

## Section 7

# Successful Weaning of Calves



### Introduction

Weaning can be a stressful time for calves as they change from a liquid diet from predominantly animal protein sources to a solid diet from vegetable protein sources. To reduce potential stress, concentrates should be introduced early, from a few days of age, to encourage intake. Concentrates should be highly palatable and of a high nutritional quality. Forage should also be offered, usually straw or hay. Fresh water must be available throughout.

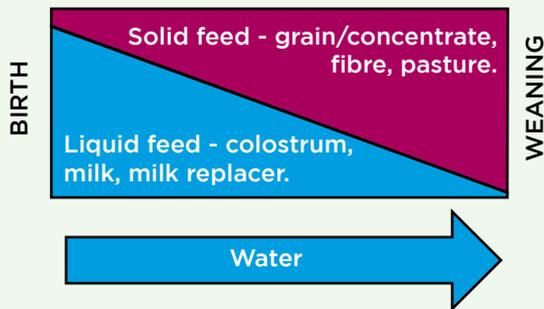
- ① When can I wean calves?
- ② What criteria must be met to successfully wean calves?
- ③ What factors can lead to a post weaning growth check?
- ④ What is the difference between abrupt and step weaning?
- ⑤ How is step weaning performed?
- ⑥ How do you wean calves off an *ad lib* system?

# Successful Weaning of Calves

## ① When can I wean calves?

Calves should only be weaned after they have been eating at least 1kg of starter concentrates per day for three consecutive days. This will avoid a growth check after weaning. This level of intake is usually achieved by eight weeks of age. The amount of concentrates a calf eats depends on the availability of concentrates and the volume of milk being fed.

If calves are fed milk *ad lib* or close to the level of milk they would normally drink (for example to make use of transition, non-saleable milk or to achieve higher weight gains in an automated feeding system), gradual weaning should not be initiated before the 12th week of life.



## ② What criteria must be met to successfully wean calves?

- Calves should have been consuming at least 1kg calf starter/day for three consecutive days.
- Calves should be healthy.
- Calves must not be stressed (avoid disbudding, castration etc. at the same time).

Table 1. Target starter intakes of calves from 0-8 weeks of age.

Age	Starter Intakes
0-2 weeks	Minimal
2-3 weeks	Start to increase
5 weeks	0.5 kg/day
6-8 weeks	0.7-1 kg/day
8 weeks	At least 1 kg/day

### KEY POINT:

Calves can be weaned once they are consistently consuming 1kg of concentrates per day. This level of intake can potentially be reached at an age of six weeks if access to palatable starter and water is available *ad lib*.



These calves have been successfully weaned and are now on a concentrate and hay diet with water *ad lib*.

## ③ What factors can lead to a post weaning growth check?

The post-weaning growth check found in many calves is due to three factors:

- I. Low intake of dry feed up until weaning, resulting in limited rumen development. This results in a growth check for about two weeks while the rumen becomes accustomed to digesting significant quantities of dry feeds.
- II. High intake of bulky roughage such as grass and hay. Calves are physically unable to eat enough roughage to sustain rapid growth weights with their small, developing rumen.
- III. Calf stress when feeds are changed.

Feeding concentrates before, during, and after weaning should limit the level of growth check. If a growth check does occur, the lost growing time will never be made up and it will take longer to attain target weights.

**4 What is the difference between ‘abrupt’ and ‘step’ weaning?**

Calves can be either abruptly or step weaned. Stepped weaning is when the amount of milk being fed and the number of feeds/day are gradually reduced over time. This is also referred to as gradual weaning.

Both step weaning and abrupt weaning can be performed successfully provided the calf’s rumen is adequately developed and that they are eating at least 1kg of calf ration per day. However, stepped weaning does reduce the stress at weaning and can avoid temporary setbacks in growth rate.

**5 How is step weaning performed?**

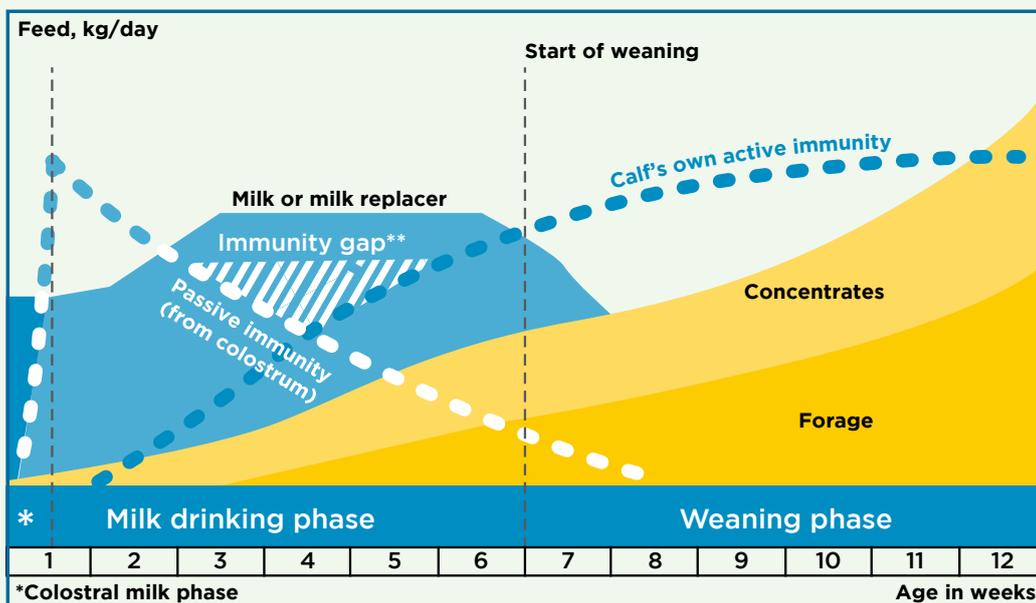
Generally, stepped or gradual weaning is achieved by reducing the volume of milk fed over a period of seven to 10 days. If calves are being fed milk twice a day, weaning can be achieved by cutting down to once a day feeding.

**6 How do you wean calves off an *ad lib* system?**

Weaning a calf off an *ad lib* system is more difficult than bucket feeding systems. This is because calves that have *ad lib* access to warm milk replacer from an automatic feeder have little interest in consuming solid feed.

Concentrate consumption in the period immediately before weaning can be increased by restricting milk replacer availability for seven to 14 days pre-weaning. This can be done by:

- a) Limiting the total quantity of milk replacer offered by restricting the daily allowance per calf in the period prior to weaning.
  - Two weeks before weaning allow 0.75kg milk powder and one week before weaning reduce to 0.50kg powder per calf per day.
- b) Limiting daily access to the nipples in the period before weaning.
  - Two weeks before weaning allow 12 hours access and one week before weaning allow six hours access per day.
- c) Reducing the bore of the pipeline by restricting the flow of the milk for seven to 14 days before weaning.
  - This makes it difficult for the calf to satisfy its appetite with milk alone and encourages it to consume solid food.
- d) Abruptly turning off the water heating system and reducing the concentration from 10 to 5% is also effective in reducing milk intake and thereby increasing concentrate intake.



\*\*The immunity gap is the period in a calf’s life where it is most susceptible to infection. During this period, the calf’s acquired (passive) immunity from colostrum is reducing while its own active immunity is still growing, leaving the calf vulnerable.