Marion County Extension

Fact Sheet

Small Farm Living

Pasture Management Basics

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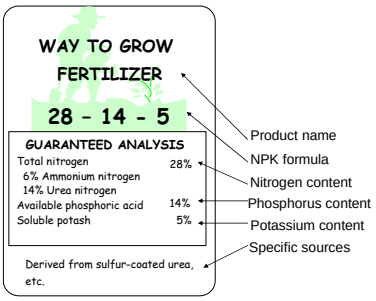
Fertilizer Application Rates

There are three primary nutrients found in fertilizer (N) nitrogen, (P) phosphorous, (K) potassium.
When reading a fertilizer bag the nutrients are represented by three numbers



A fertilizer label reads "28-14-5" really means 28% of contents in N, 14% is P, 5% is K, the rest is 52% inert material

1. Determining actual pounds of nutrient in each bag. Multiply % of nutrient by pounds of bag

.28 x 50 lbs = 14 lbs Nitrogen
.14 x 50lbs = 7lbs Phosphorous
.05 x 50lbs = 2.5 lbs Potassium

Example: Suppose the soil test recommended that you apply 100 lbs of nitrogen per acre. Using 27-0-5 fertilizer, you would need to apply 370 pounds per acre.

(100 lbs of nitrogen divided by 27% (.27) = 370 lbs of fertilizer

How many 50 lb bags will you need to purchase?

370 lbs of fertilizer divided by 50lb bag = 7 bags

Determining seed required to achieve proper seeding rate:

Example: Bahia seed (refer to seed tag)

Recommended seeding rate= 25lbs/acre

Germination = 85% Purity = 96%

1. Multiply germination % X purity %

(.85 x .96)= .816 pure live seed

2. Divide recommended seeding rate

by pure live seed **25/.816= 31 Lbs**

31 lbs of seed needed per acre to obtain your desired seeding rate of 25lbs/acre

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Liming Facts

- Liming is needed only when your soil test indicates your pH is below the recommended range for proper plant growth.
- Lime is should be applied to benefit the plant, not the soil per se.
- Overliming can reduce plant performance and is not economical. Deficiencies and imbalances of micronutrients occur when pH levels are too high
- It is important to differentiate between liming to raise the pH or need to supply Ca or Mg to your soil
- When determining your need to lime your crop/forage it is recommended to do a soil test.
- Contact your local Extension office for a soil test kit.

Definitions of Ag-lime

✦ **Calcite**- mineral that occurs in nature; 100% CaCo3

✦ **Calcitic limestone**- has high Ca concentrate (CaCo3), low levels of Mg, not pure mineral

✦ **Dolomite-** mineral composed of Ca (54-58%) and MgCo3 (40-45%)

✦ **Dolomitic aglime**- contains less MgCo3 then pure dolomite generally 15-20%

Hi-cal lime- limestone w/high concentrations of Ca

Determining AUM's

This table shows AUM equivalents. A horse is bigger than a cow and has a less efficient digestion system, hence its AUM is 1.2. This means a horse's forage requirements is 1.2 times that of a cow it needs 20% more feed per month than a cow. As a contrast, let's look at sheep– its AUM is .20 or 1/5th of the forage requirement of a cow. Another way to think of it is that five sheep are equivalent to one cow, in terms of AUM's.

Animal Unit Equivalent

Animal	Weight	AUM
Cow	1,000	1.0
Heifer	700	.80
Steer	700	.85
Bull	1,700	1.40
Horse	1,300	1.20
Cow	1,500	1.50
Sheep/goat	120	.20
Llama		.20

Definitions:

- **Stocking rate-** # of animals stocked/acre of grazing land for a period of time
- **Carrying capacity-** the # of animals that a paddock or pasture can accommodate without overgrazing
- **Animal unit month (AUM)-** the amount of forage required per month for one 1000lb mature cow, with/without a calf up to six months old, or equivalent

Example of animal units

One animal unit = 1000 lbs

A 1000 lb non-lactating beef cow is an animal unit

Two 500-lb steers would be one animal unit

- **Forage yield-** the actual amount of forage available, generally reported on a per acre basis
- **Overgrazing-** grazing re-growth on grasses that have already been grazed once with out an adequate rest period
- **Moldboard plow**- breaks loose and turns over a 6-8" layer of soil, buries weed seed, turns under vegetation, buries weed seed

Disc plow- use in soils that contain roots or stumps, good substitute for moldboard plow, can cut 4-10" deep, covers area 3x faster

- **Harrows-** metal frame device with metal teeth, pulled behind tractor, designed to level and pulverize tilled soil, uproot weeds
- **Drags-** used to pulverize, level and firm seedbed, often homemade devices (tires, large boards, often weighted
- **Cultipacker** (can be used before seeding also)- packs loose soil around the seed
- **Rollers-** often weighted and pulled behind a tractor ex; drums filled w/water