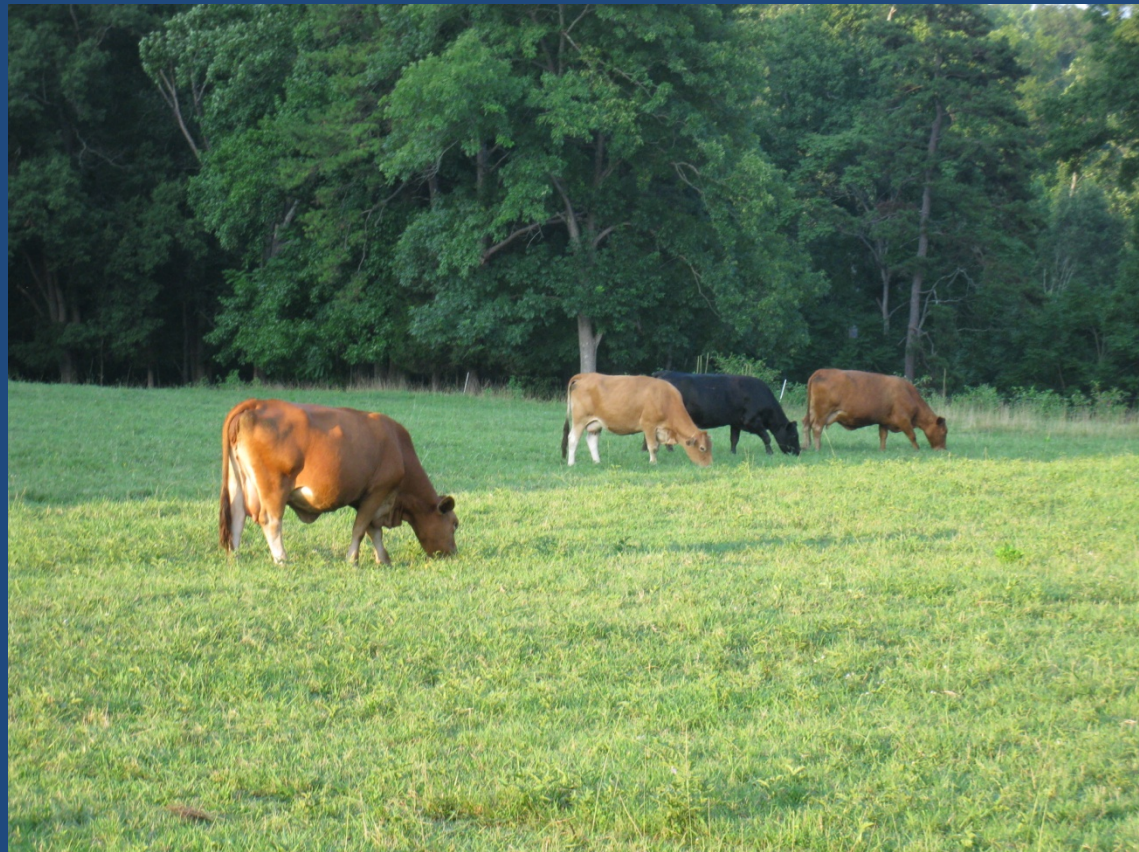


PROVIDING ASSISTANCE TO ORGANIC LIVESTOCK OPERATIONS

STEVE WOODRUFF
AGRONOMIST



Pasture/Grazing Plan

- Types of pasture provided to ensure that feed requirements are being met
- Cultural and management practices....used to ensure 30% of the feed from pastures
- Grazing season for the livestock operation's regional location
- Location and size of pastures, including maps giving each pasture its own identification

Pasture/Grazing Plan

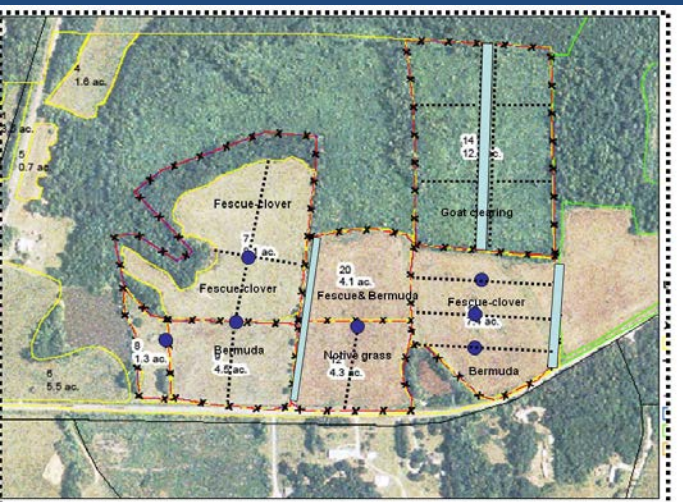
- The types of grazing methods to be used in the pasture system
- Location and types of fences, and the location and source of shade and the location and source of water
- Soil fertility and seeding systems
- Erosion control and protection of natural wetland and riparian practices

Grazing Plan

✓ Location and size of pastures, including maps giving each pasture its own identification

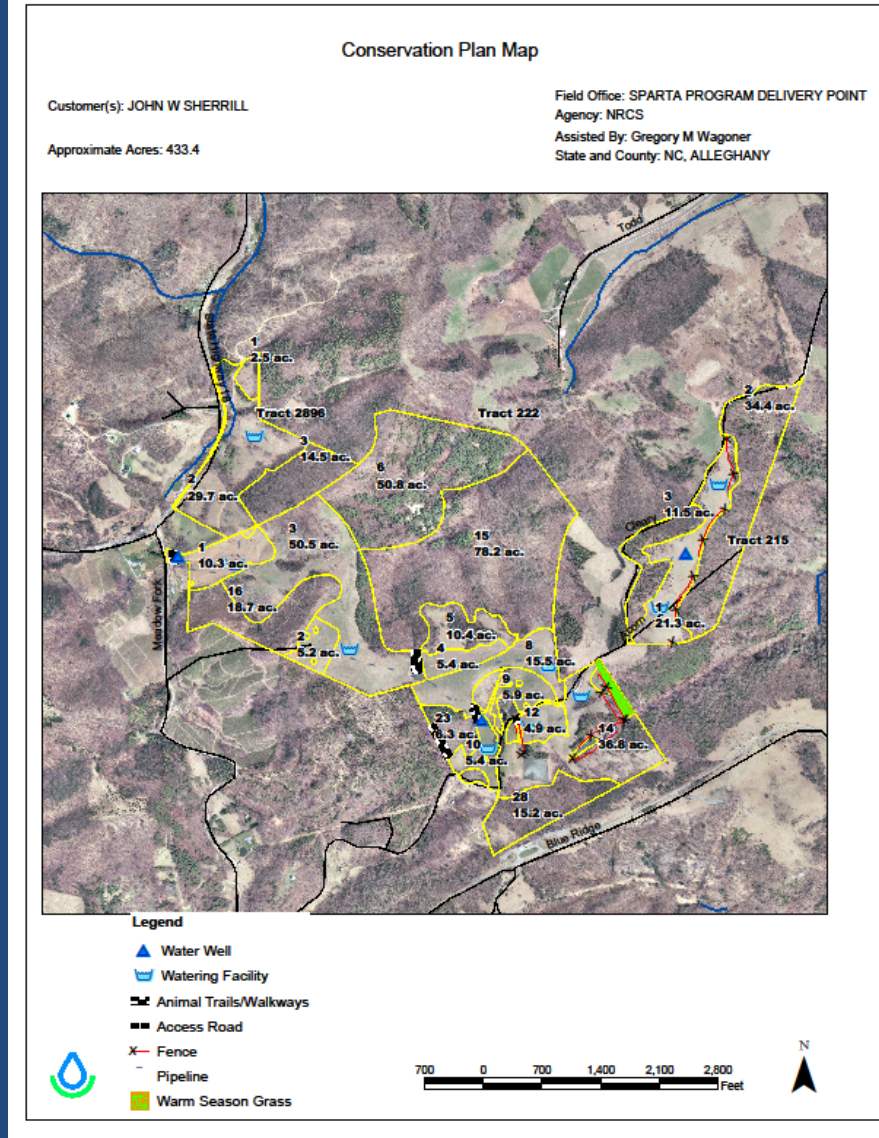
of paddocks??

- Herd size, number, kind
- Yield, location
- Producer willingness to rotate



Grazing Plan

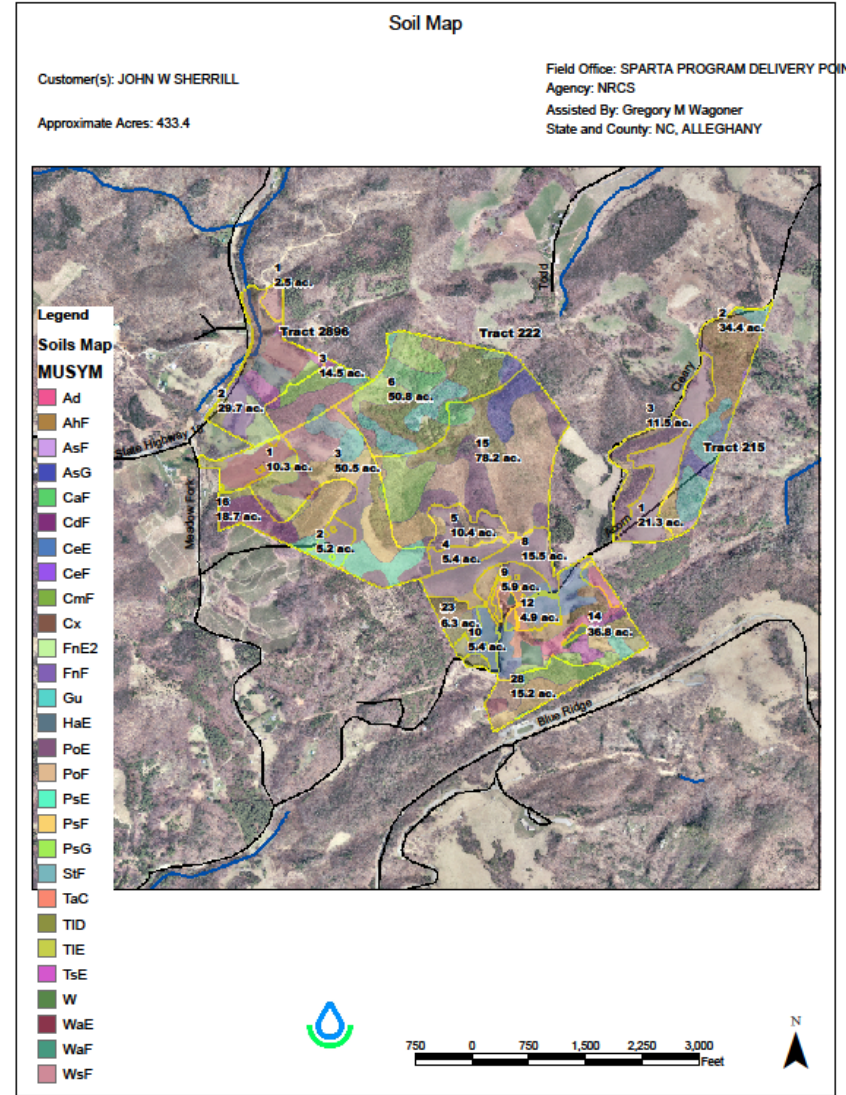
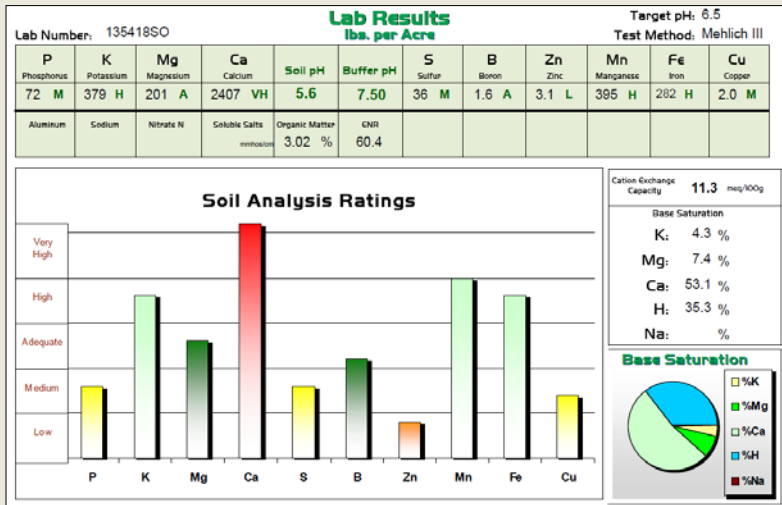
✓ Location and types of fences, and the location and source of shade and the location and source of water



Grazing Plan

- Soil fertility and seeding systems

Typical Soil Test



Grazing Plan

✓ Types of pasture provided to ensure that feed requirements are being met

Cool season and warm season

Annual or perennial species

Grasses, legumes or other

Diversity



Grazing Plan

- ✓ Erosion control and protection of natural wetland and riparian practices



Grazing Plan

✓ The types of grazing methods to be used in the pasture system

Continuous, Rotational, Intensive...

Grazing Efficiency

<u>Pastures</u>	<u>Period</u>	Grazing	<u>Utilization Rate</u>
1 pasture	Continuous		30-40%
4 pasture	7-10 days		40-50%
8 pasture	3-5 days		50-60%
12 pasture	2-4 days		60-75%
24 pasture	1-2 days		75+ %

Grazing Plan

Grazing season for the livestock operation's regional location

- **Determined by Producer**
- **Accepted by certifier**
- **Must be 120 days as a minimum**

Grazing Plan

- ✓ Cultural and management practices to be used to ensure pasture of a sufficient quality and quantity is available to graze throughout the grazing season...with an average of not less than 30% of their dry matter intake from grazing throughout the grazing season

How is this determined?

Demand – Yield – Efficiency

- Demand: (intake)
 - Size
 - Kind
 - Stage of Life
- Yield (potential):
 - Fertility
 - Soil Type
 - Forage Species
 - Grazing pressure

Grazier's Arithmetic For Animal Demand

- Forage Intake Rate in %
of body weight

**

Cow	2 - 2.5%
Lactating Cow	3 - 4%
Dairy Cow	2.5 - 3.5% + grain
Stockers	2.5 - 3.5%
Sheep	3.5 - 4%
Horse	2.5 - 4%

Target dry matter intake as a % of body weight

Horses 1.5 to 2.5%

Beef Cattle 2 to 3%

Sheep and Goats 3 to 4%

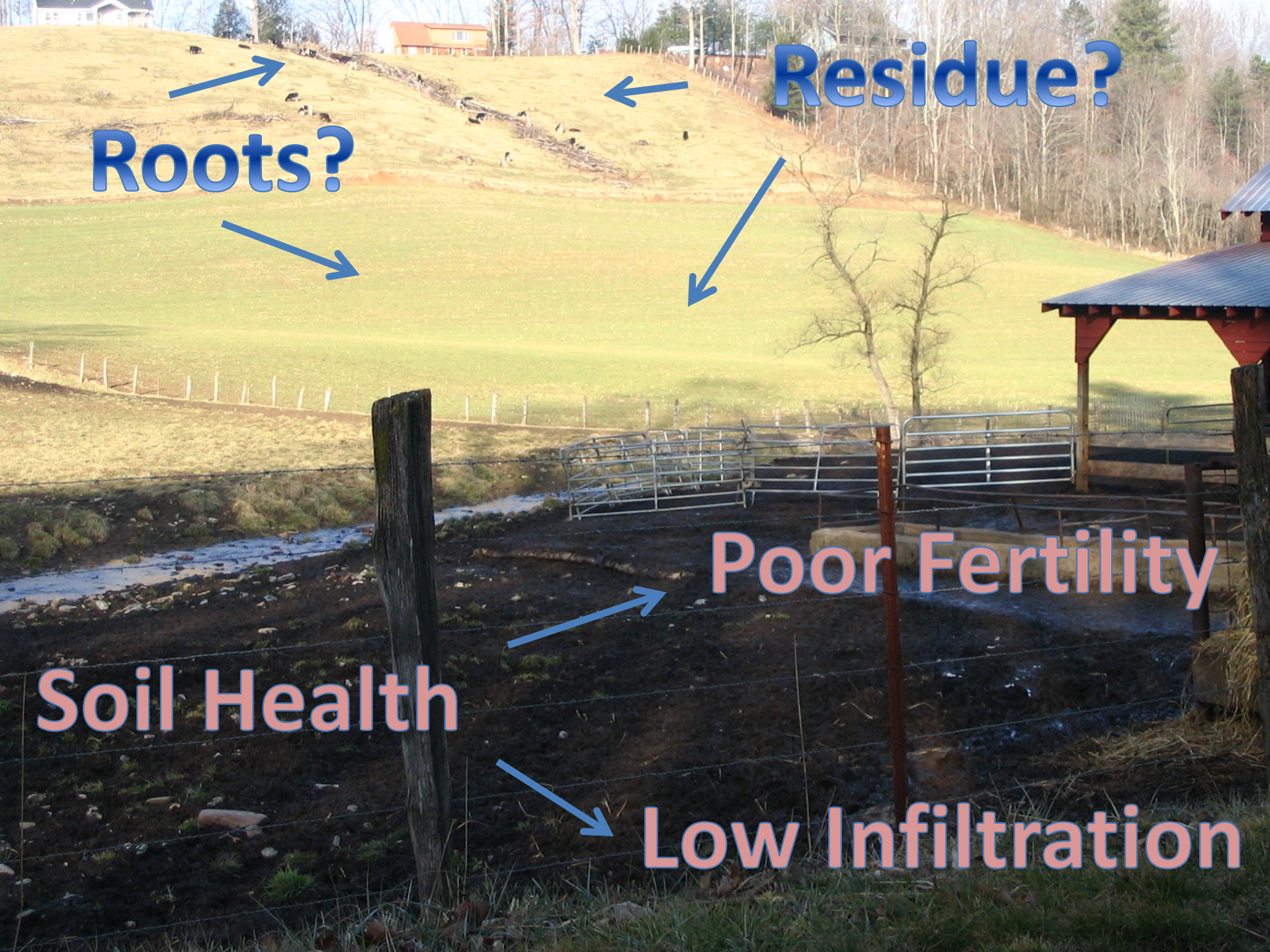
Lactating dairy cow 3 to 4%

Example: 30 cow/calf herd

- Demand: 2.5% (of weight) \times 1000 (cow size) \times 30 cows \times 365 days = $273750/2000 = \underline{137}$ tons
- Yield: 7000 lbs. \times 40 acres \times 50% = 140000 / 2000 = 70 tons
- $70/137 = \underline{51\%}$ average forage consumed

Prescribed Grazing

- Adhere to start/stop grazing heights
- Manage grazing to protect sensitive areas
- Document a contingency for adverse conditions
- Develop a forage/animal balance



Residue?

Roots?

Poor Fertility

Soil Health

Low Infiltration



Nutrient Mgt

Pest Mgt.

Watering Facility

Access Control

Buffers



Prescribed Grazing

Pipeline

Fence

Well

Forage Planting

Herbaceous Weed
Control

Nutrient Management

the nutrient sources and management must be consistent with the USDA's National Organic Program.

Nutrient values of manure and organic by-products must be determined prior to land application.

Nutrient application from manures may exceed plant uptake.



INTEGRATED PEST MANAGEMENT

- IPM strategies (Prevention, Avoidance, Monitoring and Suppression)
- Criteria to Prevent or Mitigate Cultural, Mechanical and Biological Pest Suppression Risks to Soil, Water, Air, Plants and Animals
- Ex. resource concerns:
 - Air Quality
 - Erosion



Organic Integrity and Buffers

- Distinct boundaries & buffer zones
- Prevent unintended application of prohibited substances
- Protect from what might come on the farm
- Adjoining land means:
 - Cropland, pasture, fallow, residential, etc.
- Can change annually depending on potential for contamination
- Width is dependant on certifying agent policy
- Buffers can be farmed, harvest must be kept separate

Buffers

Have distinct, defined boundaries and buffer zones.....

- Field Borders
- Filter Strips
- Diversion



HERBACEOUS WEED CONTROL



Biological Treatment

Chemical Composition of various types of plants

Crude protein of plants

Species	Crude protein		
	Vegetative <i>Pct.</i>	Flower/boot <i>Pct.</i>	Fruit/head <i>Pct.</i>
Forb			
Carolina geranium	18.7 e A*	13.8 gh B	10.6 fg C
Cutleaf evening primrose	19.6 de A	14.1 gh B	11.3 efg C
Henbit	—	20.1 de A	16.2 cd A
Virginia pepperweed	31.9 a A	25.8 ab B	17.1 c C
Curly dock	29.9 ab A	19.1 def B	16.1 cd C
Grass weeds			
Virginia wildrye	23.1 cd A	18.8 def B	6.8 h C
Wild oats	23.2 cd	—	—
Cheat	23.4 cd A	17.6 ef B	13.8 gh C
Little barley	23.6 c A	17.6 ef B	13.8 de C
Cultivated forages			
Rye	27.9 b A	24.2 bc B	13.4 de C
Tall fescue	22.1 cde A	16.5 fg B	12.5 ef C
Ladino clover	27.2 b A	22.1 cd B	23.2 b C
Hairy vetch	30.0 ab A	28.7 a A	26.2 a A

Access Control

*temporary or permanent exclusion....

Organic policy:

Protection of natural wetlands
and riparian areas



Forage and Biomass Planting

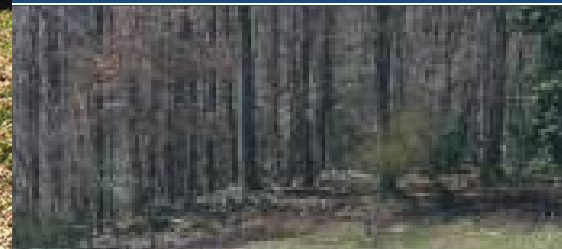
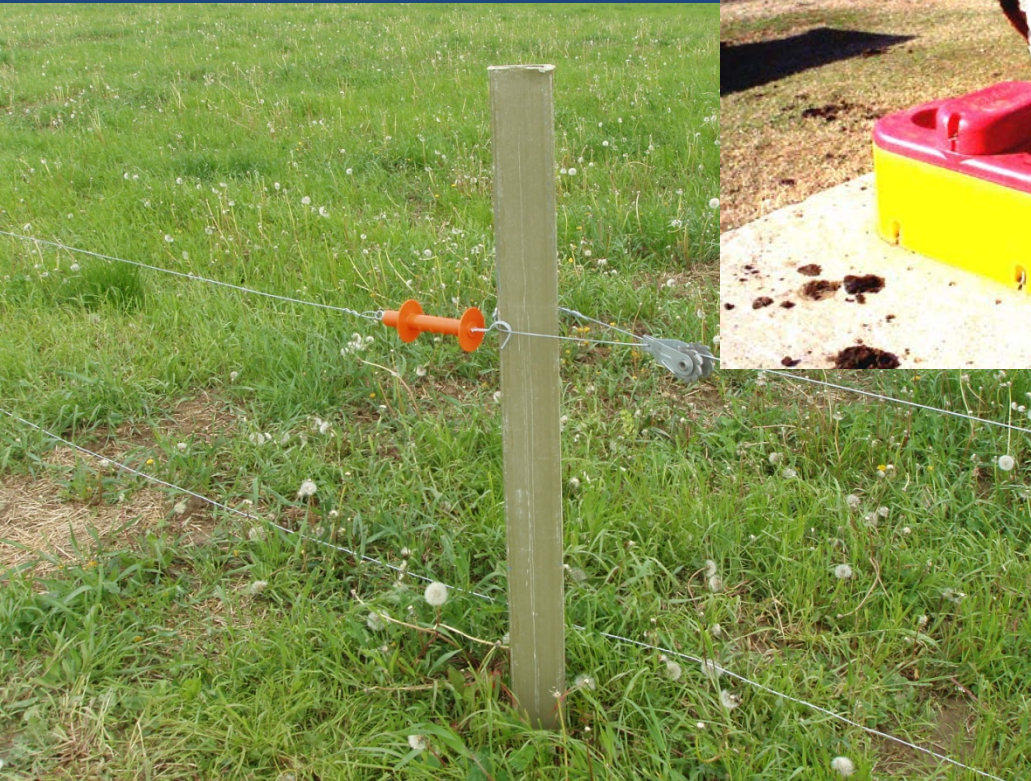
Improve or maintain livestock nutrition and provide or increase forage supply

Over seeding annuals

Frost Seeding Legumes



Watering Facilities, Trails & Walkways, Pipeline, Wells, Fencing

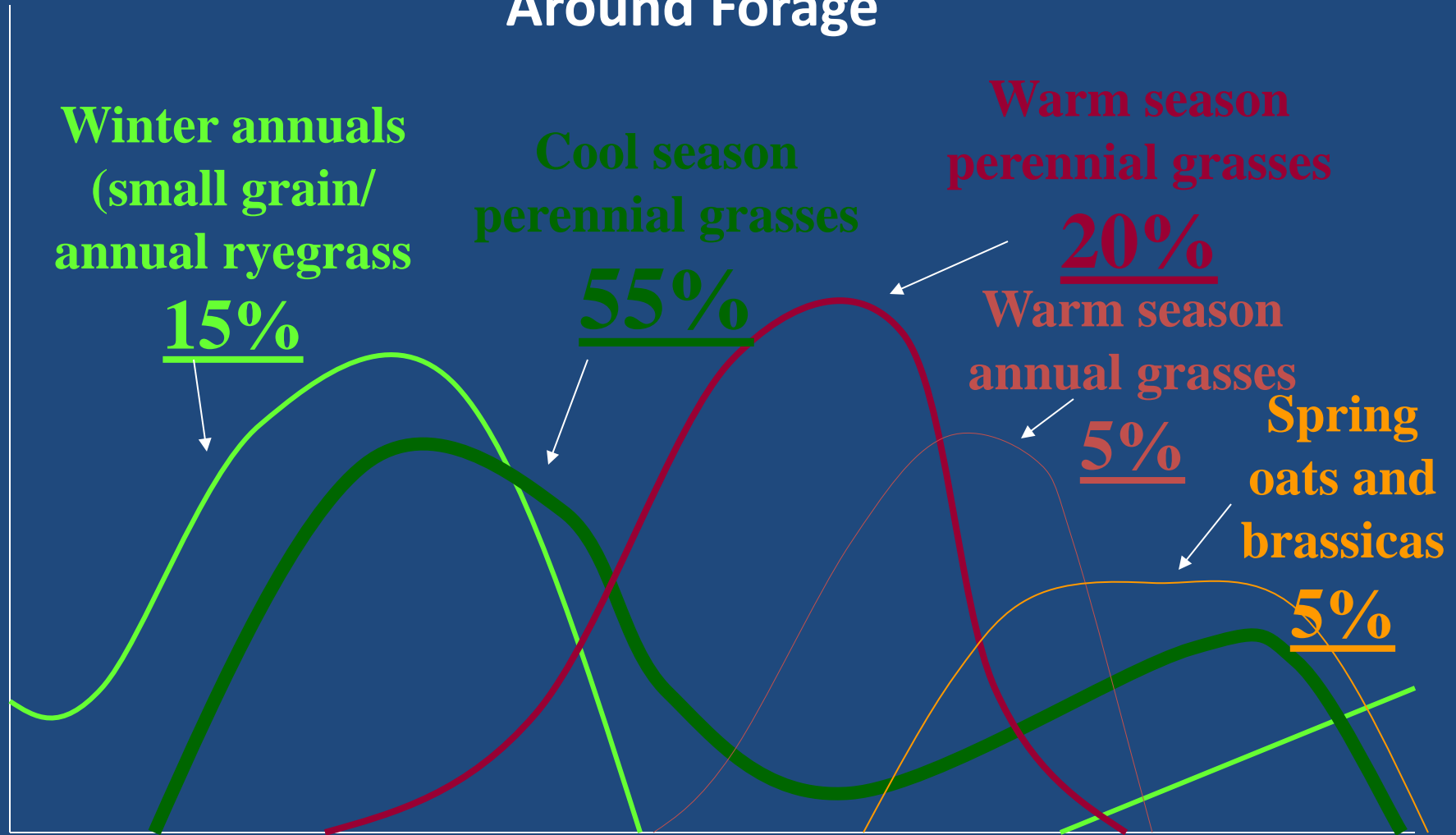


Consider Native
Warm Season
Grasses
**YIELD RESPONSE TO
LOWER FERTILITY**



Approximate Percentages of Various Forages for Year Around Forage

Relative Growth Rate



Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec

Percentage of each species will vary relative to yield

Consider...



Spread the hay and spread the manure and urine



Very little waste when
one day supply is
distributed

Grazing an extra 60 days saves \$50/cow



Stockpiled Fescue – NC mountains 2009-2010

	Crude Protein %	TDN %
Mid November Farm -1	15 - 20	72
End of January Farm -1	14	67
Mid November Farm -2	19	72
Mid March Farm -2	12-16	62
Hay Farm -2	9-10	60-65

Organic or Grass Fed ?

Organic

- At least 30% of Dry Matter Intake must come from pastures
- Organic Feed
- No antibiotics

Grass Fed

- 100% Pasture or hay
- Some exceptions for supplements like cotton seed etc..

Questions

Steve.woodruff@gnb.usda.gov