



# BEEF

December 2017

## Composition of cattle rations

This year due to the bad weather conditions, silage samples are returning with lower feeding value. Also in some areas, due to cattle being housed earlier, fodder will be short. Most farmers will buy some type of a ration to compensate for poorer-quality silage and stretch fodder supplies on their farms. A ration must supply three key components:

- energy – maintenance and weight gain;
- protein – for growth; and,
- fibre – to keep the rumen functioning well.

The percentage of different ingredients in your ration will dictate the level of energy and protein. Some farmers buy a ration based purely on the protein content, when in fact they should be buying it based firstly on the level of energy, and then on the percentage of

protein. Both are critical for liveweight gain over the winter.

Feedstuffs in Ireland are assigned two net energy values – UFL (for lactating animals) and UFV (for maintenance and weight gain in finishing animals). One UFL is equal to the energy content of 1kg of dried barley and all feed ingredients are expressed relative to barley. **Table 1** shows that some ingredients have lower levels of energy than others, e.g., palm kernel has only 85% of the energy of barley and wheat feed has only 75%, even though in both cases they have a higher protein value. Every farmer should know what ingredients are in their ration, and if you look at the label on the bag or the delivery docket, it will list the ingredients in descending order, i.e., highest inclusion rates to lowest inclusion rates. Most

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compounders bind rations together with molasses at 2-5% inclusion rates, so any ingredients listed after molasses are at very low levels.

Minerals and vitamins are also a key component of any ration and will be included at rates of 2% in most rations.

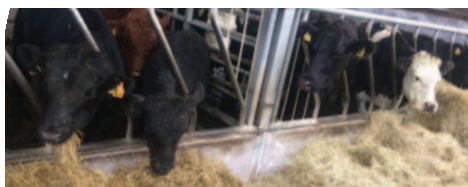
**Table 1: A guide to UFL and crude protein values for commonly used ingredients.**

Ingredient	UFL	Crude protein %	Main function
Barley	1.00	10	Energy feeds
Wheat	1.00	10	
Oats	0.90	10	
Maize	1.05	8.5	Protein feeds
Soya	1.01	48	
Distillers	1.02	25	
Peas	1.00	20	
Beans	1.00	25	
Corn gluten	0.91	20	
Rapeseed meal	0.91	34	
Citrus pulp	1.00	6	Digestible fibres
Soya hulls	0.92	10	
Beet pulp	1.00	10	Poorer-quality ingredients
Palm kernel expeller	0.85	14	
Wheat feed (pollard)	0.75	16	
Sunflower oil	0.55	24	
Molasses	0.78	4.5	

## Current concentrate prices

In terms of the value of straights, each ingredient is compared to the best two sources of energy and protein, i.e., barley and soya bean meal. **Table 2** shows the current price being paid for these ingredients and whether or not they are better value than purchasing either barley or soya bean meal.

**Table 2** shows that this year maize distillers is good value and could be purchased with barley and soya to feed a simple three-way mix. In some cases



*A good value concentrate will help you extend fodder.*

where farmers have to stretch fodder, feeding a three-way mix or a single straight will be a solution to extending fodder over the winter period.

**Table 2: Current prices for ingredients and how they compare to barley and soya.**

Ingredient	Current price €/t	Value relative to barley and soya €/t
Barley	190	190
Soya bean meal	355	355
Maize	210	210
Wheat	200	193
Maize distillers	200	227
Rapeseed meal	235	228
Soya hulls	215	188
Beet pulp	210	199
Citrus pulp	200	178



## RESEARCH UPDATE

## The best from bulls

Aidan Moloney of Teagasc Grange discusses fatness and meat colour of suckler bulls.

Bulls grow faster than steers but are more aggressive and stress sensitive, which can result in a dark undesirable meat colour. At pasture, there is a greater risk of finishing bulls producing darker meat compared to bulls finished indoors. Teagasc Grange researchers fed 13-month-old continental bulls of 425kg liveweight three different diets:

- (a) 200 days at grass;
- (b) 100 days at grass and then concentrate *ad lib* and grass silage indoors for 100 days; and,
- (c) 200 days indoors fed grass silage and concentrate *ad lib*.

The pastures the bulls grazed were perennial ryegrass. When the study was completed, all bulls were slaughtered at 19 months of age. They were transported in their grazing groups directly to a commercial abattoir for slaughter. The bulls in Group C that were fed indoors for the 200 days had the heaviest carcasses (437kg), the bulls in Group B that were housed for 100 days after being grazed for 100 days were the next heaviest (399kg), and the bulls in Group A that were grazed for the full 200 days produced the lightest carcass weights (364kg).



*Carcass fats were lowest for the grazed bulls.*

The high-priced beef markets require carcass specification levels of 2+ or better for fat cover. Carcass fats were lowest for the grazed bulls (Group A) at 2-, while Groups B and C had adequate levels of fat cover (3-, 3+).

All muscle pH values were within the normal pH range (i.e., 5.4-5.8) indicating that bulls did not experience pre-slaughter stress and no carcasses were deemed "dark cutters" by abattoir personnel. This study shows that muscle (meat) colour was satisfactory from continental bulls slaughtered off grass only, but that fat covers on these carcasses would not meet the current requirements of premium markets for bull beef.



## HEALTH &amp; SAFETY

## Look after yourself

The low point for workload occurs in December. Christmas is a time when people relax and enjoy the festive season with family and friends. Make sure that electrical safety switches and smoke alarms are in working order in the home. It's a time for reflection. Have you completed the new farm safety risk assessment document? You can get a copy from your local Teagasc office. Farmers, on average, both smoke and drink alcohol less than



*Give yourself a check-up while workload is low.*

the general population but are also less likely to get a health check! January is the month for new year's resolutions – consider your health practices.



## BETTER FARM UPDATE

## Winter fodder

John McSweeney of Lissarda, Co. Cork is making good use of dairy-bred yearlings.

John McSweeney keeps 29 cows on 24ha near Lissarda in Cork. His sucklers are predominantly Angus and he also rears 100 dairy beef calves, finishing some and moving the rest on as stores. His own suckler calves are finished as bulls, typically under 16 months, with heifers finished at 20 months. John is confident that his average winter period will be 4.5 months from now, when early turnout of very light stock is taken into account. This is one of the advantages of having lots of your spring stocking power in the form of yearling dairy-bred calves. He will have calves coming in January, but there is a good degree of shed space that can be utilised should weather not allow for the turnout of heavier suckler cows.

John has all stock housed since late October and has nice covers of grass to carry into the spring for early grazing.

Silage quality results were excellent on the farm, with baled silage for weanlings and finishers coming in at 71-76% DMD. Some lower-quality

silage at 66% DMD will be fed to dry cows prior to calving.

Weanlings are housed on high-quality silage, along with 1kg of a 19% protein ration and 1kg of a molasses-based liquid feed. This is fed with a diet feeder as part of a total mixed ration (TMR). The suckler bulls will be built up on the 4kg ration before moving to the *ad lib* ration for the last 100 days. The target carcass weight is around 380kg.

John previously finished dairy bulls under 16 months, but has decided against it this year and will castrate all males with a view to finishing late next year or selling live off grass as steers.

All have been clipped and a pour on for lice has been administered. Dosing will take place for fluke and worms over the coming weeks.

John completed a fodder budget to assess his winter requirements (Table 3). He has 470 bales at 30% dry matter (600kg). When this is calculated out it equates to 423t equivalent of silage. This means he has adequate supplies for a predicted winter of 4.5 months.

The main aim on this farm once Christmas is over is to plan to get nitrogen (N) out in mid January with a view to turning stock out as soon as possible once fertiliser has been applied.

**Table 3: Silage requirements.**

Category	Requirements per animal (t)	Number of animals	No. of bales for 4.5 months
Suckler cows	1.4	29	183
Weanlings (350kg)	0.7 (less 20% concentrates)	20	50
Weanlings (250kg)	0.54 (less 30% concentrates)	100	170
Total requirement			403