></p> <p>County: <input type="text"/></p> <p>Completed by: <input type="text"/></p> <p>Grazing Days: <input type="text"/></p>	<p align="center">Select Livestock Class (select as many as needed)</p> <p><input checked="" type="checkbox"/> Cow/Calf Pairs Herd 1 <input type="checkbox"/> Stockers Herd 1 <input type="checkbox"/> Dairy, Seasonal <input type="checkbox"/> Bulls <input type="checkbox"/> Goats</p> <p><input type="checkbox"/> Cow/Calf Pairs Herd 2 <input type="checkbox"/> Stockers Herd 2 <input type="checkbox"/> Dairy, Annual <input type="checkbox"/> Horses <input type="checkbox"/> Sheep</p> <p><input type="checkbox"/> Cow/Calf Pairs Herd 3 <input type="button" value="Dairy Options"/></p>	<p>Notes: (Use this area to make any notes specific to the model)</p> <div style="border: 1px solid black; height: 60px;"></div>
---	--	---

Livestock Class	Planned Number	Avg. Weight	Intake Rate (%)	Lbs/Day	Lbs/Year	Forage Demand by Month (Lbs/month)											
						Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Cow/Calf Pairs Herd 1 <input type="button" value="Herd 1 Mgt"/>	84	1,300	2.6	2,839	1,036,308	100,867	102,163	100,436	98,536	93,181	86,964	81,782	68,310	69,605	70,901	77,119	86,445
<i>Selected Management = Grazing System all Year</i>																	
Total Forage Demand	84	1,300	2.60	2,839	1,036,308	100,867	102,163	100,436	98,536	93,181	86,964	81,782	68,310	69,605	70,901	77,119	86,445

Total Forage Demand: Grazing System	Total (lbs/year) = 1,036,308	100,867	102,163	100,436	98,536	93,181	86,964	81,782	68,310	69,605	70,901	77,119	86,445
Total Forage Demand: Alternative Pasture	Total (lbs/year) =												
Total Forage Demand: Dry Lot	Total (lbs/year) =												

GRAZING SYSTEM PASTURE FORAGE PRODUCTION

this input area to capture the pasture forage production of the grazing system. Add additional paddocks by selecting the "+" icon. You may enter up to 24 separate fields/paddocks. The yellow cells are for user ts. If hay will be cut on a field/paddock (in addition to being used as part of the grazing system), select the "Y" icon and enter the month hay will be cut. Entering haying information here will automatically add ield/paddock to the "Fields Hayed in Conjunction with Grazing" area below where you will be able to enter details about the hay production. You can override the haying information at any time by selecting the on to revert the field back to a pasture only field. The Pasture Grazing Efficiency information can be entered manually or you can allow the model to calculate. Select the "What is this?" button below to learn about this feature.

Field/ Paddock Number	Kind of Forage <small>(double click for drop down menu)</small>	Acres (Usable)	TFP* lbs/ac	Total Production Pounds	Pasture Grazing Eff. (%)	Usable Pounds	Grazing System Pasture Forage Available by Month (Lbs/month)											
							Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
1	Orchardgrass/Red Clover <small>Will hay be cut on this field? <input type="button" value="Y"/> <input type="button" value="N"/></small>	89	8,571	762,819	60	457,691	54,923	91,538	86,961	54,923	36,615	45,769	54,923	18,308				13,731
2	Orchardgrass/Red Clover	30	8,571	257,130	60	154,278			29,313	18,513	12,342	15,428	18,513	6,171				



Seeding Plan

Custom Mix

Ver. 2/2013

LANDOWNER: **Pillsbury Dairy LLC - Interseeding**

Attachment 5

TRACT #: **35141**
 Field(s): **See Map**
 Total Acres: **93.0**
 County: Richland

NRCS Std.: 512
 Plan by: **BP**
 Plan date: **01/13/16**

GRASSES				
Common Name	Scientific Name	Intro/ Native	PLS (lbs / Acre)	Total Lbs.
Meadow Fescue	Schedonorus pratensis	Intro	3.0	279.0
Orchardgrass	Dactylis glomerata L.	Intro	1.0	93.0
Timothy	Phleum pratense	Intro	0.5	46.5
Festulolium	Festuca x Lolium	Intro	3.0	279.0
TOTAL GRASSES:			7.5	697.5

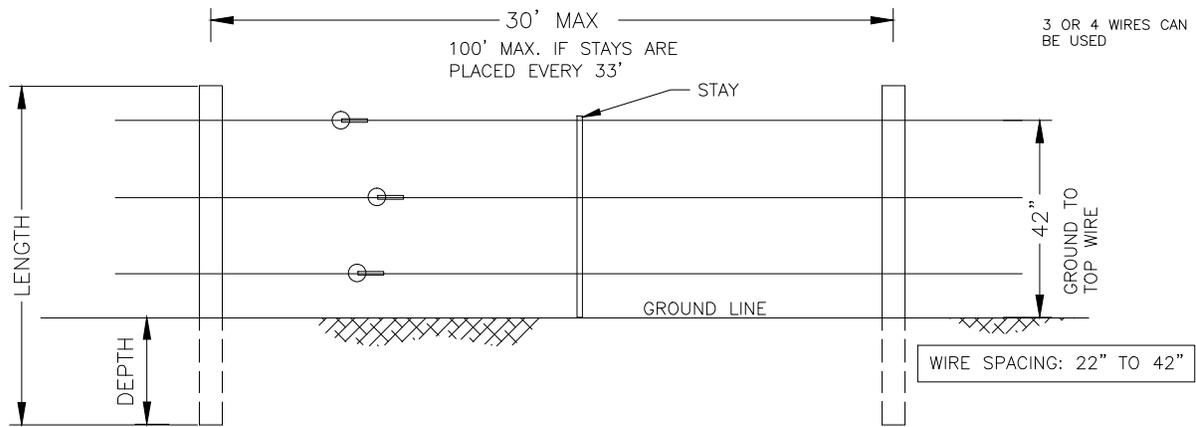
FORBS/LEGUMES						
Common Name	Scientific Name	Intro/ Native	PLS (lbs / Acre)	Total Lbs.	PLS (oz./Acre)	Total Oz.
Red Clover	Trifolium pratense	Intro	1.0	93.0		
White Ladino Clover	Trifolium repens	Intro	1.0	93.0		
TOTAL FORBS/LEGUMES:			2.0	186.0		

SEEDING DATES	Spring Seeding	Late Summer	Fall Dormant Seeding	Frost Seeding Allowed?
INTRODUCED GRASSES & LEGUMES	4/15 - 6/1	8/1 - 8/21	N/A	Legumes Only
	lbs/acre	Total lbs.	OR	Bu./Acre
Temporary Cover Crop:	NONE			
Companion Crop:		NONE		
<input type="radio"/> Yes <input checked="" type="radio"/> NO You must pick Yes or No				

Fertilizer & Lime		Total Lbs. Needed	
80-89 Lime			<input type="checkbox"/> General <input checked="" type="checkbox"/> Soil Test <input type="checkbox"/> Fert./Lime Not Needed
Nitrogen			
Phosphate (P205)			
Potash (K20)			

Seeding was completed on: _____ according to the above requirements.
 (Date)

HIGH TENSILE PERMANENT ELECTRIC FENCE
CATTLE, EXTERIOR



LINE POSTS

WOOD:

DIA. = 4" MIN, 2.5" FOR OSAGE ORANGE
LENGTH = 6' MIN
DEPTH = 2' MIN

ALL WOOD SPECIES EXCEPT RED CEDAR, WHITE CEDAR, TAMARACK, OSAGE ORANGE OR BLACK LOCUST SHALL BE TREATED BY A METHOD LISTED IN WI CONSTRUCTION SPEC. #10-FENCES.

STEEL:

STANDARD "T" POST ≥ 1.25 LBS/FT, $1 \frac{3}{8}" \times 1 \frac{3}{8}" \times \frac{1}{8}"$
LENGTH = 5.5' MIN
DEPTH = 1.5' MIN

ALL STEEL POSTS SHALL MEET ASTM A702

ALL STEEL POSTS WILL HAVE AN ANCHOR PLATE AND STUDDED

ALL STEEL POSTS WILL BE PAINTED WITH A WEATHER RESISTANT PAINT FOR STEEL, ENAMELED AND BAKED, OR HOT DIP GALVANIZED

FIBERGLASS:

DIA. = $\frac{7}{8}"$ MIN OR 1" AREA
LENGTH = 5.5' MIN
DEPTH = 1.5' MIN

ALL FIBERGLASS SHALL HAVE A MANUFACTURER'S WARRANTY AND BE DURABLE FOR THE LIFE OF THE FENCE

PLASTIC/COMPOSITE:

DIA. = 1" MIN
LENGTH = 5.5' MIN
DEPTH = 1.5' MIN

ALL PLASTIC/COMPOSITE SHALL HAVE A MANUFACTURER'S WARRANTY, BE UV PROTECTED, AND BE DURABLE FOR THE LIFE OF THE FENCE

WIRE

12.5-GAUGE WIRE, 140,000 PSI MIN. TENSILE STRENGTH WITH CLASS 3 GALVANIZING

MIN. 900 LBS. BREAKING STRENGTH

ALL WIRE SHALL MEET ASTM A854

FASTENERS

ALL WIRES SHALL BE ATTACHED TO EACH LINE POST

STAPLES SHALL BE 9-GAUGE, CLASS 3 GALVANIZED STEEL OR HEAVIER

1.75" MIN. LENGTH FOR SOFTWOODS

1" MIN. LENGTH FOR HARDWOODS

USE INSULATED MANUFACTURER'S CLIPS TO FASTEN WIRES TO STEEL POSTS

USE MANUFACTURER'S CLIPS OR 14-GAUGE WIRE TO FASTEN WIRES TO FIBERGLASS, AND PLASTIC/COMPOSITE POSTS

STAPLES, WIRES, AND CLIPS SHOULD ALLOW FREE MOVEMENT OF THE HIGH TENSILE FENCE WIRE

NOTES

BRACES ARE REQUIRED AT ALL CORNERS, GATES, PULL AND END ASSEMBLIES. SEE BRACE DETAILS.

ALL ELECTRIC FENCES SHALL BE GROUNDED AND ALL ENERGIZERS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS. SEE ENERGIZER DETAILS.

REFER TO THE WI CONSTRUCTION SPEC-10 AND WI NRCS STANDARD 382-FENCE FOR MORE SPECIFIC INFORMATION



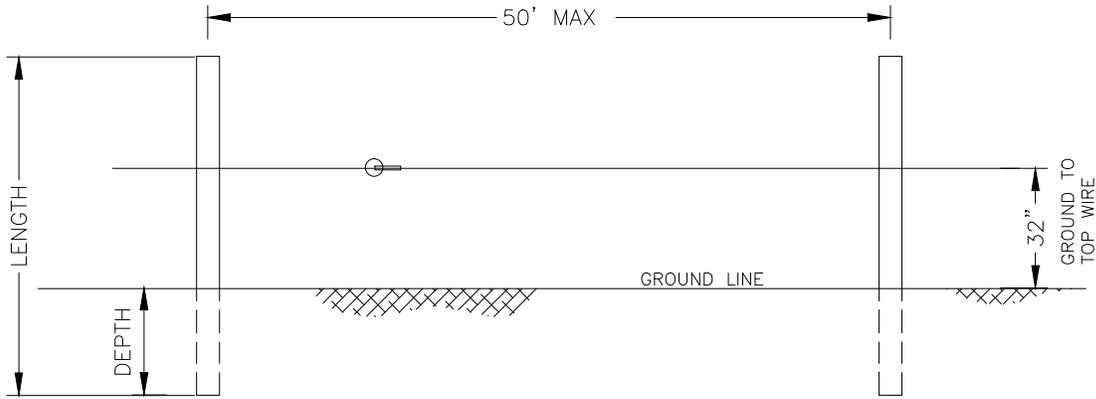
HT ELECTRIC FENCE
CATTLE, EXTERIOR

CLIENT: _____
COUNTY: _____

Date _____
Designed _____
Drawn _____
Checked _____
Approved _____

Drawing Name _____
Date 3/14
Sheet of _____

HIGH TENSILE PERMANENT ELECTRIC FENCE
CATTLE, INTERIOR



POSTS

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DEPTH = 2' MIN

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MIN. 900 LBS. BREAKING STRENGTH

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REFER TO THE WI CONSTRUCTION SPEC-10 AND WI NRCS STANDARD 382-FENCE FOR MORE SPECIFIC INFORMATION



HT ELECTRIC FENCE
CATTLE, INTERIOR

CLIENT: _____
COUNTY: _____

	Date
Designed	_____
Drawn	_____
Checked	_____
Approved	_____

Drawing Name
Date
3/14
Sheet of