

## Improving Feed Conversion Efficiency in Cattle

Feed conversion is one of the most important factors to economically optimise animal production. Since feed commodity prices have recently been increasing, feed conversion efficiency must be optimised.

With the risk of adverse market changes in the price of beef and purchased feed costs, on-farm profits can be unpredictable. However one factor which can be largely affected on-farm is the total feed cost per kg liveweight gain, which has a large effect on either improving or reducing farm profit levels.

Ensuring good growth rates throughout an animal's lifetime with no store periods is one way to reduce FCE. In addition ensuring the ration offered is nutritionally appropriate throughout the animals lifecycle and is being converted efficiently to growth.

Rations of between 11.5 - 12.5 MJ/kg DM are suitable for most beef animals. Poor feed efficiency can often be attributed to poor ration formulation. It is crucial that the rumen is correctly fed at all times to stimulate cudging.

To maximise the conversion of feed to liveweight gain, feed efficiency should be optimised and feed costs controlled.

### Residual Feed Intake (RFI) (net efficiency) in beef

Improving the feed efficiency in a herd of beef cattle can lead to big savings for producers. One way to achieve this goal is select breeding bulls which are efficient in the conversion of feed to liveweight gain. On average it costs £30 less over 112 days to feed an efficient bull vs an inefficient one. With the majority of beef farms rearing their own replacements, the use of different sires is the main method to improving the genetic potential of the herd. An efficient bull will pass on superior genetics for feed efficiency to his progeny which will be realised as feed savings for all his progeny.

Considerable variation in RFI exists among individual animals within breeds and genetic strains. This variation suggests that substantial progress can be made in RFI (residual feed intake) since the heritability of the trait is about 40 per cent.

- lower maintenance requirements of the cow herd by 9 to 10%
- reduce feed intake by 10 to 12%
- have no effect on average daily gain or mature size
- improve feed conversion ratio by 9 to 15%
- lower weights of liver, stomach and intestines
- have no effect on distribution of 9 wholesale cuts
- improve calf weight per cow feed intake by 15%
- lower methane emissions by 25 to 30%
- reduce manure nitrogen, phosphorus and potassium production by 15 to 17%
- efficient growing animals are efficient as adult cattle



Progeny of efficient beef cattle are also more efficient than those of less efficient cattle