

BEEF

November 2021

Know your silage quality and save money

Edited by
Martina Harrington,
Cattle Specialist

Quality silage is the cornerstone of good animal performance and profitability in all beef systems. The higher the dry matter digestibility (DMD) of a silage, the less concentrate is required to achieve optimum performance, thus reducing cost and increasing profit. As seen in **Table 1**, when finishing animals and targeting a performance of 1kg/head/day, a 66 DMD silage will require a supplementation rate of 7kg of concentrate per head per day. In contrast, a 74

DMD silage will require a supplementation rate of 4kg per head per day. Over a 100-day finishing period, with a ton of concentrate costing approximately €310, that is a saving of €124 per head or €2,480 on 20 animals. For store cattle going back to grass, if silage is over 74 DMD, concentrate may not be required. Be mindful of protein in weanling diets. They require an overall diet of 14-16% crude protein (CP) in the dry matter to allow for skeletal growth.

Table 1: Concentrate supplementation and silage quality. Data source – Teagasc Grange.

Silage quality	66 DMD	70 DMD	74 DMD
Finishing cattle target 1kg average daily gain (ADG)	7kg	5.5kg	4kg
Cost over 100 days at €310/t concentrate	€217	€171	€124
Store cattle target 0.6kg ADG	2kg	1.25kg	0.5kg
Cost over 100 days at €310/t concentrate	€62	€39	€16
Weanlings target 0.6kg ADG	3kg	2kg	1kg
Cost over 100 days at €310/t concentrate	€93	€62	€31

Labour is also a key consideration on beef farms. If feeding 1kg/head/day of concentrate to 40 cattle, that is two large buckets, whereas 3kg of concentrate is six large buckets. In finishing cattle, if feeding greater than 5kg of concentrate/head/day, the feed must be split, creating more work. It is therefore critical that you test your silages now to see how much concentrate and what protein level you will require over the winter. At approximately €32 per sample, it is a cheap test. Please contact your Teagasc advisor to discuss.

Best practice when testing silage:

- take samples early in the week (Monday to Wednesday) to avoid sample deterioration in post;
- use a long core sampler to sample three to five well-spaced points on various areas of the surface on the silage pit – the core will sample a profile through the layers of the pit – take different samples for first and second cuts if layered one on top of the other in a pit;
- discard the top 100mm of each core before mixing into a composite sample – the final sample should weigh approximately 500g;
- alternatively, sample an open pit and take 10 grab samples in a “W” pattern across the pit face – ideally, take the sample behind the outer surface of the pit;
- for bales, use the corer to sample three to four bales per cut located at various locations in the storage stack – tape up sample holes to avoid spoilage;
- alternatively, sample three to four bales per cut by grabbing random hand samples throughout the bale when freshly opened; and,
- put the sample into a zip-tie plastic bag – exclude air, seal well and post immediately.

10 things to do before housing

- ✓ Test your silage.
- ✓ Formulate diets for all groups of stock to achieve optimum performance.
- ✓ Draw up a comprehensive health plan.
- ✓ Vaccinate all cattle for bovine respiratory diseases (BRDs) at least two weeks before housing.
- ✓ Dose all weanlings for lungworm using an ivermectin three weeks before housing to clean their lungs and allow them time to heal before housing.
- ✓ Check all shed gates, calving gates, feed barriers, electrics, yard lights, etc., to see if they are fit for purpose. Do any repair work long before housing.



Test your silage before housing.

- ✓ Service and repair all machinery to be used during the winter.
 - ✓ Check all PTOs have covers and chains.
 - ✓ Clean and tidy the tractor making sure all lights are working and windows are clean.
 - ✓ Clean and tidy the farmyard to prevent accidents.
-

Know your number

The carbon footprint of a farm refers to how many greenhouse gases (GHG) are emitted for every kg of milk or meat produced. After each audit, all certified dairy and beef farmers receive a Farmer Feedback Report from Bord Bia, including the farm's carbon footprint, calculated using a model developed by Teagasc.

Your most recent carbon footprint is displayed on the first page of the report, alongside your previous audit result (where available), and the typical carbon footprint of farms within your category (**Table 2**).



Table 2: Sample carbon footprint calculation.

Parameter	Unit	Current assessment (production year 2020)	Percentage change from previous (production year 2018)	Average suckler to weanling store farms
Carbon footprint – beef enterprise	kg CO ₂ /kg beef live weight	11.75	-5%	13.28



To view your carbon footprint, scan the QR code, go to <https://farm.bordbia.ie> or call the help desk at 01-524 0410.

HEALTH & SAFETY

Prevent pain by avoiding lifting

The European Occupational Safety and Health Agency (EU-OSHA) is currently running the 'Healthy Workplaces Lighten the Load 2020-22' campaign. Irish farmers have very high levels of musculoskeletal disorders (MSDs), with 56% affected. Furthermore, farmers over 45 years old report having 2.4 times more back pain, and 6.3 times more arthritis than younger farmers. It is clear that MSDs build up as farmers age, so the younger you start prevention activities the better. To prevent these painful and debilitating conditions 'lighten the load',



A ruptured disc is debilitating.

as lifting heavy loads causes wear out of the body's joints. Every farmer needs to have the key instinct to risk assess all loads before lifting and consider alternative ways of lifting or moving them. There is enormous potential to cut heavy

lifting in farming, such as by putting wheels under gates and heavy objects, using hydraulic loaders and designing facilities to cut heavy lifting. Also, seek training on manual handling. Further information on the EU-OSHA Lighten the Load campaign can be found at: <https://healthy-workplaces.eu/>.



RESEARCH UPDATE

Difference between barley and oats?

M. McGEE, R. KENNEDY, E.G. O'RIORDAN and A.P. MOLONEY of Teagasc Grange, Co. Meath report on research investigating the comparison of barley- or oats-based rations, with or without peas and beans, as supplements to grass silage for finishing beef cattle.

The intake, growth and carcass traits of late-maturing suckler steers (initial liveweight: 596kg) offered barley- or oat-based concentrate rations, with or without peas or beans, as supplements to grass silage over 146 days, were examined. Animals were accommodated in a slatted-floor shed and individually offered grass silage (dry matter digestibility: 725g/kg; crude protein (CP): 152g/kg dry matter) *ad libitum* plus 4.0kg dry matter daily (in two feeds) of one of six concentrate supplements:

1. Rolled barley (922g/kg fresh weight).
2. Rolled barley (622g/kg) plus flaked peas (260g/kg).
3. Rolled barley (742g/kg) plus flaked beans (180g/kg).
4. Rolled oats (922g/kg).
5. Rolled oats (642g/kg) plus flaked peas (280g/kg).
6. Rolled oats (732g/kg) plus flaked beans (190g/kg).

All concentrates contained 50g/kg molasses



The feeding value of oats was equal to barley.

and were balanced for minerals/vitamins. Concentrates containing peas or beans were formulated to have the same CP concentration (144g CP/kg dry matter); the corresponding value for those not containing a protein ingredient was 116g CP/kg dry matter. Intake, growth, carcass weight, conformation and fat score, and ultrasonic measures of body composition did not differ significantly between steers offered barley and oats, or cereal 'protein' and beans; however, carcass weight was lower for those offered peas. In conclusion, under the conditions of this study, the feeding value of oats was equal to barley, and beans were superior to peas.