

**NATIONAL BEEF DEMONSTRATION
KILDALTON COLLEGE, PILTOWN, CO.
KILKENNY**

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CONTENTS

INTRODUCTION

KILDALTON SUCKLER HERD BREEDING POLICY

CASHING IN ON GRASS

KILDALTON BEEF UNIT RETURNS

PRODUCER - PROCESSOR PARTNERSHIPS!

WORM CONTROL AT GRASS

BULL BEEF PRODUCTION

INTRODUCTION

At farm level the key issues which are under the control of the beef producer are the type of the product that is produced and the cost of producing it.

Less than 30% of the cattle produced in this country in 1999 would have been considered suitable for the high priced European markets. To increase this proportion replacement strategies on suckler farms have to be examined in order to upgrade the quality of suckler cows in our herds. When purchasing stock bulls increased use must be made of the information that is now becoming available from a number of the breed societies. There is a huge scope for the wider use of AI especially for producing replacement heifers.

Successful marketing of our beef is essential if producers are to be rewarded for producing a quality product. Producer-processor partnerships are now developing to aid this process with many new initiatives in this area including intensive heifer and bull beef production.

With margins tight on many beef farms reducing the costs of producing beef must also be a major objective. Teagasc figures show that the cost of producing beef can be significantly reduced by up to £125 per hectare through increased liveweight gains from grazed grass. This increase can only be achieved by extending the traditional grazing season, putting in place a controlled rotational grazing system and using an effective parasite control programme.

The costs of production and returns being achieved on a beef enterprise have to be examined on a yearly basis if progress is to be monitored. With such an analysis problem areas are quickly identified and decisions can be made regarding future planning and direction.

The purpose of this event is to examine how Kildalton is tackling all of the above issues in the college suckler and calf to beef enterprises, how it has performed in the past and how it is planning for the future in both these enterprises.

KILDALTON SUCKLER HERD BREEDING POLICY

The suckler herd at Kildalton has been built up over the last number of years to a fifty-cow spring calving herd. The majority of the heifers that were brought in to make up this herd came from the college dairy herd with an increasing number of heifers in recent years coming from within the suckler herd itself. Of the 50 cows that calved this spring, 34 are first cross cows (**TABLE 1**) with the majority of them being Limousin crosses (50% Limousin / 50% Friesian). Simmental heifers have been taken from these types of cows and these three-quarter continental bred cows (50% Simmental / 25% Limousin / 25% Friesian) now make up 30% of the herd. There are also a number (7%) of three-quarter Limousin cows in the herd.

Table 1 – Cow Breeds in the Kildalton Suckler Herd

Cow Type	Breed Composition	No.	%
½ Continental	50% Lim. 50% Fr.	32	59
	50% Simm. 50% Fr.	2	4
¾ Continental	50% Simm. 25% Lim. 25% Fr.	16	30
	75 % Lim. 25% Fr.	4	7

Replacements

The increasing level of Holstein being used both nationally and in the college dairy herd is limiting the number of suitable replacements that can now be got from this source, as these type of cows will not produce calves with the required shape/conformation for the European market. The college must therefore source a larger proportion of its heifers from within the suckler herd itself, if it is to maintain or improve the quality of the stock produced.

The plan is to have at least 60% of the herd three quarter continental type cows which will be producing calves which are close to 90% continental in their breeding.

Apart from shape/conformation, growth rate and fertility are also needed. Hybrid vigour is important for both these traits, especially fertility. The intention therefore is to maintain a crossbred breeding policy.

Growth rate is directly linked to the milk yield of the cow, which reduces in volume the more generations the breeding moves away from the dairy cow. To try and reduce this loss in milk yield the college has been using Simmental bulls (through AI) to produce heifers from the existing suckler cows. A number of maternally tested Limousin bulls have also been used and heifers from these will be kept as replacements. Maternally tested bulls are bulls in AI, which have been shown through progeny testing to be positive not only for beef production traits but also maternal traits (milk yield, fertility etc.).

Breeding Programme

With 50 cows in the college herd it is hard to justify the cost of a second bull to breed replacements from. If the college were using a second bull the herd would also have to be split during the grazing season to avoid inbreeding in future years. This would disrupt the rotational grazing system in operation. It is for these reasons along with the wide choice of top quality bulls that are now available that AI has been used in the suckler herd over the last number of years.

As the herd is spring calving the breeding season takes place entirely at grass with the grazing fields being some distance from the cattle-handling unit. To operate a successful AI programme it was therefore necessary to synchronise the cows to come in heat in batches. Success of the synchronisation/AI programme has ranged between 30 and 50%. Also, in recent years the cost of synchronisation has risen. With variable success and increasing costs the college is now trying to reduce the level of synchronisation needed while still using AI.

Instead of having all 50 cows calving from February to April the plan for the future is to have 30 to 35 cows calving at that time of the year with the remainder calving from October to December (**TABLE 2**). These winter calvers will then be going in calf indoors from late December to late February. Breeding suckler cows while they are

still indoors is much more compatible with AI than breeding at grass and it will reduce dramatically the need for synchronisation. These winter calvers will be first cross Limousin cows and heifers, which will continue to produce replacements for the herd itself.

Table 2 – Future Suckler Breeding Programme at Kildalton

Cow Breed	No.	Breeding	Calving	Bull / A.I.	Calf Breed
½ Lim. ½ Fr.	20	Dec – Feb.	Oct. – Dec.	Simm. or Lim.	¾ Continental
¾ Continental	30	May - July	Feb. - April	Char. or B.B.	7/8 Continental

Summary

The suckler herd at Kildalton faces the same breeding challenge as all other suckler herds. That challenge is to produce cattle of the quality required for an increasingly competitive European market. Sourcing suitable replacement heifers that have the potential to produce U grade cattle without compromising on milk yield and fertility has led to the college breeding from within its own herd. These homebred heifers are bred from AI so that the best available bulls for both beef and maternal traits can be chosen. To reduce the workload that is involved with AI, without inflating breeding costs, the college is now moving some of the herd to calving during the winter months.

CASHING IN ON GRASS

Teagasc figures collected from the 'Cash in on Grass' demonstration farms consistently show that the feed costs to put on one kilogram of gain from grazed grass are less than one fifth those required to achieve a similar liveweight gain from winter feed. Achieving high weight gains at grass during the year is, therefore, the most effective way to reduce costs on most beef farms.

The three most important components that are needed to increase the proportion of gain that is put on at grass are: -

- A long grazing season
- A controlled rotational grazing system
- Constant monitoring of the amount of grass available.

Extending the Grazing Season

The target that has been set on the Teagasc demonstration farms is to put 200kg liveweight on yearling steers over a 220-day grazing season. To achieve a 220-day grazing season cattle need to be at grass earlier in the spring and remain out later in the autumn. This extension at both ends of the season requires forward planning throughout the year.

When planning to have cattle out as early as possible in the springtime the paddocks/fields, which they will be grazing first, need to be closed early the previous autumn. Those fields that are the driest and closest to the winter housing are usually a good choice for grazing first. Ideally these should be silage fields as these can be grazed up until the first week in April giving the rest of the grazing area an opportunity to build up grass in the spring before grazing. Where silage fields are grazed before closing in the spring, yields will be reduced by 10 –15% but the quality of the silage will improve (DMD %).

The Teagasc demonstration farms start closing fields from early October onwards with all fields planned for early grazing closed by November 1st. With this approach over 80% grazed the first cut silage ground in 1999, for an average of 22-days before closing in early April.

Extending the grazing season in the autumn involves building up enough of a supply of grass in late summer to allow cattle to stay out longer. Planning for this has to take place from mid-summer onwards. When silage ground comes back into the grazing cycle this is when a bank of grass can start to be built up. Timely applications of nitrogen in late summer combined with a controlled rotational grazing system are the keys to building up a supply of quality grass.

Rotational Grazing

A high proportion of grass that is grown on many cattle farms is never consumed by the cattle. Rotational grazing with sufficient grazing divisions, is the most effective way of matching grass supply with animal demand while at the same time ensuring good utilisation of the grass grown.

The minimum number of divisions is six per group of cattle on the farm. This allows for approximately three days grazing in each paddock giving a rotation length of 15 to 20 days in the spring. As more fields become available later in the season (silage ground) the length of the rotation can be extended.

Where cattle graze the one area for more than three to four days regrowths begin to be eaten, leading to a slower growth of grass and lower overall yields. A paddock system also helps to maintain grass quality, as it is much easier and quicker to identify and solve potential problems through topping and taking out areas of surplus grass.

Monitoring Grass Availability

The amount of grass an animal needs increases at a constant rate throughout the grazing season, whereas the amount of grass growing varies considerably. Matching the daily demand of the cattle to the supply of grass that is available is done using the 'days ahead' approach. With this approach the number of days of grass that is available for grazing at any particular time is calculated. This can be measured with something like the plate meter or through time by training your eye. Put simply it is the number of days that are left (assuming no more grass grows) before the cattle would have no more grass left.

In the spring when grass is growing quickly 12 to 15 days of grass is the desired number of days ahead for each group of stock. Moving into the summer as grass growth declines 18 to 24 days is required. By the end of the summer into early autumn the number of grazing days ahead should exceed 30 to allow cattle to stay out as long as possible as there is very little more actual growth of grass going to take place at that time of the year.

The benefits of this approach are best seen when the number of days needed are lower than number required or when they exceed the target. Corrective action can then take place. When there is a shortage identified the appropriate action might be to graze some of the silage area, apply extra nitrogen, supplement with round bales of silage or even house for a short period. Where there is an oversupply of grass the usual action is to remove paddocks with a silage cut or take them out as round bales of silage in order to maintain grass quality.

Summary

At a time when beef margins continue to be under pressure, reductions in feed costs are necessary to maintain or increase margins on many beef farms. Grass is by far the cheapest source of feed on the farm. Achieving maximum beef liveweight gain from grass involves growing enough high quality grass and utilising it properly. This can only be done by operating a controlled rotational grazing system with a proper grassland management programme planned for the year ahead.

KILDALTON BEEF UNIT RETURNS

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Recent financial information collected from the Teagasc Cash in on Grass demonstration farms show large variations between beef farms in the income earned per hectare. For the year ending 1999 the top one third of farms earned £270 per hectare more than the bottom one third of farms examined. This higher income was a combination of higher beef output per hectare, a higher value of the beef produced and lower variable costs per hectare.

An examination of the financial performance of any farm enterprise is now an essential management tool. When costs and income are broken down on a per hectare and a per kilogram of liveweight produced basis comparisons can be made from year to year on the same farm and with other farms. Without such a detailed analysis of the financial performance of an enterprise it is difficult to identify key areas for change or improvement and it is impossible to set future targets.

Kildalton Suckler Unit 1999

The suckler unit in Kildalton finishes all of the steers at 24 months of age and heifers at 18 to 20 months. The unit is mixed grazed with 100 ewes. For calculating the returns of the suckler to beef enterprise during 1999 the cattle were allocated 36 hectares giving a stocking rate of 2.5LU per hectare (1.0LU per acre).

Total beef liveweight produced during 1999 was 834kg per hectare compared to 640kg produced on the Teagasc Cash in on Grass demonstration farms (**TABLE 1**).

The premia collected per hectare on the college unit was lower than the other farms, as the college is not in REPS and does not claim extensification or headage.

Table 1 – Financial Performance of the Kildalton Suckler Unit during 1999

	£ per Hectare	
	Kildalton Suckler Unit	Teagasc Demo Farms
Beef Output (Kg Liveweight)	834	640
Gross Output including Premia	£1,112	£1,060
of which premia	£336	£424
Variable Costs	£455	£322
Gross Margin excluding premia	£321	£314
Gross Margin including premia	£657	£737
Fixed Costs	£357*	£357
Net Margin	£300	£380

* Note the fixed costs for the Kildalton suckler unit are taken to be the same as the average of the Teagasc Cash in on Grass demonstration farms for 1999.

When the beef output and premia are combined the college unit had a gross output of £1,112 per hectare compared to £1,060 on the demonstration farms.

Variable costs on the college unit are high at £455 per hectare compared to the average of £322, however, this is more than made up for in the higher output per hectare on the college unit. The fixed costs attributed to the suckler unit are the same as those for the demonstration farms. Overall net profit per hectare was £300 compared to £380 on the demonstration farms. This difference of £80 per hectare is to a large extent accounted for in the lower premia per hectare achieved in the college unit.

When the variable costs are examined there are four major costs accounting for most of the £133 per hectare difference compared to the demonstration farms (**TABLE 2**). An extra £19 was spent on meal, £32 on fertiliser and lime, £34 on machinery hire and £41 on AI. Some of these extra costs are acceptable due to the

higher output per hectare which is seen when the variable costs are examined on a per kilo rather than a per hectare basis (**TABLE 3**). Other costs such as AI charges are being examined and changes are being made to reduce this cost over the next couple of years (dealt with elsewhere in the booklet).

When output and costs per hectare are combined the suckler unit in Kildalton produced beef at 97.3 pence per kg of liveweight during 1999. This is made up 54.5 pence variable costs and 42.8 pence fixed costs. The variable costs to produce 1kg beef liveweight indoors were close to five times higher than what it cost outdoors at grass.

Table 2 - Breakdown of Variable Costs

	£ per Hectare	
	Kildalton Suckler Unit	Teagasc Demo. Farms
Variable Costs		
Meal	100	81
Fertiliser / Lime	120	88
Machinery hire	113	79
Seeds / Sprays	3	7
Vet Dosing	31	36
A.I.	47	6
Marketing / Transport	17	11
Other Variable Costs	24	21
Total Variable Costs	455	329

Table 3 – Breakdown of Costs into Pence per Kilogram Liveweight

	Pence / Kg Liveweight	
	Kildalton Suckler Unit	Teagasc Demo Farms
Variable Costs		
Meal	12.0	12.7
Fertiliser / Lime	14.4	13.8
Machinery hire	13.6	12.3
Seeds / Sprays	0.3	1.1
Vet Dosing	3.8	5.6
A.I.	5.6	0.9
Marketing / Transport	2.0	1.7
Other Variable Costs	2.9	3.3
Total Variable Costs	54.5	51.4
Total Fixed Costs	42.8	57.0
Total Costs Per Kg	97.3	108.4
Winter Variable Costs	133	139
Summer Variable Costs	28	27
Ratio Winter to Summer Variable Costs	4.8 : 1	5.2 : 1

Kildalton Calf to Beef Unit 1999

The calf to beef unit in Kildalton takes all of the beef calves produced in the college dairy herd and finishes the steers at 24 months and heifers at 20 months. The unit is run on 12.7 hectares giving a stocking rate of 2.2LU per hectare (0.9LU per acre).

Total beef liveweight produced during 1999 was 1,301kg per hectare (**TABLE 4**). Gross output per hectare including premia of £406 was £1,396, while variable costs were £771 leaving a gross margin per hectare of £625. Fixed costs of £304 per hectare were allocated to this unit leaving a net margin of £321 per hectare. An immediate target that could be set for this unit is to aim to keep all of the premia in future years through either increased output, reduced costs or both.

When the variable costs are examined on a per kilo and per hectare basis (**TABLE 5**) it is once again obvious that the three major costs are meal, fertiliser/lime and machinery hire. It these costs that the college will be focusing on reducing over the coming years through extending the grazing season further and increasing weight gain at grass. The overall cost of producing 1kg of beef liveweight on the unit was

PRODUCER - PROCESSOR PARTNERSHIPS!

HAVE THEY A FUTURE?

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The message is clear. The only future for quality beef producers is in supplying European markets. The major European customers for Irish beef are U.K., France, Italy, Holland and Scandinavian countries. These countries import 1.25m tonnes of carcass beef annually. Total annual Irish production amounts to almost 0.5m tonnes. Getting into prime European markets is no easy task. There is a consumer preference for local product. We face serious competition from other suppliers. But there is no long-term alternative to Europe for quality beef producers. The Bord Bia marketing strategy is to increase Irish exports to Europe to approximately 60% of total exports by 2002. We will not develop high value European markets further without a much greater level of partnership throughout the whole beef industry.

Four Major Reasons for Producer/Processor Partnerships

1. Compete with the live export trade to Europe

The live export trade to Europe has provided a welcome boost to quality weanling producers. Almost 350,000 live cattle (includes calves) were exported to Europe last year. The current level of live exports will result in a huge quality drain. Last year approximately 100,000 finished cattle (steers, heifers) graded U. Carcass beef conformation is unlikely to improve given the level of live exports.

Irish finishers are not able to compete with European finishers for quality weanlings. Irish beef prices are typically 20% below average European levels and much lower than key niche market outlets. The implications for meat processors and quality beef finishers are enormous. Irish finishers can only compete if they can tap into the high value end of the European market. This is

only possible through partnership schemes. Processors will find it increasingly difficult to source quality cattle to service/develop European markets.

2. *Reward Quality and Improve Stability*

High value European markets offer the only hope of any significant price premium for quality. There is no real reward for quality in subsidised third country markets. Third country markets are also inherently unstable. Partnerships can help to reward quality by matching top quality producers to prime European markets. The live export trade has shown how quickly producers can respond to quality requirements when there is a clear reward. In the longer-term tighter links across the supply chain will lead to greater price stability.

3. *Meet Retailer/Market Demands*

Major changes are occurring in food retailing and these changes are likely to accelerate over the coming years. Supermarkets account for over sixty percent of retail meat sales in many northern European countries. The biggest problem facing the Irish beef industry is that we do not have enough European supermarket business. By and large supermarkets are still price leaders when it comes to price and volume of business. Supermarkets are demanding. Continuity of supply, consistent quality and assured safety are critical requirements. Stronger supplier/processor links may be necessary even for markets (e.g. UK supermarkets) that do not require top conformation grade cattle.

Increasingly supermarkets are pushing processors to develop a network of dependable suppliers with the capacity to deliver a quality/safety assured product.

4. *Direct Feedback - Focussed Advice*

The lack of clear market direction has made it virtually impossible to give good technical and marketing advice to quality beef producers. Direct producer/processor links will allow much more specific advice on feeding, breeding animal performance analysis and quality assurance requirements. Long term the aim should be to build a database of information, which will benefit suppliers, processors and customers.

Partnerships - Critical Success Factors

Successful development of partnerships will be dependent on;

1. Full commitment from all involved.
2. Being a profitable competitive option. The rewards gained must outweigh the costs (if any) involved.
3. Reward Quality - Good quality (as determined by the individual markets) must be clearly rewarded. Poor quality must be penalised.
4. Realistic Expectations - Quality markets and significant price premiums can not be pulled out of a hat. Partnerships are a long-term strategy rather than an instant magical solution to our problems.

Not An Easy Route

Developing producer/processor partnerships is a difficult but necessary challenge for the industry. Short-term rewards may be small. Long term trends will force greater integration at producer/processor level. Quality beef finishers are unlikely to obtain a long-term price premium and greater price stability without tighter producer/processor links.

WORM CONTROL AT GRASS

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Severe infections during the grazing season of stomach worms and hoose can cause long term damage to the health of cattle. This damage affects lifetime performance (**Tables 1, 2**) and in severe cases may even lead to deaths. Artificially reared and autumn born suckler calves at grass for the first time are most at risk as they are eating reasonable amounts of grass and have very little immunity developed against either of these parasites. Older cattle should have a reasonably well developed immunity and are usually not considered to be as susceptible to infection.

Table 1 – The Effect of Stomach Worms on Calf Weight Gain Kg (Teagasc, Grange)

	Pre July	Post July	Difference
Infection Controlled	42.8kg	42.6kg	24.3kg
Infection Not Controlled	42.8kg	18.3kg	

Table 1 emphasises the need for having a good stomach worm control programme from July onwards – the benefit is 24.3kg (worth £30-£45 per weanling).

Table 2 shows the damaging effect of a mild hoose attack on calf growth.

Table 2 - The Effect of Mild Hoose on Calf Weight Gain Kg (Teagasc, Grange)

	Initial Wt.	Wt. Gain	No. Days	Gain/Day
Treated Animals	71.4	26.8	37	0.72
Not Treated Animals	71.9	18.2		0.49

Surely, a benefit of 8.6kg increased weight on calves during 37 days is worth spending a small bit of money and time observing calves for signs of hoose.

Knowing a little of the history of stomach and lungworms (hoose) will help you control them.

	<u>Hoose</u>	<u>Stomach Worms</u>
<i>Source:</i>	Overwinters Infection from older calves Older stock	Overwinters only
<i>Season:</i>	Late May-October	Late July-early November
<i>Pasture Infection:</i>	Very irregular Not predictable	Regular Predictable
<i>Resistance:</i>	Strong	Weak
<i>Control:</i>	<ol style="list-style-type: none"> 1. Vaccinate 2. Vigilance and early control 3. Avermectins/Bolus 	<ol style="list-style-type: none"> 1. Dose mid-July and move to clean pastures 2. Leader-Follower system 3. New systems 3, 5, 13 week dosing
<i>Reinfection after dosing:</i>	Not usual	Always

The different approaches that can be taken to control worms involve: -

- Suppression of worms
- Avoidance of infection
- Dilution of worms

Suppression Programmes

These are by far the most common method by which most farmers control stomach worms and hoose in young calves. Suppression involves regular treatment of calves with anthelmintic products effective against both types of parasites. There is now a wide variety of products available for this approach and there are categorised as either benzimidazoles (white drenches), levamisoles (yellow/clear drenches) or avermectins. Suppression programmes based entirely on benzimidazole / levamisole products are less expensive than avermectin based programmes but they do involve very regular dosing leading to a much-increased workload (**TABLE 3**).

Table 3 - Worm Control Programmes for Dairy Calves at Grass

Product Type	Suppression Programme (Dairy Calves)	Total Cost (at grass)
Bendimidazoles & Levamisoles	3, 6, 9, 12 and 15 weeks	£2.20 - £3.25
Ivomec, Enzec, Noromectin	3, 8 and 13 weeks	£5.30 - £6.50
Eprinex	3, 8 and 13 weeks or 4 and 12 weeks	£7.20 £4.40
Dectomax	3 and 11 weeks	£4.20
Cydectin	3 and 13 weeks or *3 and 11 weeks	£4.30

* If calves show signs of hoose

Table 4 – Anthelmintic Boluses

Product	Release Method	Treatment Period	Cost
Panacur Bolus	Sustained release	140 days	£8.20
Repidose Bolus	21-day pulse release	120 days (approx.)	£7.90
Ivomec S.R.	Sustained release	135 days	£9.80
Paratect Flex	Sustained release	90 days (60 days for hoose)	£7.90

Boluses are effective, have a long suppressive period and are convenient but they are more expensive than other anthelmintic formulations.

Whichever products are used it is essential that the manufacturers recommendations are strictly adhered to. With the benzimidazole/levamisole products, extending the dosing interval beyond three weeks could lead to a breakdown, as these products

have no residual activity. Stomach worms have a more predictable life cycle than lungworms (hoose) and hence are more easily guarded against. In the right type of weather conditions (warm wet weather) the life cycle of the lungworm can speed up leading to large infestations of them on grass. At all times, therefore, keep a careful watch for calves developing a husky type cough and treat them promptly, as deaths can occur quickly with hoose. Remember, just because calves were treated does not mean that every single calf was treated properly and got the required amount of active ingredient into its system.

Over use of anthelmintics in the first year at grass will not allow young calves to be sufficiently challenged and build up antibodies to fight these parasites in future grazing seasons, with their own immune systems. In recent years there have been increasing reports of yearling cattle and young cows showing the signs of severe stomach worm and hoose infestations. This is most likely due to poorly developed immune systems leading to these types of stock having to be treated against worms where normally they would have needed very little if any further treatments.

Avoiding Infection

With this type of preventative programme calves are moved regularly to avoid pastures that are contaminated with worms. Pastures in the early part of the year have relatively low numbers of worms. If calves are moved quickly at this time of the year, always moving onto a new pasture that they have not grazed already, the risk of infection is reduced greatly. Later in the season, as after-grass becomes available from silage ground, calves can be given an anthelmintic treatment before moving onto it and this pasture should be quite 'clean' and free of worms. By avoiding heavily infested parts of the farm, the number of anthelmintic treatments is vastly reduced and the opportunity for calves to develop their own immunity is improved.

It is important that young calves are not grazed continuously from year to year on the same patch of ground as this can lead to the build up of a large worm infestation on this land. A feature on some dairy farms is the 'favourite paddock' syndrome, where a small paddock close to the yard/parlour is used every year to graze/rear the last

bunch of calves born. Calves grazing on this type of paddock are subjected (from an early age) to a large burden of worms and are at greater risk of having a breakdown.

Dilution of Worms

With this technique the infestation of the pasture is kept as low as possible by using different groups of stock to cut down on the numbers of eggs/larvae passed out in the faeces onto the pasture. A leader follows a grazing pattern, whereby the calves graze ahead of older stock, is an example of one such system. The calves will always be eating the leafier more digestible part of the plant and rarely have to graze very tightly. The older cattle that follow the calves graze out the grass that is left and remove the large numbers of worms that have been left on the pasture. These older cattle, with their well developed immune systems, halt the life cycle of the worms and hence the number eggs/larvae passed back out onto the pasture is greatly reduced.

Mixed grazing of cattle and sheep will also dilute the number of worms on a pasture as the parasites that affect cattle rarely affect sheep and vice versa.

Suckler Calves / Yearlings

Spring born suckler calves do not generally begin to eat appreciable amounts of grass until early summer and there is also a dilution affect by the cows grazing with them. The risk of infection in these types of animals does not therefore arise until mid-summer and a control programme can usually be delayed until then (July). A further dose in the autumn (September) is usually advisable as they are eating more grass, the contamination on the grass is building up and the risk from hoose is greater at that time of the year.

In general yearling cattle should have a good level of immunity developed against stomach worms. Cattle with poorly developed immune systems may still need some treatment. If yearlings had not been exposed to lungworms in their first year at grass they will still suffer the same risk of infection from this parasite. Keep a close watch for hoose in yearling cattle and act quickly when it is suspected.

Summary

Stomach worms and hoose can have serious economic consequences if they are not controlled properly from an early stage in cattle. Maintaining good health and optimum performance is the first goal of any worm control programme with the cost and labour involved coming next. Whichever control programme is chosen, it should combine the sensible use of anthelmintic products currently available on the market with good grassland management. The development of an adequate immune system for use in subsequent years should not be ignored as this has health and cost implications also.

BULL BEEF PRODUCTION

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Male animals in continental EU are normally finished as bull beef from the suckler herd and as bull beef or veal from the dairy herd, while bull beef is a relatively recent but increasing production system in Ireland. Up to the end of May 2000 over 20,000 young bulls were slaughtered in Ireland compared with just over 6,000 during the corresponding period in 1999. In addition live exports to EU and Lebanon (both interested in bulls for further feeding) are up significantly in 2000 over 1999 levels. In 1999 over 35,000 young bulls were exported to the Lebanon where bulls are preferred over steers but third country exports are likely to suffer price reductions due to cuts in export refunds. Quality suckler herd bull progeny will continue to go to continental feed lots for finishing, where demand should remain strong. At home a number of processors have partnership agreements with farmers already in place to secure a consistent supply of bull beef to supply continental EU markets. Bord Bia advise strongly to have a secure market outlet before committing to a bull beef system.

Production Efficiency

Bulls grow faster and have a higher conversion efficiency of feed to beef resulting in approximately 10% higher carcass weights at the same age compared with steers. The heavier carcass weight combined with improved conformation score of approximately 0.5 units results in bulls having approximately 20% extra lean meat in the carcass compared with steers.

Premia Eligibility

Agenda 2000 changes have increased the differential between the 9-month special beef premium on steers and the bull premium. The following table shows the rates of premium payable per animal: -

Special Beef Premium	2000	2001	2002-6
9 Month Steers	£96.08	£107.11	£118.13
21 Month Steers	£96.08	£107.11	£118.13
Bull Premium	£126.01	£145.70	£165.39

In order to draw down special beef premium a maximum stocking density of 2 LU per ha applies, taking account of LU from premia applications (SCP, SBP and Ewe pr.) and dairy quota held. The minimum forage area required to draw down both the 9 and 21-month premium in steer beef production is 0.6ha (1.5 acres) and the minimum forage area to draw down the bull premium is 0.3ha (0.75 acres).

For production purposes approximately 0.6ha is required for calf to 2 year steer beef resulting in little conflict with the premia forage area required. However with many of the bull finishing systems animals are slaughtered at 12-18 months following intensive indoor finishing and have a low forage area requirement from a production point of view. In many situations (especially on good quality land) it is essential to have non-premia animals (heifers or steers with all premia claimed) occupying forage area that is available to draw down bull premium.

Bull Beef from the Dairy Herd

Spring born calves are less suitable for bull beef production than Autumn born calves because they are not able to make enough use of the grassland phase in year 1 and the production system is confined to higher cost indoor finishing. Production of red veal with calves reared indoors on ad lib concentrates from 3 months of age (110kg liveweight) requires 1.8 tonnes concentrates to achieve a daily gain of 1.25kg and produce bulls of 450kg liveweight (240kg carcass) at 12 months of age. Alternatively Spring born bulls can be reared conventionally to 3 months (110kg liveweight) and

then finished indoors over the following 14 months on 10 tonnes 75% DMD silage plus 1 tonne concentrates. Meal feeding level at 2kg per day for the first 9-10 months increasing to 3kg for the next two months and to 4kg for the final 2 months with an ADG over the entire finishing period of 1.0kg.

Autumn born calves can be grazed at grass for 7 months, before housing to start the finishing phase. Early Winter born calves should be 120/130kg liveweight by turnout to grass and can put on 170kg plus at grass to achieve a housing weight in Autumn of at least 300kg. A target finish weight of 550kg liveweight can be achieved over 230 days on good quality silage plus 6kg concentrate per day (ADG 1.1) or alternatively over 180 days on ad lib concentrate with average meal consumption of almost 10kg per day and ADG of 1.4kg. Table 1 below summarises the options for bull beef production with Friesian calves: -

Table 1 - Finishing Male Friesian Calves

	Spring Born			Autumn Born	
	Steers	Bulls Indoors		Bulls Indoors from 300 kg (Aut.)	
		Ad Lib Meal	Silage + Meal	Silage +6 kg Meal	Ad Lib Meal
Finishing Age (months)	24	12	16.5	18.5	17.3
Carcass Wt. (kg)	320	240	280	300	300
INPUTS					
Finishing Meal (tonnes)	0.67	1.8	1.0	1.3	1.8
Silage (tonnes @ 20% DM)	9	-	10	4.2	-
Grazing (£/head)	£30	-	-	£15	£15
Sale Value £/head @ 89p/lb	£627	£470	£548	£587	£587
Gross Margin £/head - Calf @ £130 - Premia - 1999	£323	£113	£187	£228	£202

- Finishing of Friesian males as bulls is best suited to farms with good livestock management standards using early born calves that are well developed before turnout to grass. Such calves can benefit from good performance at low cost before embarking on the high cost indoor finishing stage.
- Most Spring born calves will be finished more profitably as steers at two years having collected both 9 and 21-month premium.
- Autumn or early-Winter born calves can be profitably finished as bulls provided a secure market outlet is available and at a selling price at least equivalent to steers.
- Friesian bulls have very large appetites especially towards the end of finishing at which time feed conversion efficiency is declining and should animal performance or marketing delay sale date, potential profits can quickly disappear.
- Farms eligible for extensification can collect two extensification premiums with steer finishing at 2 years but will only have one extensification premium with bull beef.

Bull Beef from Suckler Herd

Young bulls from a Spring calving herd can be finished at 330-380kg carcass at 13.5 to 16 months of age following an intensive indoor feeding period ranging from 180 to 250 days. Achievement of high levels of animal performance is essential to ensure profitability and a secure market outlet providing a guideline-selling price should be in place before commencing a bull beef system. Profitability with short-term systems is very sensitive to buying price of weanling bulls and selling price of finished beef. Ability to draw down premia may be a problem on some farms as the land requirement for indoor finishing is very small but 0.3 forage ha (0.75 acres) is required to draw down each bull premium.

Finishing system can be a combination of good quality silage plus concentrates or alternatively all concentrates. Bulls should be at least 320kg at start of finishing in order to minimise the length of the feeding period. A.D.G. can range from 1.2 to 1.6kg liveweight gain per day and is highest for short term feeding on all concentrates.

Feeding a 320kg weanling on good quality silage plus 4.5kg concentrates per day over 230 days will produce a 350kg carcass with A.D.G., of 1.25kg and KO 57%.

Ad lib concentrates fed to a 320kg weanling over 160/180 days will produce a 330kg carcass with over 1.5kg A.D.G. Meal consumption with ad lib will average out at 9.5kg per day and access to straw at 0.5 to 1kg per day should also be provided.

Extending the period on ad lib concentrates by 70-80 days will produce a carcass of 380kg (KO 58%) but A.D.G. will be lower at 1.35 due to the longer feeding period and decline in animals efficiency as it gets heavier. Average meal consumption per day at 10kg will also be higher with the heavier finishing weight. Table 2 outlines a number of options for finishing good quality males from the suckler herd as bulls.

Table 2 - Finishing Spring Born Male Progeny from the Suckler Herd

	Steers	Bulls Indoors		
		Silage	Ad Lib meals	
		+4.5kg meal 230 days	9.5kg 160 days	10kg 240 days
Finishing Age (months)	24	15.5	13.5	16
Carcass Wt. (kg)	390	353	328	380
INPUTS				
Finishing Meal (tonnes)	0.6	1.1	1.6	2.5
Silage (tonnes @ 20% DM)	8.5	5	-	-
Grazing (£/head)	£20	-	-	-
Sale Price p/lb	94	96	100	100
Sale Value £/head	£808	£747	£723	£838
Gross Margin £/head	£270	£162	£118	£122
- 320 kg Weanling £480				
- Premia 1999				

- Finishing suckler progeny as bulls is a high input/high cost system and is unlikely to benefit from extensification except on farms that have a high proportion of marginal land with low stock carrying capacity. Potential margins are modest and particular attention must be paid to buying and selling price, animal performance and eligibility for premia.
- Farms with substantial forage area available will need to combine profitable cattle finishing of non premia animals with a bull finishing enterprise or alternatively would be better suited to weanling to beef steer production finishing at 24-28 months.
- With bull finishing systems animals will be slaughtered 8-15 months earlier compared with conventional steer beef production. Consequently bull finishing farms with no suckler cows will be back in the market place to purchase replacement stock sooner, which will increase demand and price of weanling bulls. This will reduce the potential profitability of bulls finishing unless corresponding increases in beef price are achieved.
- Farms best suited to bull finishing are likely to have their own suckler cows supplying male progeny and would need to be in a very secure marketing arrangement that guarantees the final beef price before the commencement of the finishing phase.