The guidelines outline the target weights that stock need to reach at certain ages, as well as the management needed to achieve these weights.

Beef production: system guidelines

Pearse Kelly
Head of Drystock Knowledge Transfer, Teagasc Animal and Grassland Research and Innovation Programme

> An important element of any beef system is the potential margin that can be made from it

One of the key outcomes of the beef industry roundtable discussions chaired by the Minister for Agriculture, Food and the Marine, Simon Coveney, in 2015 was the production by Teagasc, Bord Bia and the Department of an agreed set of guidelines that beef farmers could use when pursuing a particular beef system.

While there are many different beef systems, these guidelines outline the 14 most common systems on Irish farms and include steer, heifer and bull systems. Beef cattle from both suckler and dairy cows are covered.

While some hard copies of the guidelines are still available in local Teagasc offices, they are also available on the Teagasc website www.teagasc.ie/beef. Each system is covered in two pages with a common layout, so that they are easy to follow and understand.

After describing a system, the guidelines outline the target weights that stock need to reach at certain ages; the management needed to achieve these weights; and the inputs required over the lifetime of the animal. An important element of any beef system is the potential margin that can be made from it. This is also covered along with the different market considerations that farmers need to take into account.

Typical liveweights

As the production of the suckler calf up until it is weaned from the cow is quite similar, this stage of the production cycle is not covered under each system. There is an assumed common weaning weight for male and female calves of 320kg and 290kg, respectively. Similarly, the first 10 to 12 weeks' rearing phase of the dairy calf is not included with an assumed common weaned calf weight of 90kg to 100kg liveweight.

Table 1 is an example from the 24-month steer beef (suckler) system of the layout and content of what is in the typical liveweights section.

Table 1: Typical liveweights at different stages of production

Stage of production	Liveweight (kg)	Average daily gain (kg/day)
Weanling (start weight)	320	1.33
Turnout	400	0.60
Housing (second winter)	585	0.90
Slaughter weight	700	0.95
Carcase weight	360-400	

Continued on next page

»From page 17

Example from the 24-month steer beef (suckler) system

This table shows that there are target weights which must to be achieved at the different stages of the production cycle. Otherwise, the age at slaughter increases or cattle are sold as lighter stores rather than being finished.

Not meeting target weight gains in one stage of the production cycle means they have to be made up for in another stage. This can often result in increased costs due to the need to feed more concentrates or else accept a lower finishing weight.

Management

How to achieve the different liveweights is explained in the management guidelines section for each beef system. While every detail is not covered the different levels of meal feeding, grassland management and the importance of having a proper parasite control programme are all outlined.

The profitability of most beef systems depends on achieving a significant amount of weight gain from grass. This means having a long grazing season but also ensuring that cattle are grazing high-quality leafy grass for most of the grazing season.

After this, making good quality grass silage is essential if costs are to be kept to a minimum. Knowing when to start feeding meals and how much to feed at the different stages for a particular beef system are important if liveweight targets are to be met. The guidelines provide this detail.

Inputs required

Feed accounts for the majority of the inputs on any beef farm. On most farms grass, silage and concentrates are the only feeds provided. Knowing how much of each of these is required to bring a beef animal from a weanling through to slaughter is important as it gives an idea of the costs involved and it also gives an indication of the carrying capacity of a farm.

Table 2 is an example from the 24-month steer beef (suckler) system of the layout and content of what is in the inputs required section. The information given both in the performance data in the liveweights section and the inputs required is based on data generated from Teagasc research in Grange Research Centre and Johnstown Castle.

Table 2: Inputs required

Concentrates	0.75t DM or 0.87t fresh weight
Grass	2.2t DM
Silage	1.6t DMF or 8t fresh weight
Stocking rate	2.7 animals/ha at 170kg organic N per ha

Table 3: Economics

		€
a) Weaned calf purchase value	320kg	
b) Carcase value	395kg	
c) Sales – purchases (B-A)		
Variable costs per head*		
Grass	2.2t DM	€88
Concentrates	0.87 tonnes	
Silage	Eight tonnes	€240
Veterinary	–	€39
Transport and levies	–	€40
d) Total variable costs		
Gross margin per head (C-D)**		

*Variable costs per head do not include interest or mortality costs.

**Subtract estimated fixed costs per head to calculate net margin per head.

Example from the 24-month steer beef (suckler) system

Where a farmer has an idea of the grass-growing ability of the farm, he can use this table to calculate how many cattle can be finished per hectare by summing the tonnes of grass and silage needed.

> The profitability of most beef systems depends on achieving a significant amount of weight gain from grass

In this system, to bring each steer from the weanling stage through to slaughter requires 3.8t of grass dry matter (DM) per head (2.2t grass DM and 1.6 tonnes silage DM). If a farmer can grow 10t of utilised grass DM per hectare, the farm can carry 2.6 steers per hectare (10t/3.8t). But if a farmer has the capacity to only grow seven tonnes of utilised grass DM per hectare, the sum works out at 1.8 steers per hectare.

Economics

Each system guideline has an economics section. The purpose of this is to give farmers the opportunity to work out what their likely gross margin per head would be from any system once they have covered the cost of the weanling/calf at the start and all of the variable costs involved in bringing the animal through to slaughter.

Table 3 is an example from the 24-month steer beef (suckler) system.

The inputs are what were outlined in the inputs section, along with veterinary, transport and levy costs. Everyone using this table has to put in:

- The cost they expect the weanling is going to be.
- The total cost of the concentrates fed.
- The value they expect to get for the carcase.

Gross margin does not take into account fixed costs such as machinery running, depreciation, etc. On many farms, these are approximately €500 per hectare but can be a lot higher depending on the level of machinery and the amount of buildings there are.

Market considerations

In recent years, the demands from different markets for different carcass specifications has brought the issue of what the market wants to the top of the agenda for both farmers and meat processors.

Some systems, such as bull beef, can be more affected than others by market specifications and it is important that farmers discuss in advance with their meat factories what they are producing, so that there is a clear understanding of what they want when it comes to specifications.

It also has to be remembered that not all systems will qualify for the Quality Payment System (QPS) bonuses as they may not meet the age, conformation, fat score or quality assurance criteria laid down at the time of slaughter. The guidelines outline for each system what the market considerations are.

Using the guidelines

Beef farmers should get their hands on a copy of the beef production guidelines either in their local Teagasc office or online. Find the system that matches your own beef system most closely and compare your targets to what is in the tables for that system.

Producers who are looking to buy stock should make an estimate of their likely margins per head by using the economics table in the system. Whatever system you are planning on, take into account what the market requires, especially when it comes to likely carcase specifications over the coming 18 months.