Feeder Calf Preconditioning
and
Backgrounding Guide

Good practices,
good results
To improve your chances of success

This Guide was developed to meet growing demand from buyers for preconditioned or backgrounded calves. This Guide outlines a procedure for producing these types of calves.

To increase your chances of successful preconditioning or good backgrounding, you must work with cattle production advisers you trust.

Preconditioning, like backgrounding, is an art that must be mastered in order to succeed.

These practices can improve the profitability of your farm business, but they can also increase your costs, with no return on investment, if the product you offer does not meet buyers' expectations.

The partners

This booklet was produced with funding from the Programme d’appui financier pour les associations de producteurs désignées (Financial support program for designated producer associations) and with the collaboration of the following partners:
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Foreword

Who will use this Guide?

This Guide was designed for producers who wish to precondition or background their calves in order to market weaned calves that weigh a minimum of 295 kilograms (kg) (650 pounds (lb)). This Guide is also intended for all farm businesses which can integrate the various phases into their herd management practices and are ready to do the additional work required to increase the added value of their product.

Definition of a preconditioned calf

Male or female feeder calf, vaccinated, castrated, dehorned, dewormed and weaned at least 40 days prior to sale. The ideal marketing weight should be at least 295 kg (650 lb).

Definition of a backgrounded calf

Male or female feeder calf, vaccinated, castrated, dehorned, dewormed and weaned at least 60 days prior to marketing at a weight of 320 to 385 kg (700 to 850 lb).

The backgrounding proposed in this Guide is intensive. The calves are fed grower rations and the weight gain target is 1.13 kg (2.5 lb) per day. This is possible thanks to improvements in the genetics of Quebec herds. For cow/calf producers, backgrounding is a continuation of preconditioning.

Once the calves are preconditioned, a producer who decides to background his cattle must have a good understanding of the various risks associated with this production phase.

Before changing the direction of your farm business, you must evaluate two key areas:

1. your farm
   - financial management
   - feed rations
   - herd management
   - facilities

2. your livestock
   - genetic potential
Evaluating your farm

Preconditioning or backgrounding adds value to your farm's products or fixed assets. However, to increase your chances of success, the following requirements must be met:

- The farm's accounting records are updated regularly;
- The calves' average daily gain is known;
- The information gathered helps you to calculate the cost of weight gain and the livestock feed conversion ratio (number of kg consumed for one kg of gain);
- To obtain the maximum revenue upon sale, a marketing strategy has been developed;
- The herd is monitored by a livestock feed adviser and a veterinarian;
- The basic feeds are analyzed to establish the annual feeding program;
- The buildings are well ventilated to provide good air quality;
- The current buildings allow a minimum floor area of 30 square feet (2.8 m²) per head;
- The current buildings require only minor upgrades to keep the calves longer;
- Spaces can be set up for creep feeding;
- The physical facilities allow proper, safe handling of livestock.

Your farm business may not currently meet all of these requirements. If you are willing to take the necessary actions to correct the deficiencies, you can move ahead with preconditioning or backgrounding.
**Evaluating your livestock**

For the purposes of this Guide, we assume that calves born on your farm are used for preconditioning or backgrounding.

The following table shows what your calves should weigh at specific dates, based on their date of birth and an average gain of 0.9 kg (2 lb) per day.

This rate of gain is the growth potential of Quebec feeder calves. It is the minimum average daily gain that feeder calf producers should strive to achieve.

<table>
<thead>
<tr>
<th>Date of birth</th>
<th>Weight at birth (kg)</th>
<th>Av. daily gain (kg)</th>
<th>Target weight (kg) October 1&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Target weight (kg) November 1&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Target weight (kg) December 1&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1</td>
<td>40</td>
<td>0.9</td>
<td>288</td>
<td>317</td>
<td>344</td>
</tr>
<tr>
<td>February 1</td>
<td>40</td>
<td>0.9</td>
<td>260</td>
<td>288</td>
<td>316</td>
</tr>
<tr>
<td>March 1</td>
<td>40</td>
<td>0.9</td>
<td>235</td>
<td>263</td>
<td>290</td>
</tr>
<tr>
<td>April 1</td>
<td>40</td>
<td>0.9</td>
<td>207</td>
<td>235 (circled)</td>
<td>262</td>
</tr>
<tr>
<td>May 1</td>
<td>40</td>
<td>0.9</td>
<td>180</td>
<td>208</td>
<td>235</td>
</tr>
<tr>
<td>June 1</td>
<td>40</td>
<td>0.9</td>
<td>151</td>
<td>180</td>
<td>207</td>
</tr>
</tbody>
</table>

1- For the sake of conciseness, the values are in kg. To convert into pounds, multiply each value by 2.205.
2- Target weight (kg) = 40 kg + (0.9 kg/day x number of days (number of days = date of day - date of birth)).
   For example: 40 kg + 0.9 kg/day x 214 days = 235 kg. This calculation can be done for all calves born on your farm.

This table shows that, on average, a calf born on April 1 should weigh about 235 kg on November 1, when it is 214 days old. If a calf weighs more than 235 kg on November 1, it has reached the target weight. If not, producers should examine their herd management practices and genetics to determine areas of improvement or whether it is an ad hoc occurrence (e.g.: sickness, calf from a heifer, etc.).

The following guidelines should be followed:

- If your assessment shows that over 85% of the calves have reached the target weight, preconditioning or backgrounding may be considered;
- If less than 85% of the calves have reached the target weight, preconditioning or backgrounding should not be considered before examining and correcting the factors that are preventing your calves from reaching the desired rate of gain. For assistance with your assessment, consult industry specialists (agronomist, technical consultant, veterinarian, etc.) who will provide advice on what corrective action should be taken.
Efficient Preconditioning, Step by Step

A minimum of 40 days is required for good calf preconditioning, not counting creep feeding, which is introduced 15 days (ideally 30 days) before weaning. However, this period can be increased depending on your marketing objectives and the desired products and weight gains.

To create a good environment for preconditioning and backgrounding, you need a location with plenty of air, good ventilation and no drafts.

New-born calves

Calves must be castrated and dehorned at an early age. Castration must be performed when the calf is 3 or 4 days old, if it is vigorous, and dehorned when it is 3 to 4 weeks old.

Castration and dehorning

Elastic band castration is the simplest technique at an early age. The elastic band must be positioned just above the top of the two testicles. After positioning the elastic, make sure you count 2 testicles below the elastic; if you only count 1, cut the elastic and start again.

Whenever possible, perform the dehorning at the same time as the castration. At a young age, use of a caustic stick or paste is a good option. Just clip the hair for about 3 cm around the horn bud and apply the caustic stick or paste. In the weeks after application, ensure that there is no cone. If cones appear, resume dehorning. A mini iron (butane or electric) may also be used.

For calves that are not castrated or dehorned at an early age, consult your veterinarian to find out the most appropriate and most humane methods. Ensure that dehorning is performed close enough to the head to avoid regrowth.
15 days before weaning (-15 days)

The following actions must be taken at least 15 days before weaning the calves:

1. Introduce creep feeding with ionophores whenever possible, and provide access to water if this has not already been done (ideally 30 days before weaning) (see details in the Feeding section). This period is important, because it lets the calves adapt to new feeds in a dedicated location while still being in contact with their mother. To prevent access by the cows, use a small barrier and/or an electrified fence.

2. Vaccinate the calves (see details in the Health Management section). If you use a killed vaccine, the first dose must be given 30 days before weaning, and the booster, 15 days before weaning.

3. Deworm the calves (see details in the Health Management section).

4. Implant the calves, if you plan to market them in more than 60 days.

**After these actions have been taken, the calves should be put back with their mothers for 15 days.** This will reduce weaning stress and minimize the risks of complications.

On the day of weaning (Day 0)

Separate the calves from the mothers and observe the calves 2 to 3 times a day, to ensure rapid detection of any calf requiring special medical care (isolated calf with drooping ears, etc.). In the initial days, it is very important to make absolutely sure that every calf eats and drinks. The faster these two behaviours are developed, the better your calves’ health should be, as well as their weight maintenance, and even weight gain.

Don’t neglect the calves’ comfort. They must be dry and sheltered from the wind at all times. Use of sufficient quantities of bedding will keep the calves dry and clean. Provide about 2 kg (4.5 lb) of bedding per calf daily.

Here are four additional ways to reduce stress when weaning calves:

1. Use an anti-suckling device 7 days before weaning.

2. Allow the calf to have visual contact with its mother during weaning.

3. Keep the calves in the same environment as before.

4. If you have to change the environment, place the feed and water so the calves can find it easily.

40 days after weaning (Day 40)

If you decide to do backgrounding, this is the time to introduce the grower ration as specified in the Feeding section.

60 days after weaning (Day 60 and after)

When the calves reach a minimum liveweight of 320 kg (700 lb), they can be considered backgrounded.
All producers who plan to precondition or background cattle must work with a livestock feed adviser.

Analysis of basic feed ingredients are essential to formulate rations.

It is important to know the nutritional value of the basic ration, in order to supplement it with adequate energy and protein concentrates.

The ration must also have a good balance of minerals and vitamins to meet the calves’ nutrient requirements.

15 days before weaning (-15 days)

Creep feeding must be introduced at least 15 days (ideally 30 days) before weaning. For this purpose, reserve an area for feed, minerals and vitamins that is accessible only to the calves.

The feeding corner should contain good quality forage fed free-choice (14% to 16% protein with ADF under 36%), concentrates served at 1% to 1.5% of the calves’ liveweight per day, and minerals and vitamins according to recommended standards.

For an accurate assessment of nutritional requirements, the animals must be weighed (weighing only a few calves may be adequate if the sample is representative).

Water

A sufficient quantity of clean drinking water is an essential nutrient in obtaining good results (provide 15 to 25 litres of water per calf, depending on the weight of the calves and the ambient temperature). Easily accessible, high quality water will stimulate consumption of dry feed and increase your chances of achieving the target average daily gain. An annual analysis of your water is recommended.
On the day of weaning (Day 0)

The basic principles to be observed for acclimatization rations in the first forty days after weaning are:

1. Quality forage fed free-choice (14% to 16% protein with ADF under 36%) (1% to 1.5% of the calves’ liveweight per day, representing 2.8 kg/day (6.2 lb/day)).
2. Coarsely rolled concentrates served at 1% to 1.5% of the calves’ liveweight, per day, representing 2.8 kg/day (6.2 lb/day)).
3. Forage and concentrates served in equal parts. Voluntary intake of dry matter should ideally be 2.5% of liveweight.
4. Rations should include 14% to 16% protein.
5. Minerals and vitamins should be provided according to recommended standards.

During weaning, don’t forget that your feeding objective is for the calf to eat and drink quickly, on a regular basis.

If acclimatization of the calves goes well (achievement of the desired consumption level, regular drinking and no illness), grower rations may be introduced before the fortieth day of weaning. Ask your livestock feed adviser before changing the acclimatization ration period.

Helpful tips

- Always ensure that the cattle can find the watering point (e.g., steady flow of water);
- The waterer must always allow the calf to have visual contact with the water (e.g., remove the balls that floats against the inside of the tank and do not use a waterer that the calves must activate to obtain water);
- Temperature permitting (5°C and over), use a water bucket like the ones used in the pasture;
- If you use mineral blocks, placing them near the water sources will encourage the calves to drink;
- It is very important that the farm operator always move the calves slowly and quietly;
- Never force the animals to go to the feed bunk. This could cause them to reduce their feed intake.

Target average daily gain

The target gain when following each step of the preconditioning or backgrounding protocol is:

- 0.9 kg/day (2 lb/day) during preconditioning (this means a gain of about 36 kg (80 lb) during the first 40 days)
- 0.9 to 1.4 kg/day (2 to 3 lb/day) during the growth/backgrounding period
40 days after weaning (Day 40)  
(growth/backgrounding phase)

After 40 days of weaning, a producer who decides to background his calves will have to adjust his rations to achieve average gains of about 1.13 kg (2.5 lb) per day. The following examples of grower rations were designed based on feeds commonly available on the farm or in the local area.

These rations are formulated for calves with an average weight of 335 kg (735 lb). They are presented for your information. If your calves have a different weight, ask your feed adviser how to adjust the rations.

Assumptions used to determine the rations:

- Preconditioned calves that have adapted to a dry ration;
- The animals received an implant and the feed contains ionophores;
- Average weight of the calves: 335 kg (735 lb) (variation of 625 to 850 lb, which represents a minimum and a maximum);
- Maximum growth period: 90 days;
- Voluntary intake of dry matter: 2.3% of liveweight, or 8 kg/day;
- Ca/P ratio = 2/1;
- Crude protein content of ration: 14% to 16%;
- Feed conversion ratio: 7/1.

It is very important to minimize bunk wastage, because feeding is a major component of the cost per kg of gain. If bunk wastage is taken into account, the quantities of dry matter to be served could reach 2.5% of liveweight.
Five examples of grower rations (backgrounding)

<table>
<thead>
<tr>
<th>Ration # 1</th>
<th>Ingredients</th>
<th>Qty/head/day (kg)</th>
<th>Qty/90 days A.F. (kg)</th>
<th>Price/kg ($)</th>
<th>Cost ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dry hay</td>
<td>5.2</td>
<td>468</td>
<td>0.10</td>
<td>46.80</td>
</tr>
<tr>
<td></td>
<td>12 to 14% C.P. 37 to 42% ADF</td>
<td>4.62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cracked grain-corn</td>
<td>3</td>
<td>270</td>
<td>0.18</td>
<td>48.60</td>
</tr>
<tr>
<td></td>
<td>Protein supplement (soybean oil meal)</td>
<td>0.45</td>
<td>40.5</td>
<td>0.35</td>
<td>14.17</td>
</tr>
<tr>
<td></td>
<td>Vitamin and mineral mix</td>
<td>0.1</td>
<td>9</td>
<td>0.75</td>
<td>6.75</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>-</td>
<td>7.7</td>
<td>-</td>
<td>116.32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ration # 2</th>
<th>Ingredients</th>
<th>Qty/head/day (kg)</th>
<th>Qty/90 days A.F. (kg)</th>
<th>Price/kg ($)</th>
<th>Cost ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dry hay</td>
<td>5.5</td>
<td>495</td>
<td>0.12</td>
<td>59.40</td>
</tr>
<tr>
<td></td>
<td>14 to 16% C.P. 30 to 36% ADF</td>
<td>4.89</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rolled mixed grain</td>
<td>3</td>
<td>270</td>
<td>0.145</td>
<td>39.15</td>
</tr>
<tr>
<td></td>
<td>Vitamin and mineral mix</td>
<td>0.15</td>
<td>13.5</td>
<td>0.75</td>
<td>10.12</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>-</td>
<td>7.68</td>
<td>-</td>
<td>108.67</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ration # 3</th>
<th>Ingredients</th>
<th>Qty/head/day (kg)</th>
<th>Qty/90 days A.F. (kg)</th>
<th>Price/kg ($)</th>
<th>Cost ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dry hay</td>
<td>5</td>
<td>450</td>
<td>0.12</td>
<td>54.00</td>
</tr>
<tr>
<td></td>
<td>14 to 16% C.P. 30 to 36% ADF</td>
<td>4.45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Corn silage</td>
<td>8</td>
<td>720</td>
<td>0.038</td>
<td>27.36</td>
</tr>
<tr>
<td></td>
<td>Protein supplement (soybean oil meal)</td>
<td>0.35</td>
<td>31.5</td>
<td>0.35</td>
<td>11.02</td>
</tr>
<tr>
<td></td>
<td>Vitamin and mineral mix</td>
<td>0.10</td>
<td>9</td>
<td>0.75</td>
<td>6.75</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>-</td>
<td>7.66</td>
<td>-</td>
<td>99.13</td>
</tr>
</tbody>
</table>

Source: Typical Beef Feedlot Backgrounding Diets, Dennis Martin, OMAFRA, August 2005, and calculated using the Siga-Boeuf software, version 5.6.01.15.
The feed quantities suggested take into account losses related to storage and handling, resulting in a feed conversion ratio of about 7 kg of feed per kg of weight gain, on a dry matter basis. The mineral mix, served at a rate of 100-150 grams per day, contains a recommended daily feed additive (ionophores) (22-33 ppm). Ionophores are to be included only if a total mixed ration (TMR) is used. If you are not feeding a TMR, talk to your adviser before adding ionophores to avoid serious toxicity problems.

Ration # 4

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Qty/head/day (kg) A.F.</th>
<th>Qty/90 days A.F. (kg)</th>
<th>Price/kg ($)</th>
<th>Cost ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Qty/90 days D.M.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dry hay</td>
<td>3.3</td>
<td>297</td>
<td>0.10</td>
<td>29.70</td>
</tr>
<tr>
<td>12 to 14% C.P.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 to 42% ADF</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn silage</td>
<td>8</td>
<td>720</td>
<td>0.038</td>
<td>27.36</td>
</tr>
<tr>
<td>Barley</td>
<td>1.5</td>
<td>135</td>
<td>0.14</td>
<td>18.90</td>
</tr>
<tr>
<td>Protein supplement (soybean oil meal)</td>
<td>0.5</td>
<td>45</td>
<td>0.35</td>
<td>15.75</td>
</tr>
<tr>
<td>Vitamin and mineral mix</td>
<td>0.1</td>
<td>9</td>
<td>0.75</td>
<td>6.75</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>7.62</td>
<td>-</td>
<td>98.46</td>
</tr>
</tbody>
</table>

Ration # 5

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Qty/head/day (kg) A.F.</th>
<th>Qty/90 days A.F. (kg)</th>
<th>Price/kg ($)</th>
<th>Cost ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Qty/90 days D.M.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dry hay</td>
<td>4</td>
<td>360</td>
<td>0.12</td>
<td>43.20</td>
</tr>
<tr>
<td>14 to 16% C.P.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 to 36% ADF</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn silage</td>
<td>8</td>
<td>720</td>
<td>0.038</td>
<td>27.36</td>
</tr>
<tr>
<td>Cracked grain-corn</td>
<td>0.3</td>
<td>27</td>
<td>0.18</td>
<td>4.86</td>
</tr>
<tr>
<td>Protein supplement (distillers grains)</td>
<td>1</td>
<td>90</td>
<td>0.14</td>
<td>12.60</td>
</tr>
<tr>
<td>Vitamin and mineral mix</td>
<td>0.1</td>
<td>9</td>
<td>0.75</td>
<td>6.75</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>7.62</td>
<td>-</td>
<td>94.77</td>
</tr>
</tbody>
</table>

Qty: quantity • kg: kilogram • A.F.: as fed basis • D.M.: dry matter • C.P.: crude protein • A.D.F.: acid detergent fiber
Feeding tips

Forage can be placed in a different area than the concentrates.

It is very important that all calves have access to concentrates at the same time. For this purpose, a space of 2 feet/head must be allotted when designing the feed bunk. If a TMR ration is served, the space per head can be smaller.

Two feedings are recommended each day – in the morning and in the evening. However, if the animals are fed only once:

- In winter, feed them in the evening;
- In summer, feed them in the morning.

Procedure for vaccinating feeder calves

1. Purchase vaccines for your herd from your veterinarian.
2. Keep the vaccines refrigerated at all times (between 5–10°C). During vaccination in hot weather, keep the vaccines cool using an ice chest. Attention: freezing can be as harmful as heat for some vaccines (e.g.: killed vaccines).
3. Mix only the quantity of vaccines you will use in a given period (generally less than one hour).
4. Reconstitute modified live vaccines by using a transfer needle whenever possible, and ensure that it is clean.
5. Do not mix two different products in the same syringe, unless this is specified (e.g.: IBR Leptospirosis).
6. Always use a new needle to fill a syringe, or a needle that is used only for that purpose.
7. Always use needles of the appropriate width and length for the type of injection (if you can choose the type of injection, choose subcutaneous):
   - 16 ga. X ¾ or 1 inch for subcutaneous injections;
   - 16 ga. X 1 inch for intramuscular injections in calves;
   - 16 ga. X 1 ½ inch for intramuscular injections in cows and bulls.

Ensure that cattle on growing rations do not develop fat deposits.
All producers who want to do preconditioning or backgrounding must consult and work closely with an attending veterinarian.

**Vaccination**

Annual vaccination of the breeding herd is required. It helps prevent respiratory problems and some abortions, while considerably reducing the incidence of immunotolerant calves. The calves must be vaccinated against BRSV\(^1\), BVD\(^2\), IBR\(^3\) and PI3\(^4\), according to one of the following two programs:

1. **Modified live vaccine:** administered after 4 months of age, at least 15 days before weaning.
2. **Killed vaccine:** administered at 4 months of age (with a booster 2 or 3 weeks later). However, you will have to vaccinate no later than 30 days before weaning for the initial dose and 15 days before weaning for the booster.

We recommend that you talk to your veterinarian to determine which vaccination program to follow for the calves and the breeding herd. Also ask the veterinarian to validate your vaccination procedure. During vaccination, the calves’ stress must be minimal, because the effect of the vaccine can be diminished if the calf is stressed.

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1. **Bovine respiratory syncytial virus**
2. **Bovine viral diarrhea**
3. **Infectious bovine rhinotracheitis**
4. **Parainfluenza 3**

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8. Always use sharp needles. Otherwise infections and/or abscesses could develop.

9. Always administer in the proper injection site (neck) as described on the product label and illustrated on the image below (area in triangle).

10. Avoid buying large volumes that will not be used up quickly (a few hours for modified live vaccines and a few days for killed vaccines).

11. Dispose of unused products in accordance with applicable regulations.

12. To clean syringes, start by washing your hands. Clean the outside of the syringe and then take apart the syringe. Only use distilled hot water and always rinse with hot water. Dry on a paper towel and store in a clean, dry place. If necessary, lubricate the plunger with a silicone oil.
Storage of vaccines and drugs
Vaccines and drugs must be stored according to the standards recommended by the manufacturer to assure their optimal effectiveness. Read the labels carefully and follow your veterinarian’s recommendations.

Deworming
After a season at pasture, young calves have parasites to various degrees. It is therefore essential to deworm them. Avermectins seem to be a good vermifuge option because of their broad spectrum of action, their ease of handling (pourable solution) and their reasonable cost.

Some situations could require the use of vermifuges other than avermectins.

Implanting
For producers who decide to implant their calves, the following products can be used: a Ralgro implant, Synovex S or H, Component ES or EH, Revalor G or their equivalent administered during vaccination.

Implants are an economical method of increasing the average daily gain during this period.

Weak or sick calf
When a calf displays unusual behaviour (isolation, refusal to eat, drooping ears, etc.), it is recommended that its temperature be taken with a thermometer before any intervention. Only feverish calves (temperature over 39.5 - 40°C) should receive curative doses of antibiotics. Long-acting antibiotics are justified.

When starting a preconditioning or backgrounding operation, use “health records” to note treatments administered to the animals. These records should include:

- Identification No.;
- Date;
- Weight of animal;
- Temperature of animal;
- Product used;
- Quantity administered;
- Reason for treatment;
- Product withholding time.

1 H and EH for females
You must never place calves in a poorly lit and poorly ventilated building. This type of building facilitates the spread of disease. YOU MUST AVOID THIS AT ALL COSTS!

The quantity and quality of air is an important factor when assessing your facilities. Remember that the building must have good air volume, good ventilation and no drafts.

For example, for preconditioning, the interior of an old barn can be perfectly suitable after you remove the ceiling, level the floor with cement and cover it with bedding. It may be adequate to simply open a wall to improve the ventilation. Before modifying a building’s structure, ensure that there is no contraindication and that the opening will not create harmful drafts. The desired wall height is 4 to 5 metres (12 to 16 feet). Don’t forget to verify that you comply with environmental standards.

For backgrounding, an outdoor pen with windbreaks set up to protect cattle from the prevailing winds may be sufficient. Once again, you must check your compliance with environmental standards.

In general, you must provide for a floor area of at least 30 square feet (about 2.8 metres) per animal. The table on the next page presents an example of livestock density based on the weight of the animals and the area of the stable.
Space on your land in summer

The use of pastures for summer preconditioning or backgrounding lets you maximize the space available on your farm. Under these conditions, don’t forget to develop rations adapted to your facilities (your pastures, in this case) by talking to your livestock feed adviser.

A corral and a scale are indispensable equipment to properly handle and monitor the animals.

<table>
<thead>
<tr>
<th>Minimum pen dimensions (recommended square feet per animal)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Calves 400 to 700 lb (ft²)</strong></td>
</tr>
<tr>
<td>Full floors</td>
</tr>
<tr>
<td>Full floors with outdoor yard</td>
</tr>
<tr>
<td>Outdoor yard with hillocks</td>
</tr>
</tbody>
</table>
Your Costs, your Profits $$$

In our overall cost estimate, we assume that the additional kilograms of gain produced by each calf are achieved with an increase in variable costs only, without requiring any major investment.

The total costs you must consider in your estimate are:

- Feed;
- Drugs and veterinary care;
- Worm treatments;
- Implants (if you keep the calves more than 60 days);
- Bedding;
- Short-term interest expenses;
- Building maintenance and manure spreading costs;
- Paid labour;
- Mortality (risk during weaning);
- The ASRA contribution, if you produce backgrounded calves and you are also insured or plan to be insured under the fed cattle plan.

In the five sample rations given in the Feeding section, the cost of the rations was based on the prices in spring 2007 and is subject to variations depending on the year, the season and the location. The feed cost ranges from $0.94 to $1.15/kg of weight gain, with an average cost of $1.05/kg of gain.

Drugs, veterinary care, vermifuges and implants cost $0.15/kg of gain. A sufficient quantity of bedding (± 2 kg/calf/day) costs $0.22/kg of gain.
Points to remember

Feed is the largest variable cost, representing about 55 to 60% of the cost per kg of gain. You must use the feed rations that meet your calves’ needs and that allow weight gains at reasonable cost. With your feed adviser’s help, use your imagination.

The stabilization insurance contribution under the fed cattle plan.

The mortality cost item is based on a mortality rate of 2% to 3%. If you precondition 38 calves, a 2.5% mortality rate corresponds to 1 calf. If you assume that the calf is valued at $800 and you produce 2268 kg of gain, it costs $0.35/kg of gain ($800/2268 kg) to cover the mortality costs.

The stabilization insurance contribution must be accounted for if you are insured under the fed cattle plan. It varies from year to year.

Don’t forget that the weight gain of a deceased calf is not counted in your total kilograms of gain under the fed cattle plan. If your herd has mortality, revise your budgets to ensure that you market your calves at a weight that will still allow you to be eligible for stabilization insurance.

This budget information is only indicative. It should help you estimate your cost per additional kg of gain.

Before preconditioning or backgrounding your calves, it is very important to estimate the total costs per additional kg of gain.

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**Variable costs**

<table>
<thead>
<tr>
<th>Item</th>
<th>$/kg</th>
<th>$/lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed</td>
<td>1.05</td>
<td>0.48</td>
</tr>
<tr>
<td>Medicine and veterinary care</td>
<td>0.09</td>
<td>0.04</td>
</tr>
<tr>
<td>Worm treatments</td>
<td>0.04</td>
<td>0.02</td>
</tr>
<tr>
<td>Implants</td>
<td>0.02</td>
<td>0.01</td>
</tr>
<tr>
<td>Bedding</td>
<td>0.22</td>
<td>0.10</td>
</tr>
<tr>
<td>Paid labour</td>
<td>0.06</td>
<td>0.03</td>
</tr>
<tr>
<td>Short-term interest</td>
<td>0.20</td>
<td>0.09</td>
</tr>
<tr>
<td>Building maintenance &amp; manure spreading</td>
<td>0.17</td>
<td>0.08</td>
</tr>
<tr>
<td>Total</td>
<td>1.85</td>
<td>0.85</td>
</tr>
</tbody>
</table>

Mortality: 2.5%

ASRA Contribution

Did you know...

If you precondition or background cattle, there are programs or tools available that help you ensure your farm’s income or provide access to cash flow during the year:

- **Fed cattle stabilization insurance**
  
  Currently, you must produce 2268 kg (5000 lb) of gain if you are also insured under the feeder calf plan. For example, if you fulfill all of the conditions, this represents 42 calves sold at an average weight of 330 kg (725 lb) or 40 calves sold at an average weight of 335 kg (735 lb). Ask La Financière agricole du Québec (FADQ) about all the conditions of the fed cattle plan.

- **Credit cooperatives and other programs**
  
  Contact your MAPAQ regional office to find out whether there is a credit cooperative in your region and obtain information on how it operates. In addition to credit cooperatives, other programs or agencies can give you access to cash flow. Ask the FADQ, Farm Credit Canada (FCC) and your banking institution.
Preconditioned calves

Preconditioning should be seen as a new way of marketing your product.

For buyers to put a value on preconditioned calves (minimum 40 days), they must know the characteristics of the product they are buying. For example, a preconditioned calf costs about $69.50 to produce:

1. $1.50 for vaccination.
2. $5 for deworming.
3. $63/calf (36 kg at $1.75/kg) excluding deworming, paid labour, stabilization insurance contribution for fed cattle, and mortality.

Three marketing alternatives are available to you:

1. Supervised sale (intermediary service by the agency and auctions).
2. Special auctions, ensuring to make clear during preregistration, that the calves are preconditioned. You must complete the Formulaire de valorisation des veaux d’embouche (Feeder Calf Promotion Form) available at the auctions and on the FPBQ website.
3. Direct sale. If you decide to engage in this type of transaction, we suggest you contact the sales agency to determine the various market prices.

If the transaction doesn’t guarantee that you will recover the preconditioning value, we recommend you background the calves, because the costs and risks of weaning will be amortized over a greater number of kilograms of gain. Backgrounding is continued preconditioning (minimum 60 days instead of 40 days).

Backgrounded calves

To determine the duration of backgrounding, it’s important to be attentive to market signals.

Backgrounded calves can be marketed at special auctions, by supervised sale or by direct sales. The chosen marketing method will depend on the volume produced, the location of your business and your animals’ marketing periods.

Don’t hesitate to contact the feeder calf sales agency or the various supervised networks to help you market your animals.

One last thing...

We wish you success in preparing and marketing your animals. One last time, we emphasize the importance of working with specialists in the sector to increase your chances of success in preconditioning or backgrounding, and in the marketing of your calves.
If you want to increase your knowledge, the following organizations offer training on the subject via the Internet. Here are some useful and practical addresses to add to your favourites!

4 - State backgrounding • www.4statebackgrounding.org

Agri-Réseau/Bovins de boucherie • www.agrieseau.qc.ca

Canfax • www.canfax.ca/general/auctions.htm

Centre de référence en agriculture et agroalimentaire du Québec • www.craaq.qc.ca
☑ Guide vache-veau (Cow-calf guide)
☑ Viande bovine, croissance et finition (Beef cattle, growth and finishing)

Fédération des producteurs de bovins du Québec • www.bovin.qc.ca • 450 679-0540, extension 8891

Fédération des producteurs de cultures commerciales du Québec • www.fpccq.qc.ca

Farm Credit Canada • www.fcc-fac.ca • 1 888 332-3301

La Financière agricole du Québec • www.financiereagricole.qc.ca • 1 800 749-3646

Ontario Ministry of Agriculture, Food and Rural Affairs/Agriculture/Livestock/Beef cattle • www.omafra.gov.on.ca

Ministère de l’Agriculture, des Pêcheries et de l’Alimentation du Québec • www.mapaq.gouv.qc.ca • 1 888 222-6272

Ontario Cattlemen’s Association • www.cattle.guelph.on.ca/markets/marketinfo.asp