

Feeding suckler cows and calves for Better Returns



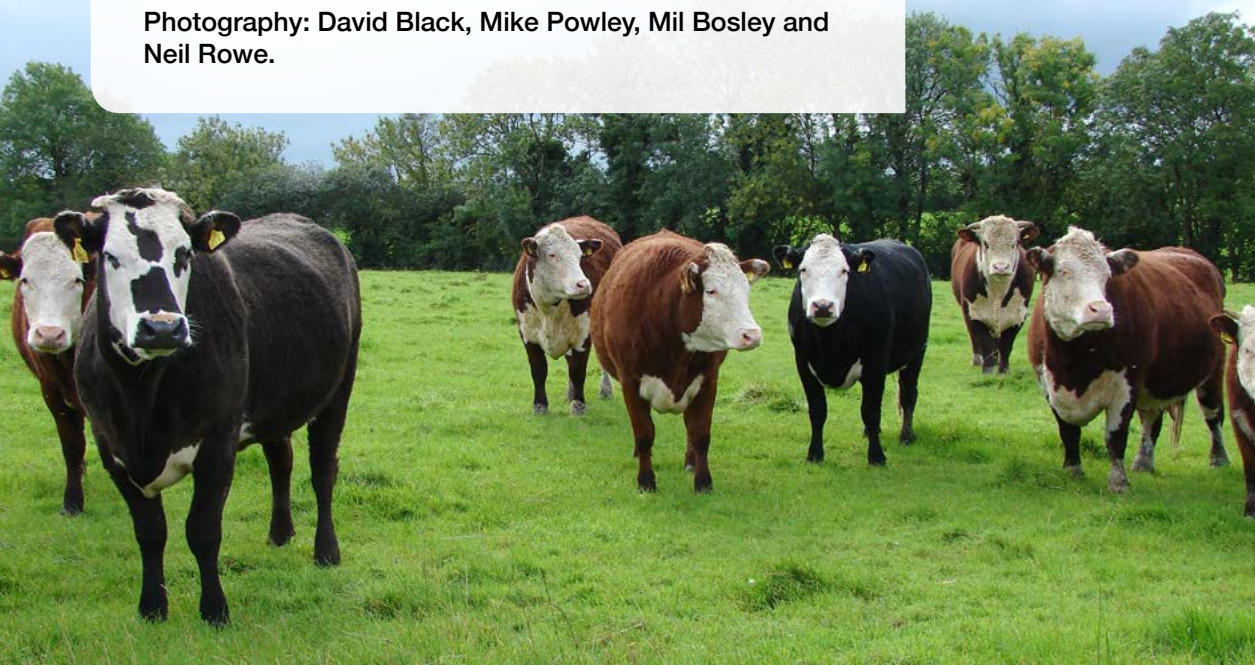
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Introduction

Achieving better returns from a suckler herd depends on increasing the number of calves weaned from the cows and heifers that are mated.

Nutrition, health and good management drive fertility. Feeding makes a particularly important contribution to fertility, calving ease and calf performance.

Feed is a major cost of keeping a suckler cow. Careful management of body condition is vital to allow cows to utilise cheaper, grazed grass and other home-grown feeds, when available, without compromising performance during the rest of the season.

This manual looks at all the production stages of suckled calf production, from managing heifers and first calvers, to mature cows and the bull, up to weaning the calf and finishing cull animals.

There are many different suckler cow systems in England, with different breeds and calving at different times. But, by following the principles set out in this manual, beef farmers pursuing any system can feed their animals in a way that will produce better returns.



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The profitability of a suckler herd revolves around every cow producing a calf during a compact calving period every year. Nutrition plays a pivotal role in achieving this, influencing health, fertility, calf output and production costs.

Optimising cow nutrition leads to:

- Increased number of calves weaned
- Increased age and weight of calves at weaning, leading to increased herd output
- Reduced calving period
- Reduced time between calving and conception
- Fewer empty cows
- Reduced calf mortality and production losses from infectious diseases

This is achieved by:

- Careful management of body condition throughout the year
- Understanding the nutritional requirements of the cow at different times in her production cycle
- Feeding a balanced diet, based on the nutritional composition of the component feeds and forages available



Target body condition score (BCS)

Assessing BCS is an important tool for suckler producers to help optimise health, welfare and fertility, while minimising calving difficulties and production costs.

BCS should be monitored throughout the year and particularly during the last three to four months of pregnancy. Rations should be adjusted to meet the BCS targets shown in Table 1.

Table 1. Target BCS for cows and heifers

	Spring-calving herds	Autumn-calving herds
Calving	2.5 (3 for first and second calvers)	3
Service	2.5	2.5
Housing/ weaning	3–3.5	2.5–3

Managing BCS through the production cycle

At housing, cows should be grouped by their BCS and fed accordingly. For example, fat cows (more than BCS 3) should be grouped separately from thinner cows (less than BCS 2.5) and first calvers.

It is critical that cows calve in good body condition (around BCS 2.5), as this will help optimise fertility in the subsequent breeding season. It will also help avoid long anoestrus (non-cycling) periods after calving. This in turn will help to maintain a compact calving period and avoid extended calving intervals. Any cows calving at less than BCS 2.5 should be fed to increase their condition from calving.

If calving date is known accurately, rations can be increased slightly during the four to six weeks before calving to minimise any BCS loss during this time in cows that are not overfat.

Table 2. Effect of BCS at calving on calving interval in suckler cows

BCS at calving	Calving interval (days)
1–1.5	418
2	382
2.5–3	364

Source: Dreenan and Berry, 2006.

It is important to avoid BCS loss during the breeding period, especially for six weeks after the bull is removed, to encourage oestrus activity (cycling) and avoid early embryonic loss.

Spring-calving cows can store excess energy consumed during grazing for mobilisation later in the year, when the winter ration comprises more expensive feeds. If cows do not gain sufficient condition while grazing, it is advisable to consider early weaning, forward-creep grazing of the calves or supplementation of the cows with extra feed.

For most suckler cows, one BCS unit relates to approximately 13% of liveweight. For a 650 kg cow, one BCS unit would equate to 84 kg liveweight and 1 kg of liveweight loss supplies the cow with about 30–35 MJ ME (metabolisable energy). The energy required to gain 1 kg of liveweight in the pregnant cow is 35–40 MJ ME.

For example, a spring-calving cow going into the winter with five months until calving in BCS 3–3.5 can use around 0.5 kg/day of body reserves over three to four months. This saves around 145 kg of dry matter in forage, provided the base ration meets minimum dry matter intake needs and protein and mineral requirements.

Regardless of whether cows are calving in spring or autumn, avoid major changes in the ration between six weeks before and six weeks after the service period.



Heifers from service to calving

Management of heifers calving at two years is paramount for it to be successful. It is advisable to select heifers for bulling based on the success of their mothers in terms of milk, fertility and locomotion, heifer size and pelvic measurements.

To calve heifers successfully at two years of age, make sure they meet the target liveweights for service at 15 months and thereafter. Steady growth rates during the rearing phase are important to avoid the heifers becoming overfat and to ensure sufficient frame growth.

The target weight gains are expressed relative to mature cow weight (see Table 3), so it is important that recorded mature cow weights are used to calculate the target heifer liveweight. A good indication of mature cow weight can be gained from sale weights of cull cows, provided they are sold in reasonable body condition.

Assuming heifer calves grow at around 1 kg/day while suckling their dam, subsequent growth rates to bulling need to be approximately 0.7–0.8 kg/day until

the last two months of pregnancy, depending on breed type.

Liveweight is a more important determinant of the onset of puberty than age, so regular weighing is essential to make sure adequate growth rates are obtained. The growth rates required are achievable in most systems. It is essential that breeding heifers are managed as a separate group. They should be given access to good-quality grazing and supplemented during the winter according to silage quality.

Heifers are more prone to calving difficulties than cows. Select an easy-calving sire to mate heifers with, who has good Estimated Breeding Values (EBVs) for:

- Calving ease
- Short gestation length
- Low birth weight

For more information, see *Managing replacement heifers for Better Returns*, available at ahdb.org.uk

Table 3. Example growth rates and liveweight targets for replacement heifers aiming to calve at 24 months of age

Mature cow weight (kg)	Growth rate from birth to first service (kg/day)	First service (15 months of age) 65% of mature weight	Start of second breeding season 85% of mature weight	Start of third breeding season 95% of mature weight
		Target liveweights for replacement heifers (kg)		
600	0.80	390	510	570
650	0.85	423	553	618
700	0.90	455	595	665

Calving

The nutrient demands of heifers after calving are greater than those of a mature cow. This is because they are still growing, as well as maintaining themselves and lactating. This requires an average liveweight gain of 0.5 kg/day while pregnant and lactating, as shown in Table 4.

It is best to separate heifers from the main herd so they can be given better-quality grazing and avoid competition for feed with mature cows.

Heifers are prone to significant body condition loss during their first lactation. Post-calving, feed them well to minimise this loss of condition and encourage oestrus cycling before the second breeding season.

For those that lose excessive condition, early weaning can be useful to give heifers longer to regain condition before calving again.



Table 4. Typical rations for mature suckler cows and heifers in the first three months of lactation

Cow type	Liveweight (kg)	Liveweight change	Milk yield	Grass silage	Barley
		(kg/day)			
Mature cow	650	-0.25	10	Ad lib	0.8
Heifer	580	+0.5	8	Ad lib	2.8

Note: Ad lib is based on average silage quality and the assumption that they are in good condition. Do not feed more than 2 kg of concentrate per feed to reduce acidosis risk.

Table 5. Target liveweights for a 650 kg breeding cow

	Mature weight (%)	Target weight (kg)	Gain (kg)	Gain (kg/d)
Birth	6	38		
450-day interval			385	0.86
Mating	65	423		
285-day interval			130	0.46
Post-first calving	85	553		
365-day interval			65	0.18
Post-second calving	95	618		

Calving to conception

Cows have around 80 days to recover from calving and conceive their next pregnancy, if they are to maintain a 365-day calving interval.

A freshly calved cow has to:

- Recover from calving
- Produce increasing amounts of milk
- Restart oestrus cycling
- Increase body condition score, if necessary

Spring-calving breeding herds should have priority access to the best grazing at turnout.

Milk yield peaks six to eight weeks after calving, coinciding with the breeding season. Milk production is the cow's highest priority, so increasing body condition, uterine repair and ovulation will only take place if nutrient supply is higher than maintenance and milk production.

Cows calving in moderate body condition start cycling one to two weeks sooner than thin cows. For cows calving at a BCS less than 2.5, fertility can be improved by increasing nutrition immediately after birth.

Putting the bull in early with cows in poor condition will have limited effect on tightening the calving pattern. It is better to gain control of the feeding, improve BCS and sell late-calving cows so they do not enter the herd again.



The energy requirements of a freshly calved cow are approximately double that of a dry cow. Plan to calve when there is cheaper feed available, e.g. grazed grass. Be prepared to feed cows at grass if the quantity and quality of grass is poorer than normal.

The hormones that control fertility are closely linked to nutritional status. Egg viability and embryo survival can be affected by excessive loss of body condition. Avoid BCS loss between cows calving and getting back in calf. Changes in the diet around mating can result in early embryonic loss. Avoid any major ration changes for six weeks before and after the service period.

Table 6. Nutrient guidelines for a mature 650 kg suckler cow

	Dry matter intake (DMI)	Energy (ME MJ/day)	Minimum crude protein (CP % in dry matter)
Early lactation	13–16	120–130	11–12
Late lactation	9–11	85–95	11
Dry	9–10	75–80	9

Table 6 is a guide only and the exact diet specification required will depend on many factors, such as cow body condition, weight loss/gain allowed, date of turnout in relation to bulling, etc.

Pregnancy diagnosis (PD)

Pregnancy scanning cows and heifers from six weeks after the end of the service period will identify empty females.

If carried out at approximately three months of pregnancy, it can predict calving dates for those in-calf. This means rations can be planned accordingly and animals grouped by calving date so that supervision can be targeted.

Late-calving females, which fall outside the target calving period, can be identified for sale pre- or post-calving.

All empty cows should be sold, as serving them again encourages the inclusion of less fertile females into the herd.



Vitamin and minerals

Vitamin and mineral supplementation is important when formulating rations. Too much can be as problematic as too little, so take advice from vets about the levels required – they can take blood samples to identify deficiencies.

Winter rations should always contain a supplement. Straw-based rations require careful supplementation. If cows are overwintered on brassicas, pay particular attention to the supply of iodine, copper and selenium in the diet. When dry cows are fed grass silage, usually 100–120 g/head/day of a suckler cow mineral is sufficient. Moving to a higher-specification suckler cow mineral four to six weeks pre-calving is beneficial to help with easier calving – it should have at least 10% magnesium and increased vitamin E.

Magnesium deficiency

Suckler cows are at risk of hypomagnesaemia (grass staggers) when grazing lush grass (particularly if rich in nitrogen and potassium) in cold, wet conditions. Magnesium cannot be stored within the body so must be supplied by the diet. Hypomagnesaemia is caused by low blood magnesium concentrations and is most common in cows that have calved in the past three months.

There are many options to supplement magnesium. These include boluses, licks, salts added to the drinking water, buckets, high-magnesium nuts or applying calcined magnesite to the pasture in periods of high risk. Supplementation with hay, straw or silage while at grass can also help.

Feeding the suckled calf

Make sure all calves have consumed sufficient colostrum as soon as possible after birth for the best start in life. It provides both protective antibodies to fight disease and high-quality nutrition for energy.



Suckled calves should have consumed three litres of colostrum within two hours of birth. If not, this should be given to the calf via a nipple bottle or stomach tube, either by stripping the colostrum from the mother or from powdered colostrum. Colostrum from the calf's mother is preferred, to provide immunity to farm-specific diseases.

The calf's ability to absorb the immunoglobulins in colostrum reduces significantly from approximately six hours after birth and has gone completely by 24 hours.

Colostrum quality depends on the cow's body condition at calving and her pre-calving diet. First calvers tend to have poorer-quality colostrum than older cows.

By the time the calf is four months old, half its feed requirement should be met by grass, silage and/or creep feed rather than milk. At this young age, a calf is very efficient at converting feed into liveweight. Feed conversion efficiency declines as the animal gets older.

Creep feeding

The decision to creep feed

While creep feeding is important for calves moving onto intensive finishing systems, even cattle kept for later finishing or as replacements will benefit, making it cost-effective for many herds. There are several benefits, such as:

- Reduced pneumonia rate after housing
- Increased weaning weights by approximately 25 kg
- Reduced growth check at weaning due to less stress, as calf is familiar with a different feed
- Efficient feed conversion – 4 kg creep can provide 1 kg gain

Replacement heifers due to calve at two years old also benefit, because they are more likely to meet the growth targets required.

When to start creep feeding

Timing will depend on calf age, growth potential and grass availability. Normally, creep feeding would start six to ten weeks before weaning to reduce stress, minimise any drop in performance and reduce pneumonia risk. Bulls to be finished on ad-lib cereal diets should start being creep fed earlier, at around 12 weeks before weaning. With very milky cows or in situations where it is tricky to creep feed, starting four to six weeks before weaning will still help reduce the weaning check.

If suckler cows are in poorer condition than normal, milk production may be limited, so creep feeding will improve calf performance and take pressure off the cows. If grass supplies are limited, creep feeding will also improve the performance of the calves.

Creep feed

Creep feed should be palatable and kept fresh. Composition should be around 14–16% crude protein (CP, as fed) and 12.5 MJ ME/kg DM. As creep feed is usually made available from a feeder with a hopper, it is effectively available ad lib, so care is required to prevent a metabolic disease, such as rumen acidosis. Initially, the creep feed should contain digestible fibre sources, such as sugar beet pulp, citrus pulp, wheatfeed or soya hulls, which can be gradually replaced by sources of energy with higher starch contents.

Molasses can also help bind the feed and make it more palatable. Creep feed should either be fed ad lib or at no more than 1–1.5 kg/head per feed to avoid digestive upset. The creep feeders should be kept topped up to avoid the calves overeating in one session. To maximise feed intake, keep the trough clean.

Spring-calving herds

Creep feeding calves born in spring provides a means of acclimatising the calves to their winter ration. This is particularly useful when weaned calves are going on to ad-lib concentrates for finishing.

Autumn-calving herds

For autumn-born calves, a separate, well-bedded creep area should be provided as soon as calving starts. This provides a clean, safe place for the calves to lie and eat away from their dams.



Weaning

This is a decision which should be based on feed supply and cow condition.

Once the calf is six and a half months (200 days) old, 75% of its nutrient requirement will be from feeds other than milk. Feeding the calf directly will be more efficient than feeding the cow to produce decreasing amounts of milk, at the risk of her losing body condition as well.

If suckling calves are causing excessive loss of body condition from the cow, they should be weaned immediately.

Equally, if the cows are fat, delaying weaning can help reduce body condition score.

After weaning, feed calves 1–2 kg of creep ration with the new grower ration for a few days, to maximise intake and avoid a check in growth rate. If creep-fed calves are being sold at weaning, it is useful to tell the buyers what they have been fed so they can feed a similar concentrate post-sale.

Be sure to remove the bull, to avoid unwanted pregnancies in the female calves.



Spring-calving herds

Calves should be at least five months of age at weaning.

In spring-calving herds, the grazing season provides an opportunity for cows to store excess energy in the form of body reserves, which can be mobilised during the winter. Usually, cows are managed to gain between 0.5–1 BCS over the grazing season.

Autumn-calving herds

Calves should be weaned at least five weeks before their dams' next calving to allow for colostrum production.

Delaying weaning can avoid cows putting on excess condition in mid to late pregnancy. However, it can make providing for the differing nutritional needs of the cow and the calf difficult.

Alternatively, calves can be weaned earlier and the feed supply to the cow controlled. This then allows the calves to be grazed on high-quality grass to promote fast growth rates.

Autumn calvers

Feed autumn-calving suckler cows well while housed during the post-calving period to enable them to lactate and become pregnant again. Exact feeding rate will depend on cow BCS, forage quality and the predicted turnout date. The target is to maintain a constant feeding rate during the mating period. Six weeks after this ends, rations for cows of BCS 3 or greater can be reduced slightly to allow them to gradually lose condition before turnout.

The target BCS for turnout of autumn calvers is 2–2.5, depending on the quality and quantity of the forage that will be available post-turnout.

Table 7. Example diets for a 650 kg autumn-calving suckler cow with a milk yield of 8–10 kg/day

Grass silage quality	Feed level	Concentrates (kg/head)
Good (10.5–11 MJ ME/kg DM)	Ad lib	1–3
Poor (9–10 MJ ME/kg DM)	Ad lib	3–5

The overall ration nutrient density in early lactation should be around 12% CP in the dry matter (DM) and 11 MJ ME/kg DM, so concentrates should complement the quality of the forage available.

The challenge with autumn calvers is to avoid them becoming overfat.

Early-calving autumn herds can wean the calves around turnout and the cows can be put on poorer-quality grazing, while the calves graze on better-quality pasture.

For cows weaned during summer, controlling the condition of the cows while still providing good-quality grazing/feed for the calves can be achieved by:

- Creep feeding the calves
- Forward-creep grazing the calves
- Weaning earlier and putting the cows on poorer-quality or restricted grazing and the calves on the better, ideally aftermath, grazing

Weaning autumn calvers early allows farmers to meet the nutrient requirements of:

- Growing calves with good-quality grazing – supplementary feed can be easily introduced if grazing quality or quantity declines; this can also accustom calves to the winter ration
- Dry cows to control their body condition to meet the target for calving – they are well suited to the poorer grazing on the farm, or pasture can be restricted and straw provided to satisfy appetite



Dry cows

Feed dry cows to enable them to be at the correct BCS at calving. Ideally, that means knowing calving date and being able to group cows by BCS and feed them accordingly.

During the dry period, rations should:

- Satisfy the cow's appetite, 1.5–2% of liveweight
- Provide sufficient vitamins and minerals
- Manage cows to reach target BCS for calving
- Ensure cows are strong for calving and produce good-quality colostrum

Cows that are too fat in late pregnancy will have difficulties due to deposition of fat narrowing the birth canal. Thin cows can lack the strength for calving, produce weak calves and poor-quality colostrum.

Cows should be dry for at least five weeks before calving to ensure there is enough colostrum for the new calf.

Managing BCS during the dry period

Body condition tends to vary throughout the year with feed supply; it is best to avoid extreme and rapid changes.

A cow weaned at BCS 3 will need to lose half a BCS to achieve a target of 2.5 at calving. Over five to six months of winter feeding, that equates to a loss of 0.25 kg/day.

A thin cow (less than BCS 2) will need to gain 0.5 kg/day over three months and needs access to either good-quality (10.5 MJ ME/kg DM) grass silage *ad lib* or poor silage supplemented with 1–2 kg of high-energy concentrate.

Where accurate calving dates are known, increase the feeding rate slightly, particularly in terms of protein supplementation, or include more silage in the four to six weeks pre-calving.

This will minimise body condition loss and promote colostrum production. Ensure the ration contains sufficient rumen degradable protein, which is important for calf health. Limiting feed to reduce calf weight during the last month of pregnancy can reduce cow fertility, colostrum quality and cow stamina at calving.

Ration quality towards the end of pregnancy

Many suckler cows are offered the same ration throughout their dry period, which means they are slightly overfed in early pregnancy and underfed at the end of pregnancy. During the last month of pregnancy, the calf's nutrient demand adds considerably to the cow's, when she is also producing colostrum and her appetite is reduced due to the size of the calf restricting rumen volume.

Outwintering

Outwintering is a low-cost option for dry cows, if suitable land and/or forage crops are available.

Hardy, native breeds suit this system well. Continental-bred cows can be outwintered, but care needs to be taken to avoid excessive BCS loss.

Outwintering can increase the cow's energy requirements by up to 15%, depending on weather conditions, in particularly wet and windy conditions. Careful consideration of mineral and vitamin supplementation is required for certain crops, e.g. brassicas.

For more information, see *Using brassicas for Better Returns*, available at ahdb.org.uk

Winter rations for dry cows

Feeding dry cows ad-lib silage can result in them becoming overfat during the dry period. Incorporating straw or poor-quality forage into the diet can provide rumen fill without gaining condition.

Table 8 shows some example dry cow diets, fed to a 650 kg spring-calving suckler cow, eight weeks from calving and losing 0.25 kg/day. Restricting dry suckler cows is only possible if all cows can access the feed at the same time.

Straw-based diets for dry cows

Straw is low in energy, protein and very deficient in minerals. It has around 6 MJ ME/kg DM and 3.5% CP in the DM. Ensuring there is sufficient effective rumen degradable protein (ERDP) is vital. This allows the cow to degrade the straw fully, produce sufficient rumen microbial protein and avoid rumen health problems.

Supplement straw-based diets for spring calvers with a high-protein feed. If the cows are fat, the protein content of the additional feed needs to be higher so that less is offered in total.

Guidelines for straw-based diets:

- Protein supply is essential. Rumen microbes require the whole ration to be at least 9% CP in DM
- Straw must be clean and palatable
- Offer plenty of clean water
- Ensure all cows have good feed access
- Feed adequate mineral supplementation (approximately 120–150 g/head/day)
- Introduce silage to the ration around 4–6 weeks before calving to ensure cows are eating enough energy and protein for colostrum production

Table 8. Example dry cow diets

Diet	Silage (30% DM/kg, 10.6 MJ ME/kg DM) (kg)	Straw (6.3 MJ ME/kg DM) (kg)	Hay (8.5 MJ ME/kg DM) (kg)	Barley (kg)	Rapeseed meal (kg)
1	17 (restricted)	4.5	-	-	-
2	-	9.5 (to appetite)	-	1.0	1.5
3	-	-	9.5 (to appetite)	-	0.5



The bull

Bulls should be checked ten weeks before the breeding season to ensure they are in good order. Target BCS for the bull before service is BCS 3.

Avoid feeding high levels of concentrates to breeding bulls, as this can lead to problems with locomotion, reduced semen quality and diminished libido.

Start feeding bulls that have lost more than 0.75 BCS early, so they have longer to regain the weight at a moderate rate of gain, without excessive feeding of concentrates.

Large bulls that have lost a lot of weight and condition require a higher-energy concentrate (12.5–13 MJ ME). Where large amounts need to be fed, they should be spread over two meals during the day to



reduce acidosis risk, with a maximum of 2 kg fed per meal. In autumn-calving herds, bulls may need supplementation during the breeding season if cows are on a restricted diet.

A fit and healthy bull should be able to serve two cows daily for six weeks or more.

Bull MOT

Bulls should undergo a full physical examination and have their semen tested approximately two months before the breeding season starts. This will provide an assessment of breeding soundness and allow time for any treatments to be administered or to source another bull if a problem is identified.

Table 9. Example mature bull diets to gain 0.75 of a BCS over a 180-day winter to serve spring-calving cows. On either a grass silage and concentrates diet or hay and concentrates diet.

Grass silage (kg)	Concentrates (with silage) (kg)		Liveweight (kg)	Daily liveweight gain (kg)		Hay (kg)	Concentrates (with hay) (kg)
30	1.5		700	0.40		10	2.3
35	1.8		800	0.45		11.5	2.5
40	1.8		900	0.50		13	2.8
40	2.3		1,000	0.55		14	3.0

Assumptions:

DMI: 1.5% liveweight

Hay: DM 85%, 8.6 MJ ME/kg DM, CP 8.5%

Silage: DM 30%, 10.2 MJ ME/kg DM, CP 11%

Concentrates: DM 87%, 12 MJ ME/kg DM, CP 18.5%

Eight weeks before joining the cows, bulls need to:

- Be fit, but not fat – BSC 3
- Be acclimatised to the work environment
- Have had their semen tested
- Have had a full physical examination
- Be active and mobile
- Be fully vaccinated

Young breeding bulls

Regardless of health status, young bulls should be quarantined after arrival on the farm for at least four weeks. To prevent boredom, pen two finishing cattle alongside the bull. These can be finished after quarantine.

Before being sold, it is likely that the bull will have been fed concentrates two or more times per day. Continue feeding concentrates after purchase, with a maximum of 2 kg fed at each meal.

Also ensure the bull has ad-lib access to good-quality roughage and receives 100–150 g per day of a well-balanced mineral mix. After a week, the levels of concentrates fed can be gradually reduced, but ensure that a liveweight gain of between 0.8–1.0 kg per day is still achieved.

Ensure the bull is up to date with vaccinations normally given to the herd and has been treated for parasites.

Always purchase young bulls two to three months before they are to be used. This will allow them time to acclimatise to the farm and recover from stress. Stress can impact on semen production which is produced 60 days before service.

Post-mating

Bulls are more susceptible to worms than cows, so may benefit from treatment before and after the mating season.

It is vital to feed young bulls well after mating. House early and put them on a good-quality ration. Target a growth rate of 0.7–0.9 kg per day, to allow continued growth and to regain any condition lost over the mating period.



Grazing management

Grazed grass accounts for over 50% of the total feed intake of autumn-calving cows and more than 65% of spring-calving cows. Therefore, grazing management has a big impact on the efficiency of suckled calf production.

When the herd is turned out in spring, there is rapid grass growth. Understocking at this time will allow grasses to flower, which reduces its feed quality.

Aim to stock fields more heavily during the spring and then reduce stocking rate in autumn to keep a tight control of sward height and grass quality. Electric fences can be used to shut off areas not required immediately, which can be cut for silage or hay.

The recommended grazing heights for different stock either rotationally grazed or set-stocked are shown in Table 10.

Sward heights are allowed to increase as the season progresses, to allow for the increasing proportion of poor-quality forage at the base of the sward.

Later in the season, a slightly higher sward height is required to maintain intakes and performance.

For more information, see *Improving pasture for Better Returns* and *Planning grazing strategies for Better Returns*, available at ahdb.org.uk



Table 10. Target sward heights for cattle

Type of stock	Period	Rotational pre-grazing height (cm)	Rotational post-grazing height (cm)	Set-stocked (cm)
Lactating suckler cows	Turnout–May	10–14	5–6	5–6
	June–July	12–15	7–8	7–8
	August–November	12–15	8–9	7–9
Dry cows				4
Growing/finishing cattle	Turnout–May	10–12	5–6	5–6
	June–July	10–14	6–7	6–7
	August–September	10–15	7–8	7–8

Finishing cull cows

Before weaning, identify empty cows for culling, so they can be fed to gain weight if required, either in late lactation or immediately after weaning. The advantage of extra feeding in late lactation is that the cow has a greater appetite than when dry and her maintenance costs are already covered by the calf.

By late lactation, milk production could be as low as 4 litres a day, depending on the cow type. However, suckling will maintain the cow’s appetite and capacity to eat to gain condition. Young cows (less than five years old) grow faster than older cows (nine years plus). Gains in older cows decrease rapidly after 50 to 60 days on finishing diets, so aim to get good performance early on. Try to not allow her to lose weight that will have to be put back on in the finishing stage.

Cull cow finishing diets should be high in energy and contain around 11–12% CP in the DM if the cow is still in milk and 9% CP in the DM if she is dry. Increase concentrate levels gradually to avoid digestive upsets.

Concentrate requirements are very high (>8 kg/day) on straw-based systems.

Summer and early-autumn calvers may be cheaper to finish while still suckling. A weight gain of 1 kg/day is achievable on lowland grass and 0.8 kg/day in the uplands. Spring-calving sucklers might be more expensive to finish due to the time of year.

Providing a plentiful supply of palatable creep feed for the calf is essential to achieve best results from feeding late-lactation cows targeted for culling.

Table 11. Concentrate requirement for 1 kg of gain/day in winter finishing systems based on silage

	Medium (600 kg) cow		Large (700 kg) cow	
	Lactating	Non-lactating	Lactating	Non-lactating
Silage (kg)	36	38	42	44
Barley (kg)	4	2.5	3.3	1.8

Note: Silage assumed to have 250 g DM/kg and 10.6 MJ ME/kg DM



Beef BRP Manuals

Manual 1	Choosing bulls for breed for Better Returns
Manual 2	Marketing prime beef cattle for Better Returns
Manual 3	Improving cattle handling for Better Returns
Manual 4	Beef production from the dairy herd
Manual 5	Feeding suckler cows and calves for Better Returns
Manual 6	Improve beef housing for Better Returns
Manual 7	Feeding growing and finishing cattle for Better Returns
Manual 8	Optimising suckler herd fertility for Better Returns
Manual 9	Controlling worms and liver fluke in cattle for Better Returns
Manual 10	Better Returns from pure dairy-bred male calves
Manual 11	Managing replacement heifers for Better Returns
Manual 12	Better Returns from calf rearing

See the AHDB website ahdb.org.uk for the full list of Better Returns Programme publications for beef and sheep farmers.

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