

DAIRY AND FIELD CROPS NEWS

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Management Check-off List

- Scout corn fields for early season problems
- Reduce negative effect hot weather can have on dry matter intake by:
 - Supplying plenty of fresh water
 - Taking enough feed off of the face of your storage every day
 - Feeding multiple times per day with fresh feed.
 - Using a proprionic acid product at harvest to retard the reheating process when feeding

Early Season Corn Problems

Kevin H. Gano

The weather has been great for getting corn planted but the cold, dry weather has sure slowed emergence. Once we start getting some heat and moisture most corn will be fine. However if you see missing or damaged plants look a little closer as the cause may be one of the typical early season problems listed below. Look now! Don't wait until the end of the season and wonder what happened to your stand

Seed Corn Maggot

What to look for:

- Skips
- Seed is hollowed out inside or may only be the seed coat
- Seeds may be mushy
- Maggot may be in seed

Solution: Use planter box or seed treatment next year

Soil Crusting

What to look for:

- Skips
- Soil is crusted
- Plants are twisted above the ground
- Seeds have germinated but the shoot is twisted under the crust and do not emerge

Solution: Use rotary hoe to break crust. Avoid excess tillage in the future to prevent surface compaction.

Cloddy Soils

What to look for:

- Cloddy soil
- Skips
- Uneven plant growth
- Ungerminated seed and taller plants in the same field

Solution: Don't overtill naturally compacted clay soils or till them when they are wet.

Wireworms

What to look for:

- Skips in fields that were old sods and pastures—no rotation
- Plants that look like two tillers or suckers growing-no main stalk
- Plants are twisted above ground
- Hole in crown of plant
- Seed hollowed out
- Light brown/orange colored worm with what appears to be a hard shell

Solution: More likely to be a problem when planting into old sod hay fields and pastures. Hard to scout for ahead of time. Consider using an insecticide.

Bird damage

What to look for:

- Skips
- Corn plant is hanging from soil by few roots and seed is missing or mostly gone
- Corn seed coat may be laying separate on soil surface
- Corn plant that is clipped at soil surface
- Clipped leaves may be on soil surface
- Depression around where seed/plant is or was

Solution: Planting a minimum of 1.5 to 2 inches will help.

Billbug**What to look for:**

- Evenly spaced holes across corn leaf
- Plants that look like two tillers or suckers growing—no main stalk
- Plants are twisted above ground
- Maybe hole or mark at crown of plant
- Insect is almost impossible to find

Cutworms**What to look for:**

- Plants may be cut off at the soil surface—Above ground plant may be missing
- Plants may be eaten just below the soil surface—Above ground plant may be wilted
- Feeding may destroy growing point, larger plants may be wilted and dying
- Evenly spaced holes across corn leaf
- Black larva in soil around plant, curls in the shape of a “C” when disturbed
- May be up in stem of larger plants

Solution: If more than 5% of the plants are cut and the larvae are small consider insecticide treatment.

Potato Stem Borer and Hopvine Borer**What to look for**

- New growth is wilted and dying in 6 to 12 inch plants
- Hole in plant just below soil
- Larva is up in stem, usually purple in color, sometimes white
- Aggressive and active larva
- Grasses, in particular quackgrass, are almost always present in or near corn field

Solution: Applications of glyphosate to kill perennial grasses before planting.

Armyworms**What to look for**

- Large parts of corn plants will appear eaten
- Feeding on plant may be a “C” shape
- May notice pellet like droppings near feeding
- Grey, blue, black striped larva found in whorl of corn or under trash on the ground during day

Slugs**What to look for**

- Silver stripes running with the leaf
- Stripes appear opaque
- Leaves may be tattered
- Leaves may be gone with only the stalk remaining
- Usually in fields that were sods and grass and weeds remain
- Usually in fields that are somewhat poorly to poorly drained

Dairy Nutrition During Hot Weather

David R. Balbian

You all have undoubtedly been reading numerous articles in a variety of dairy magazines recently about various strategies available to you to keep your cows cool, comfortable, and productive during hot weather. Rather than provide you with a listing of options and the expected results, both in production and economics, I'd like to discuss how we could modify our feeding programs and feeding routines to minimize the negative effects of hot weather. I think most people who have made the decision to invest in fans, fans & sprinklers, sidewall curtains, etc. have already done so. For those of you who haven't employed any of

these strategies it's time to give them a hard look; the payoff is usually quite good. It is almost always a better payoff than what we can do nutritionally.

The biggest negative impact of hot weather is reduced Dry Matter Intake (DMI) and a resultant reduction in milk production. So, what can be done nutritionally to minimize the hot weather effects? I think we can divide nutritional strategies into two basic categories. The first being feeding management and the second being ration formulation.

In the feeding management area some things are common sense, but we often stay in a winter routine and miss out on some of the potential benefits.

- Provide plenty of fresh clean water. Cool water will have a cooling effect as the cow's body transfers body heat to the cool water. However, cows actually prefer water at around 70° F, rather than really cold water. Also be sure access is adequate. A good rule of thumb is 2 inches of liner access space per cow. With milking parlors, a tub of fresh water near where cows exit the parlor will get plenty of use. A very high producing herd I've worked with insures that cows have to walk no more than 50 feet to get to water.
- Keep feed fresh and minimize the risk to secondary fermentation: don't fill the mixer wagon or run feed out with the silo unloader the night before.
- Be sure you're taking enough feed off the face of your storage every day. If you don't, feed could be spoiling & heating as fast as you are feeding it. If you plan ahead, silages treated with a propionic acid product at ensiling can retard this reheating process.
- Feed multiple times per day (with fresh feed).
- If feed is heating up in the manger or feedbunk, consider one of the propionic acid additives to retard this process.
- If you are adding water to a TMR to minimize sorting, reevaluate that practice to see if it's still necessary. Added water seems to increase the rate of secondary fermentation.
- Avoid feeding moldy or spoiled feed (this should be a year round practice).

When it comes to ration formulation there are also a few items that warrant mention.

- If inventories allow, switch to a slightly higher proportion of corn silage for summer feeding. Corn silage will produce less heat of digestion than dry hay, haylage, or baleage. If your inventories do not allow you to switch to more corn silage, select the highest quality forage available. Higher quality forages will produce less heat of digestion than lower quality forages.
- Have your nutritionist reformulate your rations based on the lower DMI cows are likely to consume during hot weather. Be careful to still maintain adequate fiber levels. A misstep here can push cows into acidosis, so be careful.
- Consider adding fat products to increase the energy density of the diet. Fats have a low heat increment, therefore less energy is lost as heat. Add rumen available fats first (up to 2 to 3% of the diet), such as tallow, cottonseed, or roasted soybeans. Add rumen protected fats after that (again up to 2 to 3% of the diet).
- Consider the use of yeast cultures during hot weather. They seem to sometimes help.
- Have your nutritionist check the DCAD (dietary cation-anion difference) level in your lactating cow diets and reformulate if necessary. However, this same strategy doesn't appear to have the same positive results with intensively rotationally grazed cows.

You've been reading about negative DCAD diets for dry cows for years now. Some limited research has shown some really positive results when early lactation (higher producing) cows had a positive DCAD level of 35 to 45 meq per 100 g of dry matter consumed. DCAD is an indicator of a cow's ability to buffer blood. During hot weather, cows may not be able to buffer their blood as well. DCAD is calculated using an equation that uses the quantities of the salts administered and the measured mineral concentrations and DMI of all feeds. The formula used is: $DCAD = (Na + K) - (Cl + S)$.

To determine the DCAD for your cows be sure you have accurate (wet chemistry mineral analysis) information on Sodium, Potassium, Chloride, and Sulfur for all your forages. Chloride levels can be especially variable. Be sure to measure the levels; don't guess. Some diets may already fall into the recommended range. Others will likely be quite low. So, what can you do to adjust that DCAD level upward if it's too low? Two ingredients will help you to get there and some research would indicate that when used in combination the results are much improved. They are sodium bicarbonate and potassium carbonate. Do not add additional salt. That will not move you in the right direction. Once the sodium and chloride requirements are met, no additional salt should be necessary (at least as part of a TMR or grain mix). A little free choice salt probably will not cause a problem.



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