

# Prairie News

## Footbath Solutions

To effectively control hairy heel warts and foot rot, footbaths have become the treatment method of choice. A treatment is added to a "bathtub" of water and the cows walk through it, getting the treatment on the feet where it is needed. Several factors determine the effectiveness of the method.

The first is cleanliness. The cleaner the footbath is, the more effective the treatment will be. Producers are either spraying feet off in the parlor, which is time consuming and slows down the parlor, or setting up 2 footbaths with the first one acting as a cleaner.

Another option is limiting the number of cows that go through a footbath before changing the solution. This number varies from 200-300 cows passes, depending on how dirty the feet are. Cleanliness directly affects the second factor, the actual treatment being used.

Tetracycline is widely accepted and used, but is very susceptible to losing activation with high-organic matter contamination. Formaldehyde is also used, but extreme caution must be used in the handling of this known carcinogen.

Copper sulfate is the third treatment used. It is the metal ion copper that gives us the result we are looking for. These ions

must be dissolved in the solution to be activated, and remain suspended to be effective in the treatment. Typically, a 5% solution is mixed, and it can be hard to get all of the copper sulfate to dissolve.

Acidifying the solution actually makes it easier for the copper to go into solution and remain dis-



**Lowering the pH of a footbath changes these copper sulfate crystals into active metal ions.**

solved. A number of products can help acidify the solution, but one that looks very cost effective is sodium bisulfate. Otherwise known as pH Minus, it is widely used in the swimming pool industry. It is extremely effective at lowering pH, with a fairly low inclusion rate.

To use sodium bisulfate start by mixing a 5% solution with copper sulfate, then check the pH with either a pH meter or pH paper (available through Animart- be sure to get the product that goes to pH 4 or below), and then add the sodium bisulfate until you reach a pH of 4.

Typically, the addition of copper

sulfate to the water will drop the pH to around 5. Depending on the hardness of the water, it may take only a few ounces of sodium bisulfate to get to a pH of 4. At a pH of 4 the copper ions are much more active, resulting in a more effective footbath.

Some producers have varied this technique by going up to 500 cow passes through a footbath, then checking the footbath and re-acidifying it with additional sodium bisulfate. Another dairy is looking at lowering the concentration to 2.5% copper sulfate, and running footbaths 3 times per week. On both dairies lesion incidence rate appears to have dropped significantly.

These results are dependent on how much manure is on the feet and legs of the cows going through the footbath. Either way, you are using less copper sulfate, which is saving money, and lowering the amount of copper that is spread out on fields which is known to have some toxicity issues with growing crops.

Prairie Ag Supply has sodium bisulfate available, and it looks like the cost would be less than \$1 per footbath. Spring and warmer weather are right around the corner, so ask your Prairie Ag Supply consultant about how you can save money by using less of the expensive copper sulfate today!!

### Special points of interest:

- > Improve Copper Sulfate efficiency by reducing pH
- > Early order pricing for 2010 Inoculants
- > Air Quality is crucial for calves respiratory health
- > Evaluate bunker covering by testing for ash content

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Ideal nursery pens create solid barriers between calves but have open ends and vertical space to allow for ventilation.



Raising calf hutches 1.5 inches can provide enough ventilation to dramatically improve air quality.



*L. Buchneri* 40788 is proven to dramatically improve the stability of corn silage, hmsc, and snaplage.

## Air Quality for Calves

Studies at the University of Wisconsin and the Akey Calf Research Nursery have shown links between housing types, air quality, and respiratory diseases.

Bacterial counts from outdoor air typically range from 100-1000 cfu/m<sup>3</sup>. Akey's research has shown that these levels reach 30,000 cfu/m<sup>3</sup> in very well ventilated nurseries, and over 250,000 cfu/m<sup>3</sup> in common calf hutches.

However, their studies also showed that simply raising calf hutches 1.5 inches off the ground is enough to reduce bacteria counts to under 90,000 cfu/m<sup>3</sup>. This means that simply placing

2x4's under the corners of a calf hutch can dramatically improve air quality.

The University of Wisconsin conducted a similar study that compared 12 naturally ventilated calf nurseries. While this study showed an increased rate of respiratory disease as bacteria counts climbed, it also showed that the type of bedding and barriers between calves had a greater effect.

At 327,000 cfu/m<sup>3</sup>, shallow bedded barns with no barriers had nearly 60% of calves with respiratory diseases. With the same air quality, deep bedded barns with solid barriers had

less than 10% respiratory disease.

These studies suggest that 4 air exchanges per hour provides adequate ventilation for calf nurseries. They also suggest that deep bedding with sand in the summer and straw in the winter creates a healthy calf environment.

The bottom line is that reducing the risk factors for respiratory diseases improves calf health. Improving ventilation, providing deep bedding, and using solid barriers between calves are all proven ways to reduce respiratory disease.

## Early Order Pricing—2010 Inoculants

Early order pricing is now available on inoculants for 2010. Prairie Ag Supply carries a variety of inoculants to meet the needs of each silage type.

Biotol Buchneri 40788 is recommended for improved stability of high moisture corn and corn silage. After initial fermentation, the *Lactobacillus Buchneri* in this inoculant converts lactic acid to acetic acid. The increased levels of acetic acid depress yeast growth, resulting in a more stable silage.

A summary of 15 published studies on the effects of *L. Buchneri* show that commercial doses of the inoculant increased aerobic stability from 25 hours to over 500 hours. This can have a significant impact on summer time feeding.

Biotol Silage Inoculant II is recommended for all types of silage. The *Lactobacillus plantarum* 12422 in this products helps produce a fast and efficient fermentation. Silages that may be low in naturally occurring

*Lactobacillus* bacteria can benefit from this product.

Finally, Biotol Buchneri 500 combines the features of the previous inoculants to supply *L. Buchneri* for aerobic stability, and *L. Plantarum* for a fast and efficient fermentation.

For more information on these inoculants and the early order pricing contact your Prairie Ag Supply consultant or our office at 1-800-535-4485. Pricing ends May 7, 2010

## How to target Biotol microbial crop treatment products:

Product	Haylage	Corn Silage	HMC/Snaplage	Summer Feed
Buchneri 40788		xx	xxx	xxx
Biotol Silage Inoculant II	xx	x		
Buchneri 500	x	xxx	xx	xxx

## Employee Profile—Chad McEathron

“Little Chad” began his employment at Prairie Ag Supply as an intern during the summer of 1996. He continued to work part-time until he graduated from UW-River Falls in 1998. Upon graduation he began full-time employment and is now a leader on the nutrition consulting team.

Growing up on a farm near Holcomb, Wisconsin gave Chad strong roots in agriculture and his experience in seed, inoculant, and feed sales have given him a

broad knowledge base.

He attributes his longtime employment at Prairie Ag Supply to our commitment to individualized service. Instead of trying to fit every customer into a specific program, he can create solutions that match exactly what each customer needs.

He also enjoys the family atmosphere at Prairie Ag Supply, mainly Betty’s birthday cakes and constant coaxing to bring donuts.

Outside of work Chad spends his time hunting turkeys and white-tail deer. He’s also been officiating football at the high school level for 9 years and college football for 3.

Chad’s also very proud of his wife, Angela, and 4<sup>1/2</sup> year old daughter, Lakken. Today they live near Lake Hallie and spend many of their summer weekends camping in Western Wisconsin.



We are proud to have Chad, Angela, and Lakken McEathron in the Prairie Ag Supply family.

## Evaluating Bunker Covering/Management

Many products and techniques have been developed for covering silage bunkers and piles, but how do you measure the performance of your bunker covering system?

The presence of a spoilage crust along the top and sides of the bunker can be an indicator of less than optimal management. Rapid heating of silage at feedout can also be an indicator. However these traits are difficult to measure and are effected by other factors including moisture content, rate of feedout, and presence of natural yeasts.

In order to evaluate bunker covering and management its helpful to measure the loss of

organic matter from the top of the bunker versus the bottom.

Start by sending two samples to a forage testing laboratory. The first sample should be blended from the top 4 feet of the bunker and the second should be a blend of the bottom 4 feet.

Then enter the ash contents into the Dr. Keith Bolsen’s equation located in the right hand column of this page, or use the spreadsheet available at [prairieagsupplyllc.com](http://prairieagsupplyllc.com) under Tools/Calculators.

High levels of ash in the top 4 feet of a bunker indicate high levels of organic matter loss caused by poor bunker covering, inadequate packing of the top

layers, or low harvest moistures.

This organic matter loss can have a dramatic effect on a dairies bottom line. With 13% organic dry matter loss, a 50x100 bunker of corn silage would lose nearly \$1500 due to poor bunker covering (Use our spreadsheet to find your dollar loss).

If your dollar loss is alarming, contact a Prairie Ag Supply consultant for tips on bunker management and products that can reduce silage losses. We carry a full line of Silostop bunker covering systems as well as Biotal inoculants to improve fermentation.

$$\text{Increased organic dry matter loss} = 1 - \frac{AD \times (1-AD)}{AT \times (1-AT)} \times 100$$

AD = Ash % Deep  
AT = Ash % Top

From Dr. Keith Bolsen at Kansas State University



Uncovered or poorly covered bunkers result in high dry matter losses and expensive feed costs

**For more useful tools and calculators click on Tools/Calculators at [prairieagsupplyllc.com](http://prairieagsupplyllc.com). Then create a username and password to access a variety of spreadsheets that can be used for management decisions and performance evaluation.**

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«Address Line 1»  
«City», «State» «ZIP Code»

## Pinnacle Gets a New Name!

Beginning in April 2010, Akey's Pinnacle milk replacer will be rebranded as "Nurture" calf formula. This product launch will coincide with the change in FDA regulated levels of Neo-Terramycin.

Now every Nurture product will contain NeoTec4, a proprietary technology trademark that includes essential fatty acids. NeoTec4 has been extensively

research and field tested over the last 10 years and has been shown to accomplish the following:

- Reduce Scours
- Improve ADG
- Improve Feed Efficiency
- Improve Frame Growth

Akey milk replacers will continue to be produced with high quality

ingredients, quality control, and tested nutritional principles.

For questions about the new Nurture calf formula or any of our other milk replacer options contact your Prairie Ag Supply consultant or our office at 1-800-535-4485.

