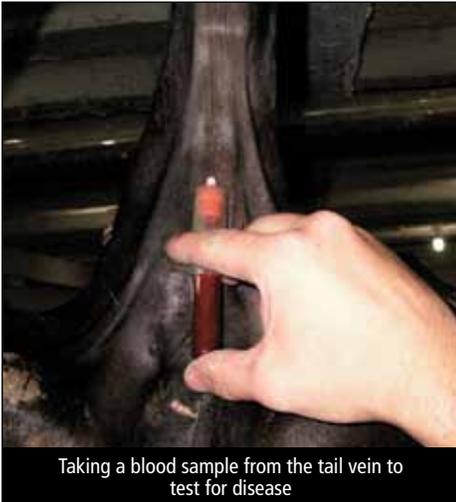


**OFF TO A HEALTHY START NATURALLY:
THE DRY COW**



HEALTHY COWS PRODUCE HEALTHY, HARDY CALVES

Calves are not only a product of genetic selection and early growth, but of their experiences as a developing calf. The last trimester, typically coinciding with the dry period, is the time of greatest growth for the developing calf. However, early gestation represents a time of critical development with greater risk for future effects if this development is compromised.



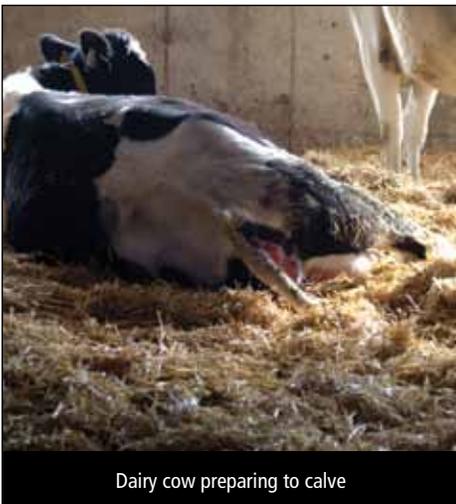
Taking a blood sample from the tail vein to test for disease

Maternal Environment

Stress on the dam at periods throughout her gestation can exert long-lasting effects on her offspring. Appropriate nutrition is one of the most important factors during gestation, with other stressors having the ability to alter or program calf development:

- Heat stress
- Social environment
- Disease in the dam

These factors can also work together, with stocking densities and lameness having the potential to further limit intakes.



Dairy cow preparing to calve

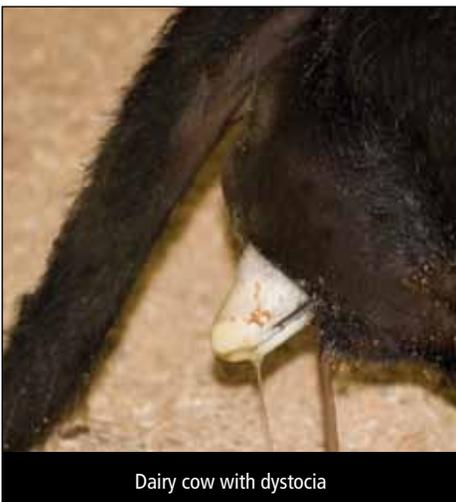
Stress on Pregnant Cattle Affects Developing Calf

Stress such as nutrient restriction to the dam or the demands of high milk production has been shown to have effects on survivability, health and future productivity in several species. Challenges to the maternal environment may affect the future calf's:

- Birth weight (although calves of normal birth weight can be affected as well)
- Ability to absorb antibodies in colostrum; even with high quality colostrum, calves may not get the protection they need
- Reproductive performance; quality and quantity of follicles may be compromised
- Milk production

Body Condition Score

Monitor body condition score throughout each lactation and dry period.



Dairy cow with dystocia

The Dry Period

Good feed management is important to meet the needs of the cow and the developing calf, while avoiding overfeeding. The dam should maintain condition, rather than gain or lose.

- Exceeding requirements can negatively affect postpartum health of the cow, and potentially alter the calf's future metabolic function and milking ability
- Overconditioned cattle are at greater risk of dystocia, challenging their transition and the survival and health of the calf
- Underfeeding can hinder development of the calf, and may affect its ability to absorb colostrum



Clean, high quality colostrum within 30 min. after birth

Colostrum

Colostrum is composed of antibodies and can be enhanced through vaccination

- Contains other nutrient factors for the absorption of antibodies, as well as growth
- Vaccination in the dry period can increase the level of antibodies in colostrum
- For optimal protection, vaccinate at times of minimal stress to the animal, and consult with your veterinarian for the best vaccination protocol for your herd

Other Management Considerations

Housing and management can contribute to stress that occurs throughout lactation and gestation in the following ways:

- **Feed access:** how many cows can eat, and for how many hours of the day?
 - Cows should have feed in front of them 24 h/d
 - Consider offering extra feed per day
 - Increase push-ups and even out feed distribution
 - In free stalls, smaller headlocks will not be filled to capacity, and rails can result in increased displacements at the feed bunk
 - Ongoing forage evaluation – ensure they are getting the ration that is formulated
- **Social environment:** social hierarchies can create stress and decrease intakes
 - Cows like to eat all at once; high stocking densities can compromise intakes
- **Heat stress:** associated with decreased feed intakes and can result in premature calvings
 - Ensure appropriate ventilation, consider sprayers
 - Watch for signs of crowding
- **Disease:** can decrease intakes, while also increasing nutrient demands
- **Movement:** work with your veterinarian to develop a protocol to reduce stress from pen changes at calving time, such as introduction to close-up maternity pens 14–21 days pre-partum



Dairy cattle with full access to feed



Push-ups increase access to feed to ensure feed intake requirements are met

General Management Year-Round

Management of the dam during lactation and the dry period is important for the health and productivity of her developing calf. However, the dam's condition prior to calving will determine the success of her transition. How much of an energy deficit (negative energy balance) she experiences, and whether it began prior to lactation can continue to have effects into subsequent breedings.

Consult with your management advisory team regarding the possible benefits of implementing or updating your monitoring and dry cow programs and keep in mind the effects of the cow on her calf, at all stages. **These calves are your future milking herd!**



Off to a healthy start

Other Points to Remember:

- **Always needle calves in the neck**
- **Beware of the required withdrawal period when treating calves**
 - **Do not feed milk from treated cows as it could leave residues**
- **Calves must be a minimum of 7 days of age and have a dry navel before leaving the farm**

For more information visit www.calfcare.ca

Acknowledgements

The Ontario Veal Association wishes to thank all those who contributed to this important industry initiative. Your expertise and willingness to help are greatly appreciated.



www.ontarioveal.on.ca

This project is funded through contributions by Canada and the Province of Ontario under the Farm Innovation Program (FIP), a program that is part of Growing Forward, a federal-provincial-territorial initiative. The FIP is administered by the Agricultural Adaptation Council (AAC) on behalf of Agriculture, Agri-Food Canada (AAFC) and the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA).

Canada



Ontario

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Photographs:

Courtesy of Kendra Keels and Kimberley Painter, with an additional thank you to all the farms and businesses that helped with the photography for this project.

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Other calf resources available from the Ontario Veal Association

- **Biennial Healthy Calf Conference**
- **Calf Rearing Guide book**
- **Calf Care Protocol**
- **Colostrum Management booklet**
- **Building the Foundation for Healthy Calves book**
- **Monthly Calf Management e-blasts**

Contact the OVA at 519-824-2942

