

DAIRY PIPELINE

Department of Dairy Science

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PRE-WEANED CALF HOUSING CONSIDERATIONS I

We all know the importance of getting a fresh cow off to a good start, but what about her calf? Getting this future herd replacement started well is equally important, but sometimes overlooked because we do not see the immediate payback. Making sure the calf gets enough high quality colostrum in a timely manner is a critical first step. Where does she go from there? The environment you place this newborn calf in is also very important. Facilities for newborn calves don't need to be fancy; they just need to provide some basics in order for the calf to be comfortable and healthy. Calves need a clean, dry resting area which is draft-free and adequately ventilated. These calves also need access to high quality grain and clean, fresh water.

A clean, dry resting area helps the calf to maintain a fluffed hair coat which provides protection from the cold. A wet, dirty, or matted hair coat provides no insulation for the calf and energy that

could have been used for weight gain will instead be used to stay warm. A generous supply of bedding will provide a comfortable resting area and absorb moisture, keeping it away from the calf.

At times it is hard to resist the temptation to close in those calf pens to keep the cold air out. Air exchange is needed to keep the area from building up high concentrations of gases from manure, urine, dusts, and pathogens. Improper ventilation can cause respiratory problems, reduce feed intake, rate of gain and have other long term effects. But in order to have high quality air exchange, there needs to be high quality air surrounding the facility. Locating newborn calf housing away from mature animals and “compromised” air is an important step in ensuring clean, fresh air for the calf.

—Tina Horn
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MILK UREA NITROGEN (MUN) NOW BEING REPORTED IN BULK TANK SAMPLES FROM SOME MILK MARKETING

Milk urea nitrogen tests on bulk tank milk is being reported from some of the milk marketing coops serving Virginia. A project from the University of Maryland has provided assistance to coops to standardize analysis and reporting of MUN. Urea is a small molecule that travels dissolved in water. In other words urea will be in blood, urine, and milk at approximately the same concentrations. Urea is a product of protein degradation and reflects the protein status of the animal. Over or under feeding can result in high or low levels of MUN respectively. Also high levels of rumen degradable protein can result in elevated MUN. Energy intake also can have an impact. If there is not enough energy present in the rumen to utilize all

the nitrogen that is available some will pass into the blood and be transformed into urea in the liver. Jersey's have between 1 to 2 mg/dl more MUN than Holsteins. Typically expect bulk tank average MUN's to range between 10 to 14 mg/dl but for most efficient utilization of nitrogen MUN should be below 12. Individual cows will be outside of this range and factors such as feed and water intake, time of eating relative to sampling, and level of production will all have an influence. If herd average or bulk tank MUN's are above 12 or below 10 check total protein intake, rumen degradable protein intake, and ruminally available energy. MUN concentrations do give an indication of how efficiently protein or nitrogen is utilized and can be used to fine tune the

Upcoming Activities

State Dairy 4-H Quiz Bowl—March 10

Rockingham County
Contact Dave Winston
at dwinston@vt.edu for details.

Dairy Management Institute—March 29

Culpeper County
Extension Office
Contact Peter Callan at
(540)727-3435 for additional details.

If you are a person with a disability and require any auxiliary aids, services or other accommodations for any Extension event, please discuss your accommodation needs with the Extension staff at your local Extension office at least 1 week prior to the event.

feeding program and detect ration changes. With high soybean meal prices, overfeeding of protein (most herds need less than 17% protein on a dry basis) should be avoided and more environmentally friendly rations will be the result. Remember, if a cow consumes 50 lbs. of dry matter that is 17% protein that is 8.5 lbs. of protein, which would support more than 80 lbs. of milk. Cows producing greater than 80 lbs. will eat more than 50 lbs. of dry matter and consequently more pro-

tein. Grouping cows by production can reduce the need for protein for at least some of the cows in the herd and reduce overfeeding. Also knowing the dry matter intake of each group can reduce the safety factor needed when feeding groups of cows. Testing feeds for nutrient content is also an important "best management practice" in feed management.

—Charlie Stallings

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HOW FINE IS YOUR GRIND?

It's hard to open any recent dairy industry periodical and not see articles discussing high feed prices and low milk-to-feed ratios. Regardless of how high or low feed or milk prices are, dairy producers should always be looking for the biggest bang for their buck. If buying ground corn, either in a mix or alone, you should be aware of how finely the corn is ground.

Cracked corn or coarser ground corn has lower processing cost but is not as efficiently used by dairy cattle. Grinding corn finer increases the surface area available for digestion. By decreasing the grind size you may be able to improve the energy utilization, increasing milk production with the same amount of corn. The table below (adapted from data from Farmland Industries presented by Dr. Mike Hutjens) shows the difference in performance between cracked corn and ground corn. Cows receiving ground corn had a slightly higher

DMI; they produced 6 more lbs of milk per day and tended to have a higher fat and protein percent.

So how do you know if your corn is ground fine enough? The most definitive method of determining grind size is sifting the corn through grain particle screens. Ground corn should be evaluated with the following sizes of screens, #4, #8, #16, #30 and a bottom pan. The following table lists the recommended distribution percentages of particle size for ground corn, both dry and high-moisture 25-30% (H.M).

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	Cracked Corn	Ground Corn
Milk (lb/d)	69.2	75.3
Fat (%)	3.59	3.73
Protein (%)	3.19	3.29
DMI (lb/d)	49.1	50.7
Wt. (lb/d)	+0.34	+0.67

Screen Size	# 4	# 8	# 16	# 30	Bottom Pan
% H.M. Corn	25	50	25	—	—
% Dry Corn	0	<10	30	50	<20

—M. Chase Scott

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For more information on Dairy Extension or to learn about current programs, visit us at VT Dairy—Home of the Dairy Extension Program on the web at: www.vtdairy.dasc.vt.edu.

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