

## What is Ketosis?

by MCS Staff and Advisors

Ketosis is a metabolic disorder that occurs when cattle have high energy demands (e.g. high milk production) that exceeds energy intake. Most cases of clinical ketosis occur within the first two weeks after calving. The cow begins to metabolize fat stores, leading to elevated ketone levels. Ketotic cows often have low blood sugar concentrations and a characteristic "sweet breath."

Cases of clinical ketosis may occur in cows at freshening, but subclinical ketosis can be prevalent in up to 40% of the herd in the first 60 days in milk. It is suggested that cows giving birth to twins, having retained placenta, or with milk fever are at increased risk for ketosis.

### Suggested reading on ketosis:

For a very good technical article, American Association of Bovine Practitioners:

<https://www.vetmed.wisc.edu/dms/fapm/fapmtools/2nutr/ketosis.pdf>

eXtension

<http://articles.extension.org/pages/70310/minimizing-the-risk-for-ketosis-in-dairy-herds>

Merck Vet Manual [http://www.merck-vetmanual.com/mvm/metabolic\\_disorders/ketosis\\_in\\_cattle/overview\\_of\\_ketosis\\_in\\_cattle.html](http://www.merck-vetmanual.com/mvm/metabolic_disorders/ketosis_in_cattle/overview_of_ketosis_in_cattle.html)

### What can organic farmers do?

In organic production, it is important to minimize the risk of ketosis. However, if treatment is necessary, there are options for the organic producer.

### **Organic approved prevention:**

- Maintain dry matter intake for cows in the last week of gestation
- Freshen cows with a body score of 3.5. Cattle freshening with a body score of 4.0 or above are at risk
- Include some long-stemmed dry hay in the ration

### **Organic approved treatments:**

- IV electrolytes
- IV glucose
- IV dextrose
- Homeopathic Lycopodium, Chelidonium, Nux vomica, or Phosphorus (depending on symptoms)
- Ketonic (Agri-Dynamics)
- Dyna-Vites (Agri-Dynamics)
- Cow Quench (Crystal Creek)
- Super Boost (Crystal Creek)
- Wellness Plus drench (Dr. Paul's Lab)
- Liver and Blood Cleaner (Dr. Paul's Lab)
- Molasses as an energy source (must be certified organic for long-term use)
- Niacin boluses
- Vitamin B complex
- 50:50 Molasses and apple cider vinegar mix orally

### **Prohibited:**

- propylene glycol
- glycerin drenches
- Keto "Plus" Gel (Durvet)
- Keto-Treat (IBA)
- AgriLabs Keto Plus Gel (Bomac Vets Plus)
- glucocorticoid injections
- calcium propionate
- Monensin

## MCS Advisory Committee Meeting Held

The MCS Advisory Committee held its annual meeting on March 23, 2016.

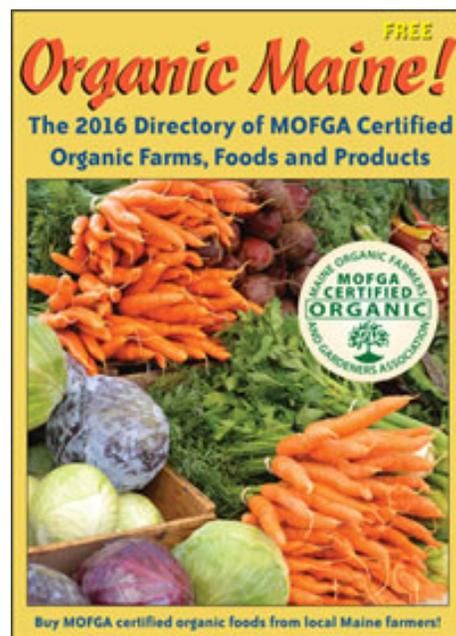
The group, made up of certified farmers and processors, Extension staff, Management Committee members, and Ag. Services colleagues, met with staff to give feedback on issues important to the work of our program.

Agenda items included: goals and objectives for our strategic planning process, sea vegetable production, aquaponics/hydroponics, livestock policy issues, natural resources and biodiversity, maple syrup standards, and administrative recommendations.

If you are interested in becoming part of the Advisory Committee, please contact Jacomijn Schravendes-Gardei at [jacomijn@mofga.org](mailto:jacomijn@mofga.org).

## 2016 Organic Maine! is Here!

To get copies for your store, farm stand, local library, etc, call MOFGA at 568-4142. You can download a PDF of the directory from <http://www.mofga.org/Publications/OrganicMaine/tabid/1716/Default.aspx>.



# Body Condition Scoring

## for Prevention of Ketosis in Dry Cows



**BCS = 1**

Deep cavity around tailhead. Bones of pelvis and short ribs sharp and easily felt. No fatty tissue in pelvic or loin area. Deep depression in loin.



**BCS = 2**

Shallow cavity around tailhead with some fatty tissue lining it and covering pin bones. Pelvis easily felt. Ends of short ribs feel rounded and upper surfaces can be felt with slight pressure. Depression visible in loin area.



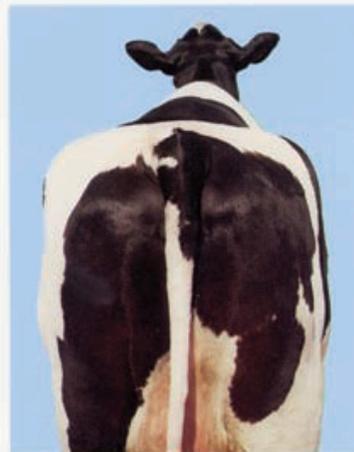
**BCS = 3**

No cavity around tailhead and fatty tissue easily felt over whole area. Pelvis can be felt with slight pressure. Thick layer of tissue covering top of short ribs which can still be felt with pressure. Slight depression in loin area.



**BCS = 4**

Folds of fatty tissue are seen around tailhead with patches of fat covering pin bones. Pelvis can be felt with firm pressure. Short ribs can no longer be felt. No depression in loin area.



**BCS = 5**

Tailhead is buried in thick layer of fatty tissue. Pelvic bones cannot be felt even with firm pressure. Short ribs covered with thick layer of fatty tissue.

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Photos by Craig Johnson

<https://www.uaex.edu/publications/pdf/FSA-4008.pdf>