



# GRAZING NEWS

JANUARY 2012

A publication of the Master Grazer Program

## PURCHASING QUALITY SEED

### UPCOMING EVENTS

- Forages at KCA- January 13, 2012- Lexington, KY
- Western KY Dairy Meeting- Nutrient Management- January 17, 18, or 19 (Todd, Trigg, Christian Counties)
- Heart of America Grazing Conference- January 25-26 - Mt. Vernon, Illinois
- Western KY Dairy Meeting- Forages- February 7, 8, or 9
- Western KY Dairy Meeting- Feed Management- February 21,22, or 23
- 32nd KY Alfalfa Conference - February 23- Cave City, KY
- Kentucky Grazing School April 10-11- Princeton, KY

For more information see the UK Forage website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage)

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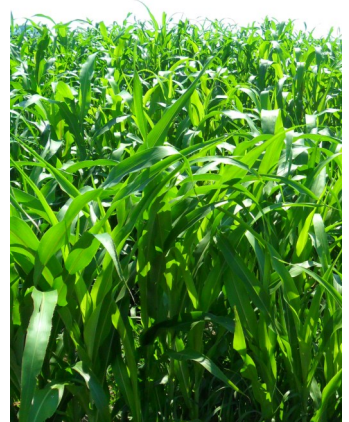
It's time for those planning on seeding pastures or hayfields this spring to begin preparing. Whether renovating pastures, converting cropland into pasture, establishing a new species into an existing stand, or reestablishing winter feeding areas and other high traffic areas, it is important to purchase high quality seed to get the best results. Seed is one of the cheapest inputs and is the basic building block to a good forage stand.

Before purchasing seed, the ideal forage species and variety for the land and operation needs to be determined. This should reflect nutrient requirements, management, climate, soil type, and location. It is vital to use a variety that is adapted to the area. See the University of Kentucky Forage Variety Trials (<http://www.uky.edu/Ag/Forage/ForageVarietyTrials2.htm>) or talk to your county agent for information regarding varieties. Once a variety has been decided on, the seed can be purchased. In order to produce a healthy stand, the seed needs to be capable of germinating and producing healthy plants. All agricultural seed is required to be labeled. One must read these labels to ensure they are purchasing high quality seed.

Although there may be minor alterations, seed labels usually consist of:

- Variety and Kind - Cultivar/ release name, species, and common name
- Lot number
- Origin
- Net weight
- Percent pure seed (purity)
- Percent inert matter
- Percent other crop seeds
- Percent weed seeds
- Name of restricted noxious seed and number per pound of seed
- Percent germination - how much of the seed will germinate readily
- Hard seed - seed which does not germinate readily because of a hard seed coat
- Dormant seed - seed which does not germinate readily because it requires a pre-treatment or weathering in the soil. (Some suppliers may combine hard and dormant seed on the label.)
- Germination test date - date should be within 12 months of the planned seeding
- Name and address of company responsible for analysis (seller or grower)

While it is important to consider all of these, it is especially important to note purity and germination. Purchasing seed with high purity levels means low levels of unwanted crop seed, weed seed, and inert matter. Percent germination is derived from tests done in the lab which assesses the ability of the seed to produce a healthy plant when placed under favorable conditions. It is also important to consider other factors such as vigor of seed, hard or dormant seed, and seed size.



A thick stand of a sorghum-sudan hybrid grown from certified seed

Higher quality seed comes at a higher price. This seed's ability to produce a higher yield and to increase longevity of the stand should counteract that cost. Seed with high purity will reduce unwanted weed seeds and can reduce future herbi-

## PURCHASING QUALITY SEED (CONT.)

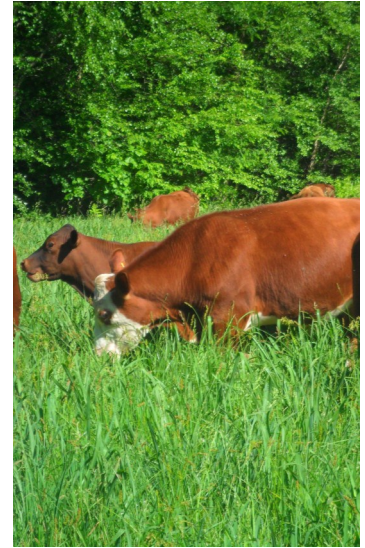
cide costs. Seed with high germination percentages will produce a thicker, higher yielding stand.

When purchasing seed, there are several ways to ensure that the seed is of high quality. First, only purchase seed from a reputable dealer. It is beneficial to ask questions on how the seed is produced, conditioned, and stored which can all greatly affect seed quality. Purchasing certified seed is recommended to guarantee quality.

Certified seed is seed of a known variety that is produced under strict seed certification standards to maintain varietal purity. Seed lots have specific standards for purity and germination percentages. Certified seed is guaranteed to be free of noxious weeds and must pass field inspections and laboratory testing. Seed may only be conditioned by an approved seed conditioning plant. Certified seed is guaranteed to be high quality

seed.

Poor quality seed is never a bargain as it will usually produce a lower yielding crop with reduced longevity. Purchasing seed that is contaminated with other crop seed, weed seed, and inert matter is wasting money and can increase herbicide needs and costs. Seed is one of the cheapest but most important inputs to produce a thick, healthy forage stand.



Purchasing high quality seed is the first step in producing a healthy forage stand

## GRASS TETANY

Early spring is the primary time that farmers experience problems and loss of livestock to the forage related disorder known as grass tetany, grass staggers, lactation tetany, or hypomagnesemia. Grass tetany is a metabolic disorder caused by reduced magnesium (Mg) levels in the animal's blood. High levels of Nitrogen (N) and Potassium (K) in the soil can increase the risk of grass tetany. It generally effects older, lactating cows but is also seen in dry cows, young cows, and, in rare cases, growing calves. Young cool-season grasses and small grains are commonly associated with this disorder. Grass tetany is most frequent in the spring but may occur in the fall and winter when these forages start growing rapidly or when cereal grain forages are fed.

Symptoms may consist of nervousness, lack of coordination, muscular spasms, staggering, convulsions, coma, and death. If there is a suspicion of grass tetany, a veterinarian should be called immediately.

Feeding high magnesium or high "Mag" mineral supplements, containing magnesium oxide, is the preferred method to reduce the occurrence of grass tetany. High "Mag" mineral mixes are available at most feed stores. Producers can also mix their own by adding the appropriate amount of magnesium oxide to another supplement or feed where the intake is controlled, i.e. feeding in or with 1 to 2 lbs. of corn or other by-product. Livestock should be fed this supplement starting in December or January and continued until spring time when tempera-

tures are consistently above 60° F. To provide adequate amounts, 20 g of magnesium must be provided and consumed daily. Free-choice minerals should contain 12 % to 15% magnesium (from magnesium oxide) and cattle need to consume 4 ounces of the mineral. It is important to monitor intake to be sure cattle are consuming adequate amounts each day to provide protection against grass tetany. Lactation doubles Mg need and early plants do not take up Mg fast enough to provide adequate amounts.

The season for grass tetany is around the corner. To reduce health problems and loss of livestock to this disease, it is important to provide a quality, "high Mag" mineral or magnesium oxide containing supplement. Ask

your county agent, veterinarian, or nutritionist for more information on supplementing Mg during periods of high risk.

**"Grass tetany is a metabolic disorder caused by reduced magnesium levels in the animal's blood"**

## INNOCULATING LEGUME SEED

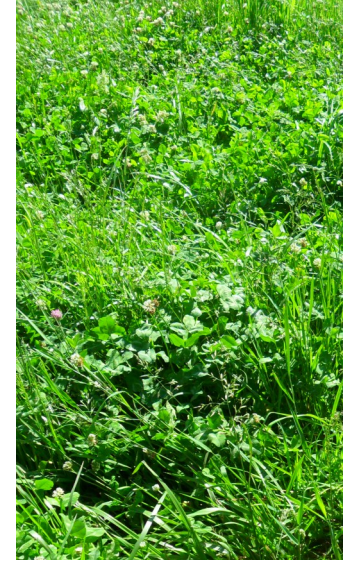
Although there are many benefits of using legumes in pastures, one of the most desirable is the ability of these plants to fix atmospheric nitrogen. This can increase yields and quality while significantly reducing fertilizer costs. Nitrogen fixation is the result of the symbiotic relationship between the plant and rhizobium bacteria. Rhizobia form nodules on the roots of the plant and allow the plant to convert atmospheric nitrogen into a form of nitrogen that can be utilized by plants. The amount of nitrogen fixed depends on the species, time of year, and growing conditions. To get full use of the advantages of nitrogen fixation, legume seed should be inoculated before planting.

Inoculation is introducing the rhizobia into the forage system by applying it to the seed before planting. While it is possible to establish legume stands without inoculating, forage yield and amount of nitrogen fixed are greatly reduced. It can even be necessary to apply nitrogen to

the stand established from uninoculated seed to supply adequate fertility to the forage plants. Although the bacteria may persist in the soil for 2 to 5 years, it is recommended that inoculation is done each time seed is planted to ensure inoculation.

Inoculant, which is usually a mixture of the bacteria and peat, can be purchased and applied to seed. Pre-inoculated seed can also be purchased from various seed vendors. It is vital that the best methods are used when applying inoculant to seed, during storage, and during planting. Different types of bacteria are used for different species of legumes. Be sure to purchase the correct inoculant for the species being planted. During purchasing, be sure to buy the correct inoculant for the species planted and to read the tag. It is essential that the bacteria have contact with the roots. To accomplish this, the seed needs to be adequately coated with the inoculant. A sticking agent should be applied to seed

before the inoculant is applied. Some inoculants come with a clay to attach bacteria to the seed coat. A commercial sticking agent can be purchased separately or can be made from syrup or molasses and water. Lastly, the bacteria must be alive in order to infect roots and fix nitrogen. Be sure to read the label before purchasing inoculant or pre-inoculated seed. Do not purchase if the expiration date has passed. The inoculant needs to be stored properly to keep bacteria alive. Ideally, the bacteria or rhizobia should be stored in a refrigerator or cool area. High temperatures and exposure to sunlight can kill the bacteria. Seed should be planted quickly after inoculant is applied. Also, inspect the condition of the package to be sure that there is no severe damage or holes which may allow the bacteria and peat to dry. Using proper methods to handle and store inoculant and seeds will help ensure proper inoculation. More details on proper inoculation techniques can be found in



the UK publication "Inoculation of Forage Legumes" (<http://www.ca.uky.edu/agc/pubs/agr/agr90/AGR90.PDF>).

Legumes can increase pasture quality and yield as well as fix nitrogen in the soil. Nitrogen fertilizer is not needed in healthy legume stands and the legumes can supply nitrogen for other forages in the pasture as well. To obtain the full advantage of nitrogen fixation, inoculate seeds before each planting.

## THE USE AND RENOVATION OF SACRIFICE AREAS

A sacrifice area is a location strategically used as a holding area to protect the forage stands of other pastures. These areas are commonly used when forages are too thin or short for grazing, to allow other pastures a rest period, during extremely wet or drought conditions, for winter feeding

areas, or for lambing and calving areas. These areas are negatively affected by the increased traffic which can cause problems such as soil compaction, cover by manure and hay residues, and forage damage from overgrazing and hoof action. Steps should be taken to reduce these negative ef-

fects. These areas often become bare and prone to erosion if not renovated.

Sacrifice areas can be rotated to different pastures between years or one site can be used annually. When determining the site of a sacrifice area, it is important to use an area that

## THE USE AND RENOVATION OF SACRIFICE AREAS (CONT.)

is not prone to erosion and can be easily renovated. Because the livestock may spend prolonged periods of time in the area, there also needs to be access to water. It is beneficial to renovate these areas in the spring with a vigorous species that will germinate and establish quickly.

Leaving these areas bare will cause increased erosion and weed problems. Following the basic guidelines for any forage establishment is important. One of the best options is to drill perennial or annual ryegrass into these areas for a quick cover. If livestock can be kept off of these areas for a prolonged period of time, it can be beneficial to plant perennial

grasses and legumes like orchardgrass, tall fescue, KY bluegrass, ladino white clover and/or red clover. It is important that these species have time to establish before being grazed or exposed to high traffic. It is also possible to mix these species in with ryegrass, but mixtures should not contain more than 20% ryegrass or it will outcompete the slower growing perennial grasses. In situations where the field will not have an adequate rest period, planting annual ryegrass each year is the best option.

Sacrifice areas can be advantageous to use during times of heavy rain, droughts, or when pastures do not have enough forage to graze. These areas and other high traf-

fic areas can be renovated in early spring to provide a quick cover by reseeding and giving the seedlings adequate growth time. Using a sacrifice area can be useful to save other pastures from overgrazing, soil compaction, and other damage.



Areas that are not reestablished often become infested with weeds.

## DEALING WITH WET PASTURE CONDITIONS

Muddy, wet pastures are a common scene in Kentucky. In order to keep soil and forage damage to a minimum, it is important to take the proper actions to protect them during these wet periods. Livestock traffic on wet pastures can cause soil compaction and can damage the roots and crowns of plants. The extent of the damage is dependent upon soil type, forage species, and severity of wetness and hoof traffic. Organic and sandy soils are more easily damaged com-

pared to other soil types. Forages, such as timothy, ryegrass, and alfalfa are extremely susceptible to damage. Kentucky bluegrass, tall fescue, and bermudagrass can stand up to more severe hoof action. Another issue with muddy conditions is that the livestock often kick mud onto the forages and are likely to avoid grazing these plants. Not taking precautions to protect wet pastures can cause extreme damage and production loss.

When pastures are extremely wet, moving the livestock faster can be helpful to reduce the possible damage to pastures. Putting animals in a sacrifice area, feedlot, or feeding pad during these times is another good method to protect pastures. Although it may be necessary to feed stored feeds, using these methods during extremely wet periods can protect plants from damage and soil from excessive compaction and erosion.



Extremely wet conditions can damage forages and soils.