

DAIRY PIPELINE

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“Keeping the lights on and the water flowing are critical in our mission of maintaining the health and safety of our animals, so it makes sense to review our preparedness before the ice and snow comes.”

Prepping for Those Winter Storms

—Andy Overbay, Extension Agent & Unit Coordinator, Smyth County; aoverbay@vt.edu

Winter weather in Virginia is easy to predict. We will have somewhere between record heat and record cold with either above or below normal moisture. Joking aside, winter seems to always test our ability to keep our animals' lives as normal as possible when just about everything else isn't normal at all. Keeping the lights on and the water flowing are critical in our mission of maintaining the health and safety of our animals, so it makes sense to review our preparedness before the ice and snow comes.

On-farm power generation is all but essential anymore and keeping the generator ready to go is a great place to start as we begin to prepare for winter storms. Generators can lose their efficiency over time when left unused so it is a good idea to not only run them periodically but also have them checked and serviced by a qualified electrician. We often think about the danger of high voltage situations and that is a concern; however, when it comes to running a generator, low voltage levels are a real danger.

If you are using a generator that is not providing the proper voltage to your breaker box, fires can be a real possibility. Most of our electrical needs on the dairy farm are from electric motors that have starter switches that kick in to begin to turn the motor. When the motor is at full power, the starter disengages and the power needed to spin the motor is cut in half.

Without a high enough supply of power, a motor's starter will stay engaged, essentially doubling the amperes used by the motor. This high amp draw will result in a motor generating a tremendous amount of heat and over time will at the very least ruin the motor, but it also stands a great chance of burning your facility to the ground.

So what size generator does your operation need? That can be a difficult question

to answer. Utility providers will supply you with your kilowatt usage but stop short of making recommendations as to how many kilowatts (kW) your generator should provide. One thing that is known is the horsepower needs for PTO powered generators. For every kilowatt of power your generator is rated to provide, your tractor must supply 2 HP at the PTO. For example, if you have a generator rated at 60kW then your tractor needs to be at least 120 HP at the PTO. This is especially important to remember as most of today's tractors' rated horsepower is engine HP at the flywheel.

Water can be the other major headache in cold weather, or perhaps better stated: the lack of water. Just like any other piece of machinery or building supplies, new technologies have really helped make plumbing easier and better over time. As I can, I am replacing brass fittings and galvanized pipe with high strength plastic tubing and corresponding couplings.

All the planning in the world will not entirely prevent the inevitable water leak or frozen pipe, so here are just a few pointers from a guy that's been there. First, know where the shutoff valves are so you can begin repairs as quickly as possible. When Mom's house needed repairs, it took me a few minutes to find the main valve in her home's crawl space. Second, know where your water lines are. Knowing where to begin digging or where not to dig at all can save you time, money and sanity. Third, know the sizes of the pipes and fittings you have on the farm so you can keep some spare parts on hand at all times.



Upcoming Events

See [VTDairy](#) for details.

November 12, 2018

Media Training: Learn Techniques to Answer Tough Questions, Improve Presentations and Gain Confidence in Your Skills
Rockingham County Government Center

November 30— December 2, 2018

[Dairy Stockmanship with Dr. Don Hoglund](#)
3-Day Workshop
Blacksburg, VA
[Syllabus and instructions](#)
[Register online](#)

December 10-11, 2018

Hands-on Workshops for Dairy Farmers and Industry-related Personnel
Amelia County

December 13-14, 2018

Hands-on Workshops for Dairy Farmers and Industry-related Personnel
Franklin County

February 13-14, 2019

Virginia State Feed Association & VT Dairy Nutrition 'Cow College'
Hotel Roanoke

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.

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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“Cutting costs” with the calf program may not be a wise decision

—R. E. James, Professor Emeritus, Virginia Tech Department of Dairy Science; jamesre@vt.edu

Everyone will agree that milk prices are low and the prospects for higher milk prices in the near future are not the best. One place that requires careful consideration during these times is the preweaned calf program. It's expensive feeding calves on a per day basis! Cost estimates range from \$3.00 to more than \$6.00 per day! However, before making any changes carefully consider the decision of making cuts with this group of animals on the dairy. A 2012 study of 17 New York dairy farms revealed that although cost per day was highest for preweaned calves (\$3.13) the cost was only 8% of the total growth or 15% of total rearing costs! This occurs because the preweaned period only last ~ 60 days.

The goal for cutting costs in rearing calves is to have a low cost/pound of gain and not low cost/day. The two primary nutrient requirements for the growing calf are to support maintenance and growth. The calf uses nutrients to support maintenance first. Maintenance includes processes for normal body metabolism at rest, staying warm, etc. Any remaining nutrients are used to support growth. When we limit the amount of feed for these young animals there's not much left over for growth, making the cost per unit of gain very expensive. Historically we have attempted to reduce calf rearing expenses by limiting the amount of milk fed or using “cheap” milk replacers thereby “forcing” them to eat calf starter sooner. However, this practice severely penalizes the calf less than one month of age that won't eat much calf starter regardless of amount of milk or milk replacer that is fed. These “starvation” diets barely meet maintenance requirements when the temperature is warm and when it's less than 50°F the calf will lose weight to stay warm! Under these low milk intake conditions, the

cost per day may be low but the cost per lb of gain can become infinitely expensive.

In addition to low feed efficiency and expensive body weight gains, the nutritionally stressed calf will be more susceptible to disease. Calves which experience pneumonia will seldom make productive cows. More recent research has also conclusively shown that calves fed more milk or high-quality milk replacer make better cows (more milk!) through improvements in development of the mammary gland.

In summary, the young calf, particularly, those less than 45 days should be fed liberal amounts of milk (2 gallons or more/day) to encourage growth and deposition of some body fat which can be used as a reserve when the weather is cold or when they might lose their appetite. If milk replacer is the choice, then it should contain at least 24% protein and a fat % appropriate for the environmental conditions – up to 25% fat for smaller calves or during the winter.

The calf starter is equally important to stimulating intake of nutrients by the young calf. Calves fed milk or milk replacer more liberally during the first 30 days won't eat much calf starter, but they will be larger at a younger age and when they begin consuming starter will readily increase their intake. Now is not the time to least cost a calf starter! The starter should contain at least 20% protein and be highly palatable (tastes good!) with recommended levels of minerals and vitamins. Starters can be either textured or pelleted, but should be consistent in composition and have minimum of dustiness and fines.

Achieving economical growth means feeding the calf sufficient nutrients from milk or milk replacer, particularly during the first month to 45 days of life to enable them to reach their genetic potential for growth. Preweaned calves should double their birth weight in 56 days. Excellent early growth will result in higher feed efficiency and a lower cost of growth/lb of body weight, improved health and development of a more productive cow!

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