

The Grazier



Missouri Scientist Solves Mystery of Grass Tetany

Grass tetany, a disease that kills cows eating lush green spring pasture, has met its match in scientists at the University of Missouri-Columbia.

"We think we've found the solution to grass tetany," says Dale Blevins, MU agronomist.

For years, scientists have known the disease was linked to a shortage of magnesium, a trace element normally found in the soil and plants. However, efforts by agronomists to understand how this deficiency occurs and prevent it in the fast growing plants always met with failure.

Scientists have also known that there is a linkage between potassium, calcium and magnesium in the plant leaf.

But, Blevins, along with research associate Tim Reinbott, found the missing key to magnesium uptake: phosphorus.

Phosphorus is one of the most commonly used fertilizers and can be applied as a topdressing application on spring pastures.

In laboratory and greenhouse studies Blevins and Reinbott found that when sufficient phosphorus was applied, magnesium began to be taken up by the roots and moved into the leaves. Without enough phosphorus, even if there is sufficient magnesium in the soil, the critical magnesium was not absorbed into the plant.

Grass tetany, also known as grass staggers or wheat poisoning, can reach epidemic proportions some springs, killing livestock grazing on what looks like perfect pasture.

Affected animals may show symptoms of excitability, uncoordinated walking, stumbling or falling down. But sometimes, the animal dies suddenly without showing any symptoms.

"Some years there are no problems, then the next it causes big problems," Blevins says.

Blevins, who grew up on a Christian County farm, recalls helping his father haul dead cows from the pasture. "It always strikes the best cows," Blevins says. "This problem strikes home for me."

The disease most often hits older cows that are suckling young calves. Livestock grazed on pure stands of grass are more

likely to be stricken. Legumes have higher magnesium content. Also, the disease occurs more often in beef herds than in dairy herds.

"Grass tetany is a major problem some years in Kansas where cattle graze wheat fields in the spring," Blevins says.

Grass tetany appears most frequently when the weather is cool, wet and windy. Scientists also know that phosphorus uptake in plants slows during cool weather.

Although it has not been field tested, Blevins speculates that banding in phosphorus in the spring should eliminate grass tetany. Many soils are naturally low in available phosphorus.

"Too often in adding topdressing fertilizer, farmers will apply large amounts of nitrogen and potash," Blevins says. "That's the worst thing to do, because it throws the potassium-magnesium ratio further out of balance." Potash fertilizer contains potassium.

An MU extension guide sheet published in 1980 reports, "High rates of potassium and nitrogen, applied late in the winter probably cause low magnesium uptake by grass plants in the early part of the growing season."

Incorporating the phosphorus fertilizer into the soil with a knife injector will give the quickest response, Blevins believes.

— Duane Dailey

Midwest Plan Service Offers Free Catalog

The new 1991 Midwest Plan Service (MWPS) Catalog is now available. It includes more illustrations and information for easier reference. A toll-free number is now available to make ordering even easier. The 24-page catalog has an index, order blanks and a price list summary page.

It includes five new handbooks covering topics such as ventilation, concrete and agrichemical management and preservative treated wood. Several new publications have been added and several plans that are no longer current have been dropped.

The annual catalog gives brief descriptions, prices and illustrations for MWPS's handbooks, agricultural engineers' digests (AEDs), technical resources (TRs) and building plans written by agricultural engineers and other specialists from

the North Central Region. It also features publications from the Northeast Regional Agricultural Engineering Service (NRAES) of Ithaca, N.Y.

Midwest Plan Service offers farm structures publications on swine, beef, sheep, dairy, horse and solar livestock housing; livestock manure management; framing and utility buildings; farmstead planning; hay, grain and machinery storages; and ventilation. Publications about related areas, such as private water systems, domestic sewage disposal, solar grain drying, house planning, and home and yard improvements are also available.

To get a free copy of the 1991 MWPS catalog, write to Midwest Plan Service, 122 Davidson Hall, ISU, Ames, IA 50011-3080.

New Products for '91

IVOMEC Pour-On Features Unique Delivery System

A unique delivery system for IVOMEC (ivermectin) Pour-On for Cattle, developed by Merck & Co. Inc., could prove to be as revolutionary as the product itself, predicts Rodney Goodall, cattle products manager for MSD AGVET, a division of Merck & Co. Inc.



"MAGICAP, the unique squeeze-measure-pour delivery system developed by Merck & Co. Inc., assures fast and convenient dosing with no product waste. The company recommends applying IVOMEC (ivermectin) Pour-On for Cattle in a straight line from the withers to the tailhead."

"MAGICAP assures fast and convenient dosing without product waste," he says. "In fact, in New Zealand, Canada and the seven European countries where IVOMEC Pour-On is already available, we think the packaging has had a direct impact on the rapid success of the product."

Bill Clymer, a livestock parasitologist in Amarillo, Texas, who had a chance to work with the unique delivery system before the product was launched in the United States, says he was impressed with the way MAGICAP performed.

"MAGICAP is an answer to producers' prayers because it makes it darn near impossible to screw up," he says. "The product goes straight from the bottle to the animal, with no mixing or spillage. It's fast and easy. And most importantly, it gives you the correct dosage rate for the size animals you're treating."

MAGICAP is a semi-transparent, plastic metering cup that screws on to the product's 250-ml. or 1-liter polyethylene squeeze bottle. The dosage rate is set by turning the knurled section at the top of the cup so the pointer aligns to one of four body weights (220, 330, 440 or 550 pounds) marked on the cup's side.

When the body weight of the animals is between settings, MSD AGVET suggests using the higher setting to ensure adequate dosing. Cattle weighing more than the maximum setting on the cup should be dosed in increments.

During administration, the bottle should be held upright and squeezed gently, just enough to fill the cup with slightly more than the recommended dosage. When the user stops squeezing the bottle and releases the pressure, the excess product flows back into the bottle and the dose automatically adjusts to the correct level.

Once the correct dosage is in the cap, the bottle can be tilted to pour the product along the backline of the animal in a narrow band, from the withers to the tailhead. The small spout on top of the MAGICAP allows accurate placement with no run-off. The metering device in the neck of the MAGICAP traps the rest of the liquid in the bottle to deliver the dose without waste. The off (stop) position of the unique delivery system can be set to close the cap between dosages.

For more information on the product, write to MSD AGVET, P.O. Box 2000, WBF-465, Rahway, NJ 07065-0912.

Instantized Colostrum Mixes in a Jiffy

Until now, "easy to mix" was a promise few dry colostrum supplements could live up to. It was not uncommon for cattlemen to spend up to five minutes with a wire whisk and a lot of wrist action to make powder and water look — and presumably taste — like a freshened cow's milk.

Today a new manufacturing process employed in the production of Colostrum colostrum supplement changes all that. New "instantized" Colostrum now mixes in one minute or less.

"The biggest complaint about colostrum supplements has been that they don't mix

well," says Dennis Nelson, D.V.M., vice president of domestic sales and marketing for Fisons Animal Health. "With new instantized Colostrum, we've broken down what the industry has told us is the last major barrier to more widespread use of this beneficial technology."

Colostrum, a colostrum supplement extracted from cheese whey, was developed by Protein Technology Inc., of Petaluma, Calif., and is distributed worldwide by Fisons Animal Health.

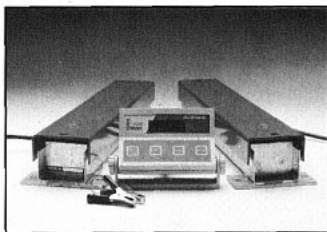
While cattlemen will welcome easier mixing, Nelson says the addition of a K-99 E. coli prevention claim to Colostrum and its use as an aid in preventing the spread of John's disease offer further incentives for increased use of the product.

Colostrum is the first and only USDA-licensed colostrum supplement to provide newborn calves a guaranteed quantity and quality of immunoglobulins, including those that aid in the prevention of the often deadly K-99 E. coli scours.

For more information about Colostrum, or to learn the name of a local Colostrum supplier, call Fisons Animal Health Customer Service toll-free at 1-800-654-3839.

Allflex Introduces Portable Electronic Weight Scale

Maintaining accurate weight records of newborn calves, weaning calves and yearling bulls can provide growth rate information, verify EPDs and provide quick, measurable economic returns. Unfortunately, many cattlemen do not incorporate weighing as a regular management tool because of the inconvenience, equipment expense and lack of portability of scales on the market.



These concerns are being addressed with the Allflex Valuweigh, a portable, electronic weighing system being introduced by Allflex USA Inc.

Powered by a standard 12-volt automotive battery, the lightweight Valuweigh can be set up on any level surface. The system has a capacity of 4,350 pounds, automatic tare, simple operation and weatherproof construction. It can be used in almost any location including pastures, temporary corrals, working pens, sick pens, loading chutes and calving pens. The unit can be carried by hand,

stored anywhere and easily fits in a pickup toolbox, car trunk or gooseneck trailer storage area.

Allflex USA personnel will be demonstrating and displaying the units this year at farm and livestock shows nationwide.

Units are available through selected distributors in the United States. For the distributor nearest you, contact Allflex USA, 2004 Chennault, Carrollton, TX 75006; (214) 404-9090.

Gehl Publishes New Full-Line Catalog

Gehl Company's full line of agricultural equipment is showcased in the new 1991 Gehl Farm Equipment catalog, which is now available. The eight-page, full-color brochure contains information about the complete Gehl line of forage harvesters, blowers and boxes; sicklebar and disc mower conditioners, round balers, disc mowers, rakes, TMR mixer feeders, grinder-mixers, skid-steer loaders, manure spreaders, and Straw Storm/Chaff Storm combine attachments.

To obtain a free copy of the 1991 Gehl Farm Equipment catalog, contact your local Gehl dealer or write Gehl Company, Marketing Services Department, 143 Water St., West Bend, WI 53095.

Hesston Introduces a Heavy-Duty Center Line Baler

For producers who put up a large number of small square bales, Hesston Corporation recently introduced the Model 4590 Center Line Baler. The unique design of this heavy duty baler minimizes maintenance and maximizes bale quality and consistency.



The center line system moves the hay through the baler in a straight line from windrow to finished bale. This concept eliminates the high maintenance of the cross conveyor systems used in conventional balers.

A wide, low-profile Maxi-Sweep pickup positioned squarely in front on the Model 4590 picks up the complete windrow. Gauge wheels on both sides allow the Maxi-Sweep's 112 tines on four tire bars to ride close to the ground, yet avoid damage.

A heavy, high-speed plunger is mounted on eight sealed ball bearing rollers.

Running at 100 strokes per minute, a short stroke of 21.65 inches reduces plunger wear.

Extension spring bale tensioning assures consistent bale weight and density. Bale size can be set from 12 inches to 52 inches long. A positive bale length mechanism monitors length.

Knotters tie secure knots with either plastic or sisal twine. An optional wire twister is available. Excellent ground clearance protects needles.

More information on the Hesston Center Line Balers can be obtained by contacting Art Hammerstrom, Hesston, 245 East North Ave., Carol Stream, IL 60188.

New Trojan 75P Solves Special Watering Needs

Trojan Livestock Equipment has introduced a new all-plastic utility waterer that goes wherever livestock producers need it.



"The 75P Utility Waterer is the answer to those special livestock watering needs," says Cliff Wilson, Trojan president. "When it's hot in the summer and you need a temporary water source in your pens, the portable 75P is perfect because you don't have the hassle of installing a whole new unit. It's also handy for use in pastures where water lines aren't available."

The 75P also is designed to make medicating animals easier than ever. Gallon markers inside the unit help livestock producers measure medication accurately so animals get the correct dosage.

Wilson says the unique high impact polyethylene plastic construction will resist rust, corrosion and animal abuse. The all-plastic 75P also is easy to move, fill, drain, clean and store.

The 75P Utility Waterer has a 75-gallon capacity and features an easy drink access for shorter animals, the Trojan time-tested valve and float assembly, a metal trough protector and floor anchor.

Trojan is a manufacturer of livestock watering equipment designed for use with hogs, dairy and beef cattle, sheep,

horses and a variety of other animals.

For more information, contact Trojan Livestock Equipment, Customer Service, P.O. Box 730, Conrad, IA 50621; 1-800-747-0222.

GoldenRod Fence Stretcher-Splicer

Whether using the GoldenRod Fence Stretcher-Splicer Model 405, with slow release ratchet, or the standard Model 400, virtually any kind of fencing on the farm or ranch can be more easily and quickly accomplished by one person.

Versatile hooks with spring tensioned clamps lock the wire in place, while a



heavy duty lever and ratchet assembly provide up to 1,000 pounds of pull. When splicing wire, both hands are free to make the splice. The many ways in which the

tool can be positioned during installation or repair of fencing permit stretching, holding and stapling and raising or drawing down of wire. Whether in easy pasture conditions or in rugged hills and draws, GoldenRod Fence Stretcher-Splicers will permit completion of the work in the fastest possible time.

Sold through hardware and farm supply stores and catalogs, suggested retail price of the Model 400 is \$36.75 and the Model 405 is \$42.35.

A free catalog and prices are available from Dutton-Lainson Co., P.O. Box 729, Hastings, NE 68902-0729.

Osborne Offers Single-Room Ventilation Control

The model AV-9 is a new single-room variable speed ventilation control offered by Osborne Industries Inc. The economical AV-9 features a convenient temperature set knob and a handy "odor knob" with which the operator can adjust minimum fan speed to match building air conditions.

The temperature set knob allows the operator to choose the desired barn temperature. It automatically increases the fan speed to provide more cooling ventilation to counter an increase in barn temperature. Fans reach full speed when

temperature rises 5 degrees F. above the set point. The handy "odor knob" sets the minimum fan speed in the winter and can be adjusted as needed to maintain good air quality with minimum heat loss throughout the winter months.

The AV-9 control can be installed for either a 115 or 230 VAC without changing any internal connections. Good radio interference shielding as well as voltage surge arrestors are used in the design. The AV-9 control can also be easily installed in any fan power system on a standard 4X4 junction box. The water-resistant control is backed by Osborne's reliable one-year service warranty.

Osborne offers a full range of Agri-Aide ventilation fans, fan speed controls, inlet systems and ventilation accessories. Osborne's Engineering Group also provides free ventilation design assistance.

For information, contact an Osborne Dealer or the customer service department, Osborne Industries Inc., P.O. Box 388, Osborne, KS 67473; 1-800-255-0316.

Drinking Station Uses Thermo Energy for Energy Conservation

The JUG, Noland System's revolutionary new drinking station for large animals is designed for both water quality and energy conservation using the princi-

ples of thermo energy. The unique "draw-tube" circulates the water, without moving parts, keeping a constant water temperature in all weather. The "draw-tube" also allows the animal to drink naturally while keeping out debris and algae, as proven in years of field-testing.



The JUG has a sledgehammer-tough plastic body, one or two bowl option, easily-adjustable water level, and optional low-watt heating element (about \$8.00 a year to operate). For new installations or easy replacement of waterers that foul, freeze or are energy-gluts.

For more information, call Wes Blanchard at 1-800-247-0037; in Iowa, 1-800-622-0031.