

## UNIT : THE BEEF COW – NUTRITION AND FEEDING

### INTRODUCTION

Feed is a major cost in any beef or suckler cow system. Appropriate nutrition and feeding at all the key stages in the production cycle and careful manipulation of cow body condition can ensure high fertility, easy calving, healthy calves at birth, high colostrum quality and milk production as well as longevity whilst keeping costs down in order to ensure profitability.

### KEY PHASES IN THE PRODUCTION CYCLE

- THE DRY COW PERIOD AND PREPARATION FOR CALVING – dry cow management usually involves managing cow body condition to avoid calving problems. Any recovery in body condition after calving and early lactation should be achieved at least 50 days before calving and changes in body condition after that point avoided.
- LACTATION – cows require a high quality diet if they are to produce enough quality milk to rear the calf.
- CALVING TO CONCEPTION – within three months of calving, and whilst at peak milk production, cows are expected to conceive and get back in calf – nutrition is critical at this time, particularly for first calving heifers who might still be growing and are often put under particular pressure to grow, produce milk, retain condition and conceive.

### NUTRITION AND FEEDING

**DRY COWS AND PREPARATION FOR CALVING** – winter feed bills for spring calving cows and the grazing requirements of autumn calving cows in mid and late summer can be reduced substantially. Over thin or fat cows need careful management between 150-50 days before calving in order to avoid problems – earlier or later weaning than usual and the quality and quantity. Low cost options to avoid over fat cows at this stage include :

- Spring calving cows
  - Extended grazing – including rationed forage crops such as stubble turnips or kale
  - Deferred grazing – grass accumulated from mid-summer for grazing in early winter
  - Stubbles – winter stubbles often provide sufficient browsing when supplemented with straw, hay, silage or arable by-products such as potatoes

- Mature forage – silage or hay cut at a mature stage or straw will suit many systems best when housed

**Typical rations for a 650kg dry cow (kg / day)**

Feed	Silage only	Silage and straw	Straw, sugar beet pulp and maize gluten
Silage	27.2	15.0	
Barley straw		6.2	5.0
Sugar beet pulp			2.0
Maize gluten			2.5

*Activity – calculation of feed requirements (and costs)*

- Autumn calving cows
  - Rough grazing – cows can be grazed on hill land or rough grazing (often as part of agri-environment schemes) that provide sufficient roughage to maintain cow condition while improving the quality of grassland for sheep pr conservation
  - Stubbles – late summer stubbles often provide sufficient browsing with or without supplemented with straw, hay, silage or arable by-products

**LACTATION**

- High quality grazing – grass in summer, but possibly forage crops like stubble turnips or kale in autumn and winter, provide quality grazing for spring and autumn calving cows respectively
- High quality fodder – housed autumn calving cows will require high quality fodder or supplementation with concentrates in order to produce high yields

**Typical rations for a 650kg milking cow (kg / day)**

Feed	Silage	Straw, sugar beet pulp and maize gluten
Silage	40.0	
Straw		6.0
Concentrate	2.0	
Sugar beet pulp		2.0
Maize gluten		6.0

- As the calf grows and approaches weaning offering creep feed will not only increase growth rates and prepare the calf for weaning without loss in weight or condition but will also reduce the pressure on the cow as she regains body condition at a key time in her production cycle.

**CALVING TO CONCEPTION** – a newly calved cow or heifer needs to

- Recover from calving
  - Produce milk for the calf
  - Re-start heat / oestrus cycles
  - Start recovering body condition
- If the cow is not fed adequately at this time milk production will be given priority, body condition being lost and oestrus cycles not commencing
  - Energy is the key component of the diet and calving either has to be timed to coincide with the availability of the highest quality cheap feed (usually grass) or alternative feeds have to be produced or bought.

#### TYPICAL FEEDS

- Grazed grass – usually the mainstay of beef cow systems as it is the cheapest feed in most parts of the country
- Silage or hay – usually the major winter feed source – nutritional quality needs to be high for autumn calvers but unrationed high quality silage would result in fat spring calving cows and calving difficulties. Silage and hay making are not cheap and the

quality of hay or silage made and whether there might be cheaper alternatives needs careful consideration.

- Straw – can play an important part in the winter diet of spring calving cows, ensuring easy calving and keeping the cost of feeding down
- Forage crops – particularly in out wintering systems, crops such as stubble turnips or kale allow for the production of high quality feeds, heavy stocking and a cheaper winter feeding alternative
- By-products e.g. brewers or distillers grains and root crops such as potatoes or surplus sugar beet can be low cost alternatives provided they can be stored, handled and fed easily
- Concentrates – unless cows are in very poor condition, silage is of very poor quality and no alternatives are available, the cost of concentrates in the form of cereals, blends or compounds are usually too high unless they are fed strategically at key times in winter to ensure conception in autumn calving heifers in particular

#### FEED BUDGETING

Forward planning will allow the best use to be made of feed in stock as well as the opportunity to look around for the best value alternative feeds if either the quality or quantity of feed is lacking.

- Class of livestock – cows, heifers, bulls, suckling calves
- Number of animals
- Target production
- Length of the feeding period
- Available feed and feed quality (analysis)
- Requirements
- Alternative feeds and value for money

#### INFORMATION SOURCES

EBLEX (2007) Beef Action for Profit 21 – Better Returns from Reducing Metabolic Disorders

HCC (2006) Practical Beef Cattle Nutrition

Farming Connect (2008) Feed Budgeting for the Winter Nov 2008