



Maximise your herd's potential

Calculating growth rates for heifers.

Low heifer body weights are linked with low productivity and also heifers which are underweight at mating and calving are predisposed to calving difficulties, which further lower production.

Calving heifers at over 24 months is very expensive. Over half the daily feed cost for heifers goes into maintenance rather than growth. Feeding to achieve an average daily gain (ADG) well above maintenance will cost a little more per day, but overall it reduces the cost of feeding heifers from birth to first calving because it reduces the number of unproductive days.

Regular monthly weighings are beneficial to establish daily growth rates between weaning and mating & mating and calving.

Estimating growth rates and guessing mating weights is unreliable and therefore, not efficient management. The use of electronic scales should be an integral part of good management on a modern dairy.

What should my heifers weigh at mating and after calving?

There are weights put out by various groups which give standard weights at mating and calving for either Holstein, XB or Jersey cows.

However, even within individual breeds there is a large variation in average mature bodyweight from herd to herd and area to area.

A more accurate way to calculate target mating and calving weights and therefore average daily gain in heifers you have bred is to use the following percentages and calculate from them.

It is recommended that at mating heifers should weigh at least 55% of the mature herd bodyweight and 85% after calving.

So, to be able to calculate the desirable target weights and ADG for your heifers, you need to establish an average mature cow body weight. The best way to establish this is by weighing a random selection of older cows in your herd.

How do I work out ADGs necessary to reach target mating and calving weights for my heifers?

Ideally, calves <12 weeks will be averaging growth rates of $\approx 900\text{g/day}$.

However, to give formulae which make allowances for those whose calf rearing is not giving such high ADGs you can use the following calculation to work out required ADG from 12 weeks to post-calving @ 24 months. This will also allow calculation of target weights at mating.

These formulae can be adapted for any sized animal and will work across all breeds and frame sizes.

Mating weights.

1. Establish your mature (>3rd lactation) cow bodyweight - say 650kgs.
2. Multiply by 55% = 357kg
3. Take away the average weight of heifers @ 12 weeks – say 120kgs.

$$357 - 120 = 237\text{kgs.}$$

This gives you the total amount of weight your 12 week old heifers need to gain by the time they are 14 months old months.

4. Take 84 days (12 weeks) from 426 days (14 months)

$426 - 84 = 342$ days. This gives you the time available to put this weight on.

5. Divide 237kgs by 342 days = 0.69kgs/day.

This will give you heifers which are at least 55% of mature cow BW @ 14 months, which allows time for conception by 15 months.

6. Heifers which reach this target weight at 13 months can be mated. Do not mate anything younger than 13 months of age.

It is important that this figure is used as a minimum, not an average.

Post-calving weights.

1. Establish your mature (>3rd lactation) cow bodyweight - say 650kgs.
2. Times by 85% = 552kgs.
3. Take away the average weight of heifers @ 12 weeks – say 120kgs.

$552 - 120 = 432\text{kgs.}$ This gives you the total amount of weight your 12 week old heifers need to gain by the time they have calved @ 24 months.

4. Take 84 days (12 weeks) from 730 days (24 months)

$730 - 84 = 646$ days. This gives you the time available to put this weight on.

5. Divide 432kgs by 646 days = 0.67kgs/day

You can see that these two target weights are very close. Feeding to ensure that these gains are as consistent as possible and monitoring to make sure they are actually being achieved will improve the heifers' ability to compete when they enter the herd.