LINWOOD VETERINARY SERVICES

DR. MURRAY RUNSTEDLER DR. PAUL SOSTAR DR. ANDREW MACLEOD
DR. KELLY HAELZLE DR. AMANDA TOPP DR. SHANNON WALSH

Linwood Veterinary Services
3860 Manser Road, Linwood, ON N0B 2A0 (519) 698-2610
& Hwy 89 Veterinary Services, 7434 Hwy 89 Mount Forest, ON N0G 2L0
1-800-663-2941 Fax (519) 698-2081
linwoodvet@linwoodvet.ca

We will provide industry-leading, reliable, knowledgeable service, in a friendly, courteous and timely manner, to benefit our clients and the communities we serve.

Linwood Clinic Hours: Mon-Fri 7am – 5pm Sat 7am – 12pm **Hwy 89 Clinic:** Mon-Sat 7am-1 pm

NOTE: BOTH CLINICS ARE CLOSED SUNDAY and NO DELIVERY SERVICE SATURDAYS AND HOLIDAYS

Orders for Delivery: Please, call BEFORE 9:30 am, for same day local delivery Monday to Friday

24 Hour Emergency Vet Service call any clinic number **1-800-663-2941 519-698-2610 519-323-9002**

DECEMBER 2017 NEWSLETTER

VERY MERRY CHRISTMAS AND HAPPY NEW YEAR WISHES FROM ALL YOUR VETERINARIANS AND STAFF AT HWY 89 AND LINWOOD VETERINARY SERVICES!

Clinic News

HOLIDAYS Please note both clinics are **CLOSED Monday December 25, Tuesday December 26, and Monday January 1** Please try to stock what you need on hand before the holidays and in case inclement weather delays deliveries. We appreciate any large orders being placed as early as possible in December because some suppliers shut down and their shipments are limited.

After hours: For vet services, clinic services, and orders, please call the **clinic numbers** above, as staff may not get your message in time, may not be working, or may be on holidays. The answering service will get your message to the vets on call in a timely manner and they will look after assisting you with animal emergencies, arranging urgent drug orders, or milk residue tests. You can leave a message for the office, with the service, too. Email should also go to the **general email address** above, as it is monitored by staff several times during clinic hours.

CALF HEALTH - NOVEMBER PRODUCER MEETING RECAP

Thank you to everyone who joined us for our November producer meeting. Please do not hesitate to contact us with any further questions or feedback. A special thanks to Dr. Allison Pylypjuk (Zoetis) and Brian Keunen (Mapleview Agri Ltd.) for sharing their time and knowledge.
For those unable to attend, a recap of the key messages has been provided here. Also included is a summary of **Linwood Veterinary Services' new Calf Program**.

Why the emphasis on calf health?

The first 6 months of a calf's life largely determine her performance and longevity in the herd. When you invest in your calves, you invest in your farm's future.

How do we set up our calves for success as future productive members of the herd?

The three key areas of calf management include:

1. **Colostrum management**
2. **Calfhood Disease** (lung & intestine health)
3. **Heifer Growth** (doubling weight at weaning)

Collecting and interpreting data in each of these management areas allows us to establish farm performance relative to industry targets, and guide decision-making for more profitable outcomes. We cannot effectively manage what we do not measure.

Colostrum management

Colostrum contains not only antibodies, but also nutrients, growth factors, and hormones essential for calf development and growth. Proper colostrum management yields lower treatment and mortality rates, improved growth rates and feed efficiency, younger age at first calving, and an increased milk production in 1st and 2nd lactation.

Quantity & Timing

- To ensure successful passive transfer, feed **within 2 hours of birth** (max 4-6 hours)
- To achieve **150-200g** of antibody (IgG), feed **3.5-4L to Holstein calves, 2.5-3L to Jersey calves**
    - On average, a calf will drink 2.2L; be prepared to tube the rest or give a 2nd feeding within 6hrs after birth
    - Avoid excessive tubing, which suppresses the suckle reflex and may lead to incomplete rumen groove closure and scours

Colostometer ▲

Quality:

- Excellent colostrum is identified using a **colostrometer (50-140 mg/mL)** or a **Brix refractometer (>22%)**. Brix is more accurate

Brix ►

- Measuring colostrum quality:
    - Eases decision making for use – e.g. feeding failing colostrum to calves 3+ days old vs. immediate use vs. storage (freezing)
    - Triggers investigation in cases of repeated poor quality – e.g. dry cow period, delay to harvest

Cleanliness:

- High bacterial loads decrease antibody absorption
- Transmissible pathogens in colostrum include E. coli, Salmonella spp., Mycoplasma spp., Johnes
- Culture targets for colostrum and collection/storage/feeding equipment are:
    - TPC (total plate count) <100,000 cfu/mL
    - TCC (total coliform count) <10,000 cfu/mL

***Successful passive transfer**:*

- **Serum total protein (STP) > 5.5g/dL** indicates adequate transfer of maternal antibodies to the calf
- ***Calves may still have failure of passive transfer even if fed excellent quality colostrum*** – e.g. delay in feeding, high bacterial loads, etc.
- If using colostrum replacer rather than maternal colostrum (e.g. Johnes or BLV control), be sure to check the label – **replacers** will have 100-150g of antibody (IgG) vs. **supplements** will have 40-60g.

<u>Calfhood Disease</u>

There are both direct costs (e.g. cost of treatment, labour) and indirect costs (e.g. delayed time to first breeding) associated with calfhood disease. Targets are **<3% mortality pre-weaning and <10% treatment rate**. Tools for achieving these targets include:

- Effective colostrum management
- Vaccination – e.g. ScourGuard 4KC (cows), Inforce-3 (fresh cows, calves)
- An environment that is clean, dry, well-bedded, free from drafts, and well-ventilated
- Early recognition and intervention – e.g. calf health scores, disease & treatment rates, calf lung ultrasound (see below)

Intestinal health

Maintaining a high plane of nutrition in calves requires feeding more milk than what has been historically recommended. Feeding more milk yields more fecal output. Differentiate between loose stools (normal in healthy calves) and true scours.

Scouring calves are painful, grow at a slower rate, weigh 1kg less at 50 days of age, and cost $137 more to raise. The cause of scours cannot be determined from the appearance of feces. Calf age, severity of onset, and farm history provide guidance but optimizing treatment (i.e. reduced repeat treatments, quicker resolution) requires diagnostic testing.

Lung health

Recent research (Dunn et. al, 2017) demonstrated that **the presence of lung consolidation at least once in the first 8 weeks of life, was associated with a 525kg decrease in first lactation 305 milk production**. This research validated **calf lung ultrasound** as a viable tool for early identification of respiratory disease and provided a target (<10% consolidation recommended). Don't underestimate your **thermometer** as a tool for early identification of respiratory disease. Identifying sick calves by "not coming up to eat" is identifying calves too late and will result in higher treatment rates.

Calf health scores

Developed by the University of Wisconsin, these score charts are another tool for decision making surrounding treatment, and for monitoring trends in calf health. Scoring criteria include: nasal discharge, eye/ear, cough, temperature, total respiratory score, and fecal consistency.

Heifer Growth

Feeding & weaning

Optimum growth requires a high plane of nutrition. For example, using Cornell **feeding rates**, on a dry matter basis, we would feed a 90lb calf *(guideline only)*:

- 1.5% (1.35lb) for the first 7 days
- 2-2.5% (1.8-2.25lb) for the remainder

Ideally, calves should be drinking 9L prior to weaning (note: use caution with high intensity feeding programs).

Water quality for milk replacer reconstitution is very important to prevent repeatedly feeding bacteria.

Consistency (thorough mixing) of milk replacer influences uniformity of heifer growth.

Milk does not stimulate	Normal Serous Discharge	Small amount of unilateral cloudy discharge	Bilateral, cloudy, or excess mucous discharge	Copious bilateral mucopurulent discharge

over 3 weeks is recomr

Example *(guideline only):*

- 3 weeks prior to weaning: 6-8L fed once per day
- 2-weeks prior to weaning: 3-4L fed once per day
- 1 week prior to weaning: 3-4L fed once every 3 feedings

Tips for successful growth in the winter months

Thermoneutral zone of a calf (10-20°C): This is the temperature at which a calf does not use additional energy to maintain body temperature; i.e. all available energy is used for maintenance and growth. Above the **upper critical temperature (UCT)**, energy is required to cool the calf (heat stress). Below the **lower critical temperature (LCT)**, energy is required to warm the calf (cold stress). If additional energy is not provided in the winter months, growth rates will suffer. We can support calves below their LCT by:

1. **Increasing caloric intake**
2. **Providing calf coats**
3. **Ensuring adequate bedding (nesting score)**

Adjusting milk replacer fed: For every 0.5*C below the LCT, increase milk replacer by 1% *(guideline only)*. Assuming a 90lb calf at birth, using a 26-26-17 milk replacer, to achieve an 180lb calf at 8 weeks we must feed roughly 100-1050g/day in the summer and an additional 250-350g in the winter. Assuming 125g/L:

- 15°C to 0°C: bump up feedings by 1L (i.e. offer additional 1L at either AM or PM feeding)
- 0°C to -15°C: bump up feedings by another 1L (i.e. offer additional 1L at both AM and PM feedings)

Simply switching to a higher-fat milk replacer in the winter is not sufficient. Avoid high-ash products (e.g. high-lactose whey); if ash increases to 12%, energy is decreased by 50%.

Calf coats: These make a significant difference for calves under 3 weeks. Generally, begin using coats in November, and end mid-May.

Bedding & Nesting scores: Effective ambient temperature (EAT) is the temperature that the animal is experiencing and is not necessarily the same as air temperature. Bedding is an exceptionally cost-effective means of improving EAT (and improving respiratory health). The nesting score is used to assess bedding usage.

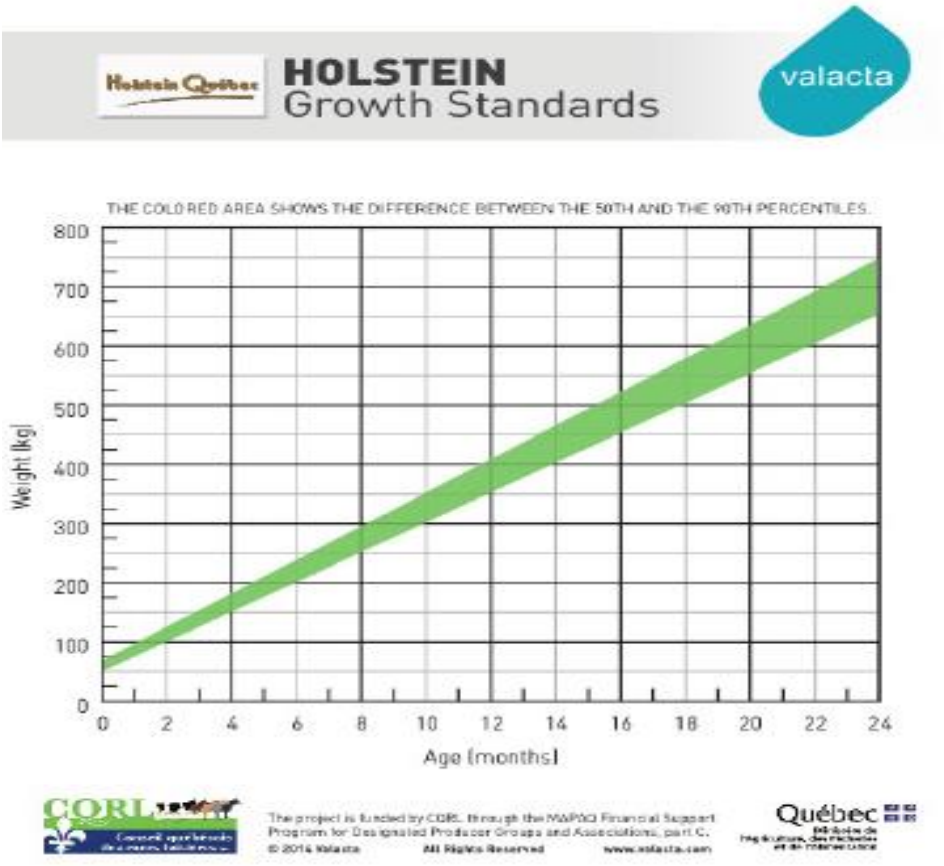
- **Score 1 (Poor)**: calves' legs are entirely visible
- **Score 2 (Moderate)**: calves' legs partially visible when laying
- **Score 3 (Ideal)**: calves' legs generally not visible when laying

Growth curves & targets

A heifer's growth rate determines how efficiently she will become a productive member of the herd. Ideal growth is not too slow, too fast, or too expensive. Heifer growth may either be compared to industry breed standards or adjusted to individual herd goals. Growth curves plot heifer height and/or weight and have various uses:

- Evaluation of heifer management to identify individuals or groups that are undersized or under/overweight
- Generation of performance targets required for achieving
- set herd goals
- Monitoring response to management changes

Weights can be measured using weigh-tapes, which use girth as an approximation of weight.



Age	WEIGHT (KG) 50th %ile	90th %ile
1	76	97
2	102	125
3	127	154
4	152	182
5	177	210
6	203	239
7	228	267
8	253	295
9	278	323
10	304	352
11	329	380
12	354	408
13	379	437
14	405	465
15	430	493
16	455	522
17	480	550
18	506	578
19	531	606
20	556	635
21	581	663
22	607	691
23	632	720
24	657	748

The project is funded by CQRL through the MAPAQ Financial Support Program for Designated Producer Groups and Associations, part C.

LINWOOD VETERINARY SERVICES - CALF PROGRAM

Linwood Veterinary Services is currently developing a unique calf program. **Our objective is to offer on-farm services which will optimize calf health and growth, and thereby also improve economic outcomes. Services are tailored to individual farm needs and goals.**

Services offered include the following:

1. Colostrum management
    a. **Brix refractometry**
    b. **Serum total protein**
    c. **Culture of equipment and colostrum**
    d. **Consultation**
        - *E.g. trouble-shooting poor colostrum quality or failure of passive transfer, heat-treating colostrum, feeding transition milk, Johnes & BLV transmission and testing, ProAction protocols, etc.*
2. Health: intestinal & respiratory
    a. **Calf health scoring**
    b. **Fecal tests**
    c. **Trending disease and treatment rates**
    d. ***(Calf lung ultrasound)*** **not yet offered; under development*
    e. **Consultation**
        - *E.g. vaccination, ProAction protocols, etc.*
3. Growth
    a. **Growth curves -***E.g. heifer calf weights, from birth to weaning, and heights*
    b. **Consultation**
        - *E.g. environmental trouble-shooting (ventilation, nesting scores, etc.), nutritional strategies*

Data collection is performed by our Registered Veterinary Technicians (RVTs), with the exception that farmers would be required to record colostrum management data (Brix, timing, amount fed, etc.), and birth weights for growth curves. Our RVTs are also performing in-house testing. Out-of-house testing may be recommended in some circumstances, and would be discussed as needed. Veterinarians conduct data interpretation and communicate relevant information with you, offering insight and consultation. Frequency of farm visits and sit-down reviews will be determined by services selected and individual farm needs and goals.

Your herd vet will be talking to you about how a custom calf program can identify opportunities for your farm!