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Forage Facts



Crop Cure®, a division of Domain, Inc.

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www.cropcure.com

Manage your TMR for Summer Weather Conditions

The upcoming summer months will surely bring the expected challenges of heat, humidity, and the negative effects they have on lactating dairy cattle. These same weather conditions also affect the feeds we utilize in our dairy rations. However, there are steps we can take to avoid or at least lessen problems with mold and heating in your ration or TMR. By preserving the quality of the feeds we offer, we can help cows maintain intakes and production, and help to reduce the effects of heat stress.

James G. Linn, Professor of Ruminant Nutrition with the University of Minnesota, St. Paul offers these recommendations for TMR management.

Feed Bunk Management

The goal in feed bunk management is to obtain maximum DM intake by ensuring that a fresh, palatable, balanced TMR is available to all cows. As herd productions increase, DM intake is the key factor in maintaining production. The following are various aspects of feed bunk management.

- Feed should be uniformly spread throughout feed bunk.
- Cows should have a minimum of 18 inches and up to 30 inches feeding space.
- Feed sorting should be evaluated, and feed refusals should be scored based on uniformity. Feed refusals should be very close in appearance and composition to the TMR fed if no sorting of feed occurred. Be particularly aware of forage or large particle sorting in feed bunks.
- Feed refusals should be cool and smell fresh. Hot, moldy feed refusals indicate an extra feeding may be necessary.
- Total feed refusals should be about 5% of total fed and removed daily.
- Push feed up into managers 2 to 3 times during a 24 hour period.
- Feed bunks should be empty no more than 2 to 3 hours per day.

- Observe cows when feed is delivered. Sick or lame cows tend to hang back and not come to the bunk when fresh feed is offered.
- Feed bunks should have a smooth surface for ease in cleaning and promote better feed consumption.
- Cows should be eating with their head down in a grazing position for best feed intake and saliva flow. This position also discourages feed tossing.
- Check water supplies daily for availability and freshness.
- Feed deliveries in early morning or late afternoon coincide with times cows most frequently consume feeds.

Feeding Groups

The number of groups and the number of different rations to be fed are independent decisions. The number of groups is usually determined by management decisions such as reproduction, slow milkers and facility design and not by feeding or nutrient requirements. Small herds, less than 100 cows and particularly those housed in tie-stall barns, often are fed one TMR regardless of milk production or body condition. This has the advantage of simplifying mixing, reducing feeding labor and eliminates milk production drops which often occurs when cows are switched from one TMR to another. The disadvantages to one group TMR feeding is feed costs increase, fat or overconditioned cows are likely especially if breeding problems occur and there is limited flexibility in the use of low quality feeds.

In larger herds, greater than 100 cows, the minimum number of recommended milk cow feeding groups based on nutrient requirements and DM intake is as follows:

1. Fresh cows. Cows are placed in this group immediately after calving and remain there for 1 to 2 weeks or until cows are eating well. This group should have a low cow density with ample bunk space per cow to reduce stress and competition for feed and stalls. This group also may be a hospital or sick cow group in some herds.
2. High producing older cows. These cows are fed a high production TMR throughout lactation or until body condition or milk production dictates movement to a lower production ration.

3. High production first calf heifers. Lactating heifers tend to eat smaller meal sizes and more frequent but shorter duration meals than older lactating cows. First lactation cows are often more timid and, thus, easily dominated by older cows as well. Separation of first lactation heifers from older cows, especially the first 200 days of lactation, reduces stress and encourages feed intake. First lactation heifers also consume less DM, about 15 to 20% less, than older cows at the same milk production necessitating a different formulation than older cows.

4. Low or excess body condition group. Both heifers and older cows can be moved into this group when body condition becomes excessive. This group also can be used for cows with extended lactations due to breeding problems.

Regardless of herd size, all herds should have at least two separate dry cow groups.

1. Far off dry cows. One or 2 groups may be necessary depending on body condition. Cows dried off in excess body condition (score of 3.75 or greater, 1=thin, 5=fat) should be on a maintenance ration for the first 30 to 45 days of the dry period. Cows in adequate (3 to 3.25) or thin (<3) body condition at dry off should be fed a ration to gain about 1.8 lb/day during the first 30 to 45 days.
2. Close-up dry cows. This group begins to receive some of the ingredients in the lactating TMR starting 14 to 21 days before calving.

Before making any drastic changes, contact your Dobby Area Nutrition Consultant. They can work through the options with you and help to implement improvements to your ration, such as the ones listed below:

- Because dry matter intake will be down, rations will need to be adjusted to compensate. When cows are consuming less feed, you need to make your ration more nutrient dense, essentially by packing more nutrition into less feed.
- Consider adding fat to compensate for reduced energy intake. However, too much fat can also have a negative affect on intakes, so consult your nutritionist when considering adding fat to your ration.
- Rations that are lower in fiber produce less metabolic heat, but care must be taken to make sure that enough fiber is still consumed. One way to offset decreased forage intake and prevent acidosis is to feed high quality forage during the summer, thus requiring less intake to maintain a balanced ration. High quality forage is digested more quickly and results in less heat production. However, never reduce the fiber level below 18 percent to 19 percent ADF and 25 percent to 28 percent NDF.

- Minerals may need adjustments as well due to losses through respiration and perspiration.
- Look for ways to stimulate dry matter intake.
 - Make sure that bunks are completely clean before adding fresh feed.
 - Feed less at a time, but feed more frequently throughout the day. This will also help to reduce feed spoilage in the bunk.
 - Push feed up frequently.
 - Try to feed larger amounts during the cooler early morning or evening hours. University of Nebraska research demonstrated that feeding 60 percent to 70 percent of the ration between 8 p.m. and 8 a.m. successfully increased milk production during hot weather.
- Add a buffer to your ration to help stabilize rumen pH, stimulate intake, and maintain components. Consider an additive to your TMR mix (like TMR Enhance-R) to help maintain freshness and reduce spoilage.
- Contact your area nutrition consultant for advice on ration changes during hot weather.

Provide Plenty of Fresh, Clean Water

Water is the most critical nutrient in a cow's diet. During heat stress, a cow may increase her water intake by 30% or more. When the temperature rises from 86° to 95° F, water consumption may increase from 21 to 32 gallons. Water sources should be placed close to feed bunks, in holding pens, and any other area cows congregate. Also clean waterers frequently and make sure they free of debris to encourage water intake. If you have well water, it may be a good idea to test your water for contaminants. Another way to increase water consumption is to offer cool water. One study found that cattle increased their water consumption when the water was at 50°F rather than 82°F. You can also add water or wetter feeds to your ration to get additional water into cows.

Summary

When hot, humid weather hits this summer, follow these steps to reduce the effects of heat stress on your herd:

1. Make ration changes to maintain feed intake and provide optimal nutrition.
2. Increase the amount of water available to the herd.
3. Provide shade.
4. Provide for a good air exchange in the barn and install misters to help cool the cattle.
5. Utilize a feed additive (like TMR Enhance-R) that can help improve intakes and feed palatability, and help to prevent feed spoilage.

TMR Enhance-R

Your secret weapon against summer heat and humidity



- Cows suffering under heat stress
- Feed re-heating and spoiling
- Moldy feed
- Reduced dry matter intake
- Reduced milk production
- Lower components

But you can combat summer problems before they even start — with **TMR Enhance-R®**.

TMR Enhance-R® is an advanced, cost effective TMR additive that may just be one of the smartest management tools you can utilize in your battle against summer conditions. And it's

What TMR Enhance-R® does:

- Stabilizes your bunk mix—it prevents reheating during times of heat or when you have freshly harvested forages.
- Enhances rumen function—research has proven that it enhances feed utilization.
- Improves/maintains dry matter intake.
- Improves/maintains milk production and components.

What TMR Enhance-R® contains:

- Crop Cure**—enhances bunk life by stabilizing the pH levels in forage & the rumen.
- Buffering agents**—a combination of buffers is more effective than a single buffering agent for improving appetite, milk production, and fat test.
- Simple sugar**—or rapidly fermentable carbohydrates, offering a quick source of energy.
- Concentrated yeast culture**—increases feed digestibility by serving as a rich nutrient source for rumen bacteria. Improves feed palatability to promote intake.
- Magnesium**—aids in nutrient digestibility, improved performance, and provides a calming effect.
- Potassium Carbonate**—additional potassium replaces potassium lost during heat stress.

The economics of TMR Enhance-R®

Research has shown that cows fed TMR Enhance-R produce 4 lbs. more per day than a control groups.

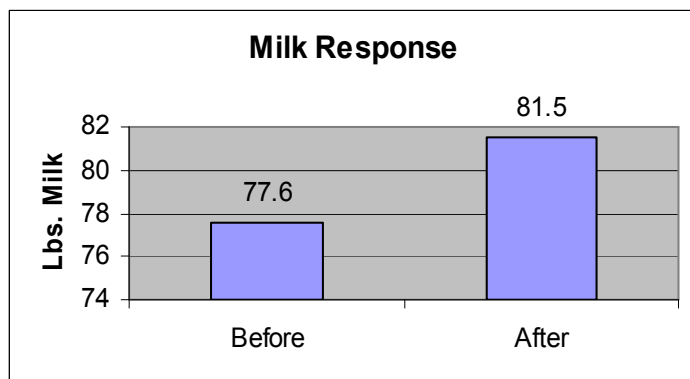
$$\begin{aligned}
 &4 \text{ lbs. milk} \times \$ \text{_____} / \text{lb. milk} &= & \text{_____} \\
 &\text{Cost of TMR Enhance-R} &-- & \$0.18 \\
 & &= & \text{_____} \\
 & &\times & 100 \text{ cows} \\
 &\text{Increased income/day} &= & \text{_____} \\
 & &\times & 30 \text{ days} \\
 &\text{Increased income/month} &= & \text{_____}
 \end{aligned}$$

Can You Afford a Drop in Milk Production?

Impact of decreased milk production monthly for 100 cows

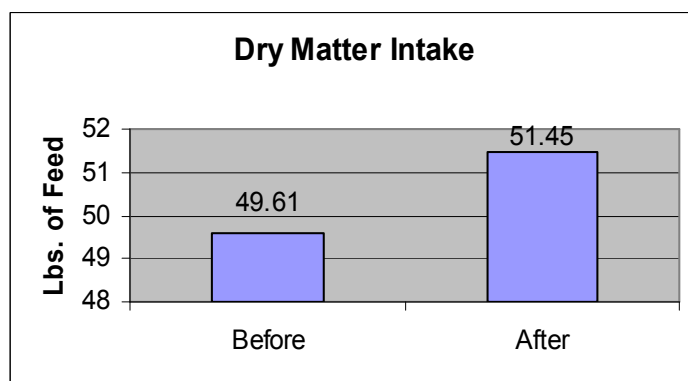
	Milk Production Drop (lbs.)				
Pounds milk	2	4	6	8	10
Milk price					
\$11.00/cwt..	\$660	\$1,320	\$1,980	\$2,640	\$3,300

TMR Enhance-R® was specifically designed with a combination of ingredients that will protect your TMR mix and enhance animal performance. This combination of ingredients will allow you to maintain the freshness of your TMR mix. PLUS, it contains the ingredients to enhance rumen function and the digestibility of forages. And that means more PROFITS for you!



Research March 2001, 35 day trial, 7 day pre-test period, 12 day test period, 7 day post-test period. Test consisted of 467 cows, 4 TMR groups. Forage: Corn silage and alfalfa haylage.

Research Results



Benefits of TMR Enhance-R®

- ◆ Contains Crop Cure® which enhances bunk life by stabilizing the pH.
- ◆ Contains a combination of buffering agents.
- ◆ Contains simple sugars for rapidly fermentable carbohydrates, thus offering a quick source of energy.
- ◆ Contains Diamond V XP yeast culture, which increases feed digestibility and improves palatability.

For more information about
TMR Enhance-R,
visit our web site at

**To order TMR Enhance-R,
simply call our toll free
number:**

1-800-472-6925 Ext. 338

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