

GROWERS MINERAL SOLUTIONS

A MINERAL SUPPLEMENT FOR ALL CLASSES OF BEEF AND DAIRY CATTLE

GUARANTEED ANALYSIS (FEED):

NITROGEN (N), MINIMUM	10%
EQUIVALENT CRUDE PROTEIN FROM NON-PROTEIN NITROGEN, MINIMUM	62.5%
PHOSPHORUS (P), MINIMUM	8.73%
POTASSIUM (K), MINIMUM	8.3%

INGREDIENTS: Urea, diammonium phosphate, phosphoric acid, and potassium hydroxide.

FEED AT THE RATE OF TWO (2) GALLONS PER TON OF FEED, OR TWO (2) LIQUID OUNCES PER 1,000 POUNDS OF BODY WEIGHT PER DAY ADDED TO FEED. FEED IN CONJUNCTION WITH OTHER MINERALS AND VITAMINS TO MAKE A BALANCED RATION.

CAUTION: USE AS DIRECTED.

WEIGHT: 11.4 POUNDS (5.17KG) PER GALLON

MANUFACTURED BY:
GROWERS MINERAL, CORP.
P.O. BOX 1750, MILAN, OH 44846

• The Canadian feed label is very similar to the United States feed label, and is available upon request.



THE FARMERS SOLUTION

P.O. Box 1750 • Milan, Ohio 44846

800-437-4769

www.GrowersMineral.com

Your local Growers Representative is:

GROWERS MINERAL SOLUTIONS

— ASA —

MINERAL SUPPLEMENT FOR LIVESTOCK



C&M Dairy, Lisbon, NY: Woodcrest Byway Beware
Born 6/04/2015, VG 86 at 2 years

Growers Mineral Solutions (GMS) is registered and is being used very successfully as a phosphorus supplement for all classes of beef and dairy cattle in 27 states and all of Canada. The superior solubility and singularly high quality phosphate ingredient, along with the added balance of other clean proprietary elements, results in a truly unique and beneficial mineral feed supplement.

Milan Ohio

GROWERS MINERAL
THE FARMERS SOLUTION



The Nolt Farm in Curtis, Wisconsin.

EXCELLENT & CLEAN

The very best source of minerals, or elements, for animals is from the forages used to feed them. We at Growers Mineral, Corp. feel that feed stuffs raised on healthy soils will yield properly balanced plants that, in turn, will lead to healthy animals. Our years of experience with livestock operations shows using the Growers program—high calcium limestone on the soil and GMS as the plants' fertility source—produces the highest quality livestock feed.

For weather reasons and others, however, many feed stuffs are lacking in balanced, beneficial nutrition, so it becomes necessary to enhance them. It is important that supplementary minerals have ingredients in them containing the lowest levels of heavy metals because these metals are often very toxic to animals. When GMS was conceived many years ago (in part for hydroponic use), the heavy metal issue was addressed. So today, still using the original formulation, GMS is an excellent supplemental and clean mineral source for animals.

Although the emphasis on mineral supplements is on the element phosphorus, nutritional experts believe the balance of other essential (proprietary) elements found in GMS helps give it its excellent response in animals. In addition, GMS' mineral has superior solubility which may also result in improved vigor of the rumen microflora.



McIver's Happy Acres, Farwell, MN

DEMONSTRATED SUCCESS

Dairymen and ruminant animal producers using Growers Mineral Solutions as a phosphorus feed supplement appreciate

- Food grade quality
- Balanced formulation

...and are reporting:

- Reduced manure phosphates
- Less udder edema
- Fewer retained placentas
- Stronger heats, improved conception
- Fewer cystic ovaries
- Reduced feet problems
- Less milk fever
- Improved feed & roughage efficiency
- Less ketosis
- Less D.A.'s
- Improves transition from dry cow to milking

GMS IS A QUALITY PRODUCT

When considering GMS as a phosphorus feed supplement, it is important to realize it is put together with very pure food, feed, or technical-grade original ingredients, and the process has not changed since our beginnings in 1955.

Using element constituents having the very lowest heavy metal concentrations help ensure GMS' high quality. Since GMS is registered as a phosphorus feed source, federal and state government inspections are required to ensure product purity and safety of the GMS product. The superior solubility of the phosphorus materials in GMS, along with the other proprietary elements used for balance and neutralization, results in a product which, when fed to ruminant animals, is known to have several beneficial effects.

Over the years, many farmers have reported positive responses feeding GMS, which has led many others to replace their present phosphorus mineral sources with GMS.

THE LEVEL OF GMS TO USE

The suggested usage rate of GMS shown on the Feed Label is 2 (two) fluid ounces per 1,000 pounds of animal weight. This rate is not meant to be the end all, but rather a starting benchmark. There are many factors influencing the best rates to give economic success such as quality of available forages, animal production, and feeding practices.

Besides phosphorus, many producers count on GMS for their source of numerous other essential minerals. Ingredients such as salt, vitamins, calcium, and other special supplements usually will have to be added to the feed because these particular ingredients are not contained in adequate amounts in the GMS complex. Ration writing, particularly in the dairy industry, is encouraged and can help specific operations.

Although rations do not guarantee success in using GMS, they do monitor all the elements going into the animal and can be compared with standardized scales for guidance. It must be remembered that, as with soil and forage testing, ration writing can be an inexact science. For farmers who are interested, the Growers Chemical Corporation staff has the ability to assist with or to write formal feed rations for ruminant animals.

DRENCHING WITH GMS

For many years, various operations have used GMS as a drench to quickly increase phosphorus concentrations in

the blood. Although a calcium deficiency is generally the reason given for milk fever, many and various articles are now saying "downer cows" may oftentimes be a phosphorus problem. Many producers have successfully used a GMS drench before and/or after calving as a preventative or cure for milk fever. In fact, there are some veterinarians in North America who have discovered and appreciate the rapid availability of the GMS phosphorus and are using it to quickly improve phosphorus blood serum levels in downed dairy cows.

When drenching with GMS, we suggest using 6 ounces of GMS at 12-hour intervals until the animal resumes normal feed ingestion. To help the animal consume and assimilate the drench, the drench mix should be equal parts soft water and GMS.

A combination of GMS and sugar has been shown to improve the appetite of ruminant animals who tend to "go off feed" after calving. A continuous exposure to water, GMS, and a high-grade dextrose product, before and after calving, can often keep animals consuming their feed.

MIXING GMS IN THE FEED



When using GMS as a phosphorus supplement, most operations add it to the animal's feed because "force feeding," as opposed to "free choicing," usually gives the best response. There are several ways to add GMS to the feed such as adding it

- to the total mixed ration (TMR);
- to the grinder mixer ingredients; or
- as a "top dressing" on the manger feed.

How GMS is introduced depends on the operator's labor and management practices. The GMS representative can be very helpful when deciding when and how to enter GMS into the feed.

PHOSPHORUS AND CALCIUM

When GMS is used as a phosphorus feed supplement, it usually replaces calcium phosphate in the ration. However, when calcium phosphate is removed, so is its calcium so calcium needs to be added with the GMS.

For reasons of cost and availability, calcium carbonate is the best replacement source. Our experience suggests that the finer forms of calcium carbonate have superior solubility and benefit. This seems logical since dairy research with magnesium, which is similar in solubility to calcium, shows that the coarser sources of that product have very poor effectiveness.

Therefore, coarser forms of calcium can be used, but higher rates may be needed for success. Some nutritionists claim producers must consider the calcium to phosphorus ratio when making changes in the ration. However, recent dairy research finds that as long as the calcium and phosphorus elements are present in sufficient quantities, wide ranges of each can still be of benefit to the animal.

FREE CHOICE WITH GMS

Some ruminant operations are not set up to force feed minerals to their animals, so they use a "free choice" approach. Although there are many customers successfully using free



choice in their operations, precautions need to be taken.

When free choicing GMS, we suggest producers use a lickwheel

or other method to limit the animal's access to the product. Some producers use open containers successfully, but this can be a problem, especially with herds consuming poor or unbalanced feeds. When free choicing GMS, it is important the animals also have access to salt, calcium, and clean water. And to prevent possible overconsumption, its use should be monitored. Some livestock operations use a combination of free choice and force feeding which helps to determine if the force feeding is sufficient, and it makes allowances for the different needs of individuals within the herd.

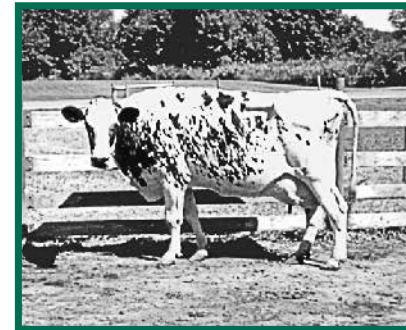
HEALTHY SOILS, HEALTHY PLANTS, HEALTHY ANIMALS

Since 1955, Growers Mineral, Corp. has found feed raised on a balanced soil having a healthy biological complex can help animals achieve excellent production while maintaining good health.

Meanwhile, agriculture's high production aims may be leading to long term problems. As feed bills, replacement expenses, veterinarian costs, etc. become excessive, the profits left for the producer will be reduced. When prices for animals and animal products are high, the stresses and costs of high production agriculture are justifiable. However, when prices are low, it will be consistently good production from healthy animals raised on healthy crops from healthy soils that will pay the bills.

Growers Mineral, Corp. believes the basic problem affecting crop quality is the excessive use of the elements nitrogen and potassium while the levels of calcium and other important trace elements in soils are ignored or neglected. Since World War II, farmers seem to have gone along with heavy N and K recommendations, possibly because of the pleasing visual effects of crop size and volume. However, these excessive fertilizer additions are creating imbalanced plants which are affecting the health of the animals consuming them. To some degree, resulting high production has masked the problem, but animal health issues are on the increase and remain unresolved.

Additionally, Growers Mineral, Corp. has been concerned with an equally serious issue since 2001: increasing heavy metal accumulations in soils, plants, and animals. Although not generally recognized by North American agriculture, research indicates these are coming mainly from impurities contained in commercial feed and fertilizer ingredients.



By addressing soil needs with the Growers Program, that is by adding adequate amounts of high calcium liming materials to the soil and using clean GMS for crop fertility, better quality plants and healthier animals are produced. Because input costs are also trimmed, more

profits can remain for the producer.

This dairy cow was from the herd of John and Elma Sensenig in Romulus, New York. She was born on March 5, 1984, and had her first calf in September of 1986. One of her last test days showed 42 pounds of milk with 4.8% fat and 3.3% protein. Her lifetime statistics are 11 calves; 281,936 pounds of milk; 11,473 pounds of butter fat; and 9,062 pounds of protein. Her highest lactation, several years back, totaled 37,272 pounds of milk; 1,487 pounds of fat; and 1,143 pounds of protein. Her lifetime records show VPS (value of product sold) milk at \$36,379. At 16 years 6 months of age, she was reclassified at E92. This was the third time she had scored "Excellent." She died in August, 2002.

This is a classic example of a dairy cow that can, in the long term, be very profitable for the producer. In today's dairy environment (heavy uses of N and K), she is unique. We believe much of her success is related to her many years consuming only feed raised on the Growers Program and to her years receiving GMS as a mineral supplement. She is an excellent example of "Healthy Soil, Healthy Plants, Healthy Animal."