

Preparing Plants and Cattle for Cold Weather

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We know that the cold weather is here, and it tends to get more severe as we get into January and February. Getting materials prepared and having a plan for those days when the freezing weather arrives is the best thing we can do now to prepare our plants for protection from freezes.

The day before a frost night is expected, water the ground and soil liberally around frost-susceptible plants. The wet soil and water puddles will capture radiant energy during the day and

release it upward and around the plants during the night. Further, water gives off heat as it freezes, providing more warmth for the plants nearby. Watering the soil around plants before a frost or

freeze also benefits the plants directly, enabling them to resist the freezing process better if they are not also experiencing drought stress.

Covering plants is the simplest, most practical way to protect against a frost or freeze. Gardeners head out with sheets, blankets, plastic, row covers and anything else that they can get their hands on to wrap up plants for a cold night. Keep in mind however that a blanket doesn't keep a plant warm, at least not to any significant degree. Blankets keep us warm because our bodies produce heat that the blanket helps hold in. If you wrap up the branches of a small tree or shrub with a blanket you aren't doing it much good. These

"landscape lollipops" as I call them are not effective. In fact they may keep some of the heat available to the plant away from it. Here's what I mean. The main source of heat

for a plant is the soil. On a cold night heat from the soil rises up around the plants. If you use a blanket to trap this heat within the plant's canopy you can make a very significant difference on a cold night. When I talk about trapping heat I don't necessarily mean warm air, just air that is warmer than freezing. If you keep the temperature around plants

from dropping below freezing you have accomplished your goal. Even cold soil is actually significantly warmer than freezing and thus a source of "heat" on a cold night.

To cover plants effectively, lay the cover over the plant and allow it to drape down to the soil on all sides. Then secure it with boards, bricks, rocks or soil to hold in the air. This is especially helpful in preventing a breeze from cooling things down faster. The next day, remove the covers to allow the sun to warm the soil surface a little and then replace the

covers as the sun goes down. I have used cardboard boxes and large round garbage cans to cover plants. Plastic sheeting or any material that radiates its heat out quickly will "burn" (actually freeze) plant tissues where it touches them. It also tends to not reflect the radiant heat back down as well. Plastic is good, however, in holding in the air on a windy night so if you cover the plastic with a blanket or sheet you can increase the amount of heat reflected back to the plant and soil. Spunbound polyester rowcover fabric works quite well in holding heat. The lighter weight types are not as effective as the heavier types, which are generally sold as "frost blankets", but all types are helpful.

Preparing Cattle for Cold, Wet Weather

A strong El Nino, bringing colder, wetter conditions this winter, could mean tougher conditions for your cows. When we start thinking about cows and nutrient requirements, cold, wet weather increases their nutrient requirements and may increase the focus we've got to have on nutrition.

So we may be set up this fall and winter where our cows have higher energy requirements and our forage may not be as good because fall and winter rainfall has washed out some of the nutrients from dry, standing forage. That's important because the nutrition, or lack thereof, that your cows get this fall and winter will affect the 2017 calf crop.

We're trying to keep condition on these cows so they rebreed next spring. We're talking two years down the road where we have a major impact with what you do this winter nutritionally.

That means producers would do well to focus on how much condition they put on their cows as fall moves to winter.

The target for a good breed-up is for cows to calve in a body condition score of 5 or better next spring. That's going to ensure the shortest post-partum interval to have those cows ready to breed earlier.

However, nobody can pencil out exactly how much more feed you'll need, McCollum adds. That, he says, is where the eye of the master comes into play.

But there are some numbers you can go by. We're talking averages, but if a cow has a good winter hair coat and she's dry, she's comfortable down to about a 20° wind chill. "comfortable" means that the cow doesn't have to burn energy to maintain her body temperature.

If the cow is wet, on the other hand, that threshold shoots up to about a 50° wind chill. So if we have a colder, wetter winter, there may be more days where she's wet and more days where she's stressed and having to burn energy to maintain body heat.

Let's look at it as a "degree of coldness" measure. If the temperature threshold for a cow with a wet hair coat is a 50° wind chill, every degree below that threshold increases maintenance requirements by 1%-2%. So if that cow is comfortable at 50° wind chill but it's 35° wind chill, her maintenance requirements are 15%-30% higher than on a day when she wasn't wet.

So, what are your options? You can listen to the weatherman every night and feed more the next morning if things are going to get worse. Or you can play catch-up.

If it's been cold and wet, feed more because things have happened and it's set her back a little bit. That's where body condition comes into play—if a cow has adequate body condition, she has the reserves to stay warm when the weather gets bad. The extra groceries later will help her keep that body condition where it needs to be.

So if we're going to have a colder, wetter winter, it's going to take more energy to support those cows. Think about putting a little more energy into her this fall, a little more condition, so she'll have something to live on this winter.

My biggest concern for the forecast of cold and wet weather this winter are the cold temperatures and precipitation during calving. Ranchers begin to calve a lot of cows in February along the Gulf Coast. Cold weather accompanied with precipitation can really devastate your calf crop. Calves undergo several major body changes following birth. One of the more important changes for calves is that they must begin to start generating their own heat. Prior to birth, the uterine environment provided everything for the calf, including heat. As evidenced by successful cattle operations around the world, new calves can survive a great deal of cold weather, but several things need to happen to ensure the calf is ready to combat the cold. A wet calf is a cold calf. Calves are born covered in fluid which will decrease the calf's temperature as it evaporates. Ideally, a good mother will lick the calf and remove most of this fluid. Licking the calf is also important in stimulating blood flow and getting the calf to stand up. Be mindful that not all heifers are diligent in "mothering up". A wet calf uses more energy for heat production than it does for standing and finding the teat.

How can you tell if your calf is suffering from cold stress? One of the best tools is a digital thermometer. A thermometer, used rectally, can give a quick and accurate internal temperature to assess calf condition. Calf temperatures should be between 101° F to 103° F. Calves with cold stress will start dropping below 101° F, and they should be warmed immediately. Cold calves may not shiver.

What do I do if a calf has cold stress? There are several methods for warming a calf. Methods include using warm water bottles, warm water baths, heating pads, heating crates, calf jackets, or the cab of a truck. If a warm bath is used, be sure to dry off the calf afterwards. Some producers will warm the face, mouth, and neck areas first. The neck and throat area of the animal carries the jugular veins and carotid arteries fairly close to the surface of the skin. By warming these areas, it may be possible to increase core temperature faster. Figure out which method works best for your operation, and be mindful of sanitation and the spread of disease.