



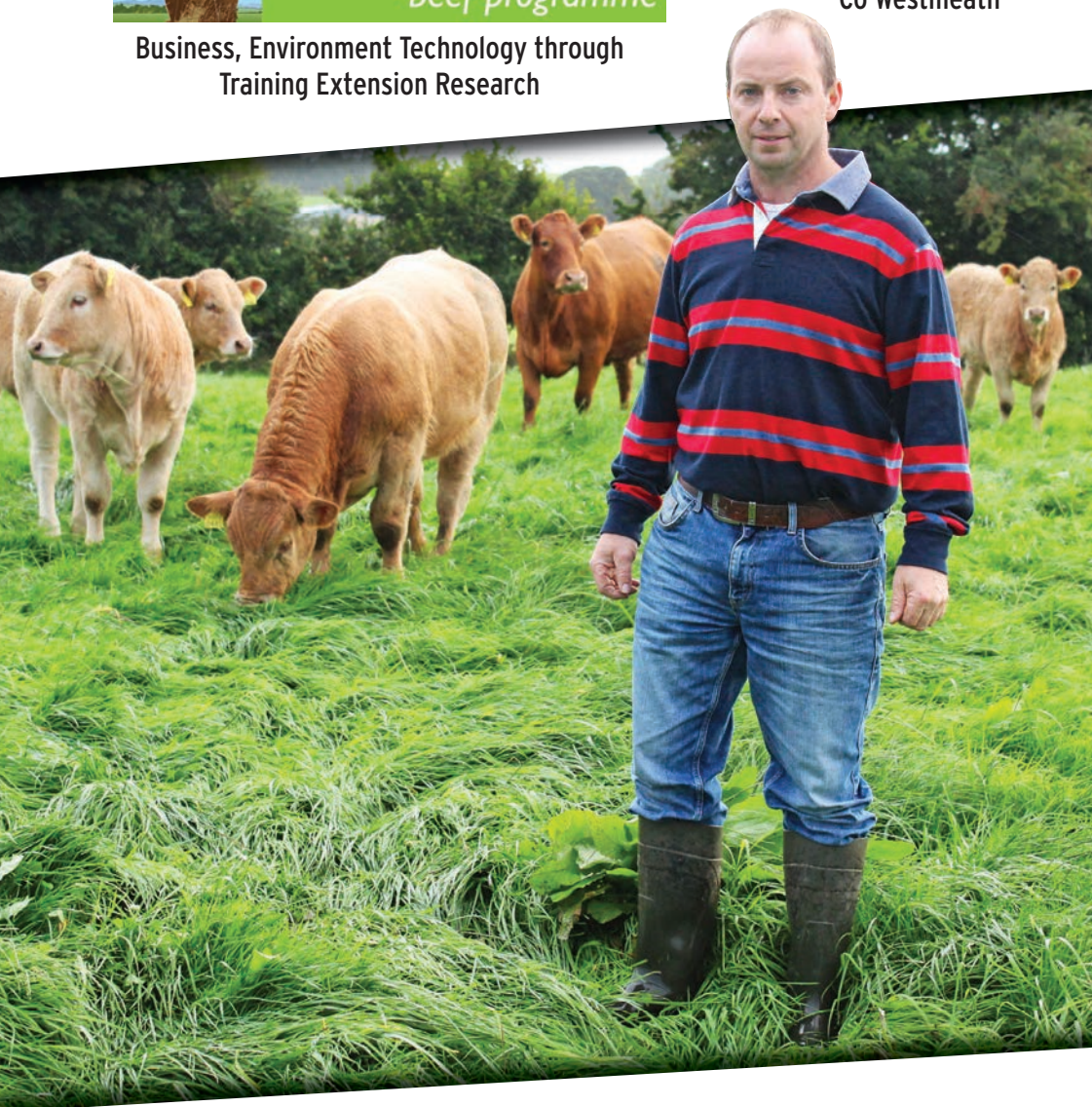
IRISH
FARMERS
JOURNAL

PHASE 2 - FARM WALK

10 September 2014

Chris McCarthy,
Crookedwood
Co Westmeath

Business, Environment Technology through
Training Extension Research



A Teagasc/Irish Farmers Journal initiative, supported by industry sponsors





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The Teagasc/Irish Farmers Journal BETTER Farm Phase 2 management team (clockwise, from top left): Adam Woods, Paul Crosson and Paul Maher, Teagasc, Darren Carty and Kieran Mailey, Irish Farmers Journal, and programme advisers Catherine Egan, Peter Lawrence and Alan Dillon.

**Exclusive content in the
Irish Farmers Journal
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Welcome note

I would like to welcome everyone to our farm today. Since joining the Teagasc/*Irish Farmers Journal* BETTER farm programme in 2012, my farming enterprise has undergone many changes. These changes were all simple steps but have proved to be very beneficial. Completing a three-year plan was the first major step. It was clear that there was huge scope for improvement in the suckler enterprise.

I feel the work that has been done so far has been worthwhile when I see the benefits it has brought. Finally, I would like to thank the team of advisers Paul Fox, Adam Woods and Catherine Egan. I especially acknowledge the support from my wife Philomena and children Sinead and Brendan.

CHRIS MCCARTHY

On behalf of the management team of the Teagasc/*Irish Farmers Journal* Better Farm beef programme, I would like to welcome you to today's event. Teagasc and the *Irish Farmers Journal* have worked closely together over the last five years to make the programme a success. This would not have been possible without the commitment and drive of the participants.

Chris has been very open to new ideas and advice and we commend him for this and the improvements he has already put in place. With his management ability and commitment, we have no doubt that he will continue to push his business forward and we look forward to helping him achieve his potential.

ADAM WOODS, PROGRAMME MANAGER

PHYSICAL SYSTEM

Measure	2011	2014 (projected)
	Suckler to weanling	Suckler to weanling
Stocking rate (LU/ha)	2.0	2.3
Land base (adj ha)	29	28

PURCHASES

Purchases	6-8 replacements	6-8 replacements
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LIVEWEIGHT OUTPUT

Liveweight output (kg/ha)	525	735
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FINANCIAL SYSTEM

Output value (€/ha)	1,100	1,595
Variable costs (% of output)	€451 (41%)	€735 (41%)
Gross margin (€/ha)	649	860



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Increasing farm output

Chris McCarthy operates a suckling-to-weanling system on his farm, which is located a short distance from Crookedwood, Co Westmeath.

Chris farms 28 hectares (70 acres) of relatively free-draining land, which is situated entirely in one block. With full-time employment off-farm, Chris is focused on making all time spent on farm as productive as possible.

Over the years, Chris operated a mixed farming system, consisting of cattle, sheep and some tillage crops. As the time constraints from off-farm employment became more demanding, the decision was taken to make the system much simpler to operate. The focus is now solely on the spring-calving suckler herd, targeting the weanling market.

The suckler herd has increased from 30 to 55 cows. Cow type is predominantly Limousin cross with a small number of Charolais cross and Simmental cross.

All cows calve within a 12-week period, commencing

in late January and concluding in early April.

Chris sources his replacement breeding stock from known herds and purchases them just prior to calving.

This further simplifies his system, as it eliminates another group of stock from the farm.

Cows are served with one of two Charolais stock bulls, which are sired by Balthazar and CF52.

Bull weanlings are sold at 10 months of age at a typical weight of 375kg liveweight, while heifers are sold at an average liveweight of 345kg.

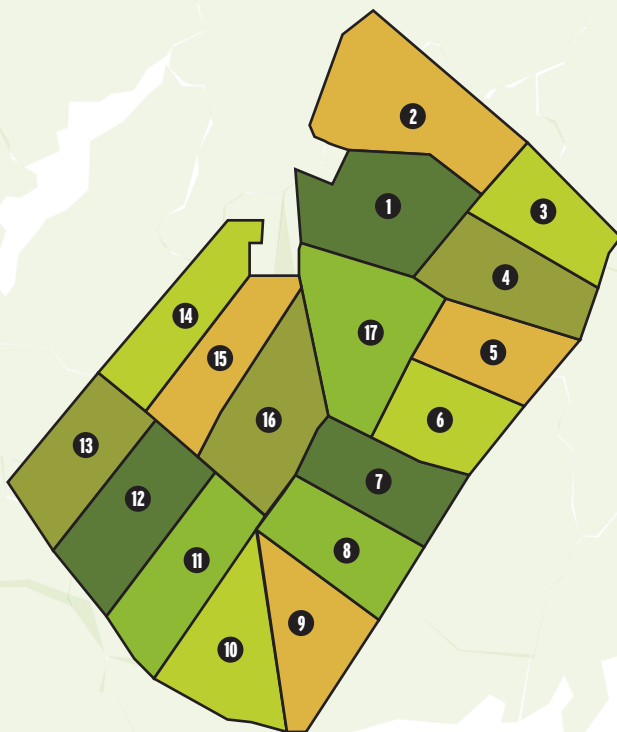
Over the past number of years, Chris has significantly increased the amount of liveweight produced per hectare of land on farm.

This has been achieved through increased cow numbers, calving earlier and a more compact calving season, better grassland management, purchasing quality replacement heifers and investing in five-star terminal stock bulls.

This increase in output, combined with improved technical efficiency, has led to a significant improvement in farm gross margin.



Chris McCarthy's farm





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Physical and financial performance

The use of accurate information, in terms of financial and physical data, is crucial, not only in highlighting the strengths and weaknesses of a farming system, but in laying down targets and keeping a focus.

The profit monitor is a valuable tool allowing farmers to examine how the farm is performing and to measure physical and financial performance under a number of key headings such as:

- Gross output/ha
- Gross margin/ha
- Variable costs/ha
- Stocking rate
- kg liveweight/ha

Chris has been completing profit monitors since 2010. This gives him a better overall picture of how his farm is performing, rather than focussing on one year where individual circumstances may give a distorted picture, for example increased production

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Chris's profit monitor results have shown a steady increase in output value since joining the BETTER farm programme in 2012



costs in 2012. It will also allow Chris to identify areas of weakness that need improvement.

Insufficient output is one of the main reasons for poor profitability on suckler-to-weanling farms. If gross margin is to be improved, the level of output needs to be addressed.

Output can be targeted in terms of kilograms of liveweight produced per livestock unit or on a per hectare basis.

Chris's profit monitor results have shown a steady increase in output value since joining the BETTER farm programme in 2012.

The farm has increased the

Table 1: Profit monitor yearly comparison on Chris McCarthy's farm

Year	Area farmed (ha)	Stocking rate LU/ha	Lwt output kg/ha	Value of output €/ha
2011	28.2	2.00	525	1,100
2012	28.2	2.01	642	1,331
2013	28.2	2.20	628	1,394
2014*	28.2	2.30	735	1,595

*Predicted physical and financial performance for 2014



stocking rate by 15% since 2010, while the value of output has increased by 40% over the same period.

Farm gross margin increased from €494/ha in 2010 to €721/ha in 2012. The fodder crisis of 2013 reduced gross margin to €410/ha, but provisional figures for 2014 indicate that gross margin will recover significantly to a projected €860/ha.

During the programme, Chris has reduced his spending on purchased concentrates, while maintaining animal performance. Earlier weaning of his suckler cows ensures that they are housed

in very good condition, saving on silage costs.

Recent investment in reseed- ing ensures that cows and calves are turned out to grass early in spring, but it also extends the autumn grazing season. Veterinary costs per livestock unit have remained steady over the years.

Grassland costs, such as fertilizer and lime, have increased throughout the programme, largely due to correcting soil pH and building soil P and K levels. However, the investment in grassland is already paying off, with increased grass growth, yields and animal performance.

	Feed	Fert/lime	Vet	Contractor	Other	Gross margin
	92	146	69	89	44	649
	158	207	94	66	77	721
	384	286	75	137	99	410
	161	223	104	147	100	860



Farmyard layout

Off-farm employment prioritises time management, so the farmyard is well designed and laid out. Chris is continuing to upgrade facilities in keeping with his target of optimising labour efficiency.

Work is currently on-going to install up to seven calving pens in the loose shed (number 1) on the yard map, to facilitate the high numbers of cows during the peak of the 12-week calving period.

This shed is ideally located in the yard, being close to the slatted shed where the dry cows are housed.

Calved cows and their calves can then be easily moved to the slatted pens with creep areas until conditions allow turnout to grass.

The main features of the farmyard are as follows:

- A five-bay slatted house with two rows of pens separated by a 4.6m feeding passage. This gives ample room for feeding silage and concentrates to cattle.

- A purpose-built slatted unit with an adjoining calf creep and calving pens. Calving gates are used to maximum effect. The feeding barrier between the slats and the feed passage is self-locking to prevent calves from escaping from the pens and soiling the silage.

Water troughs and bowls are strategically located, with a number of creep gates between the slats and the creep area. A CCTV camera is used to good effect in the calving pens and is connected to Chris's mobile phone. The loose area is easily accessible for cleaning out and disinfecting.

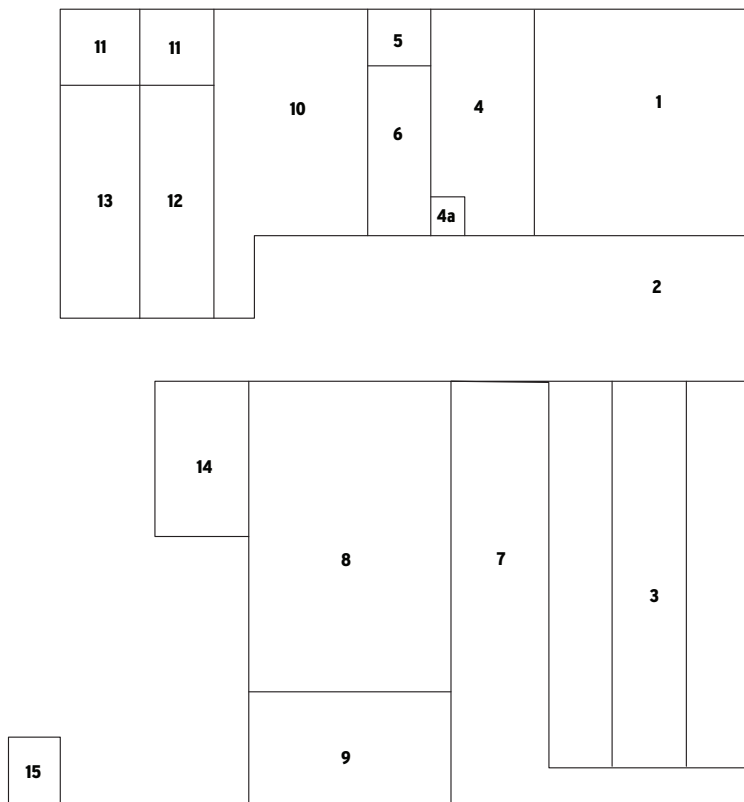
- An isolation box for sick/casualty animals (no. 5 on yard map).

- A locked chemical store (no. 4a) to comply with cross compliance regulations and participation in the Quality Assurance scheme.

- A storage area for farmyard manure, with channels, adjoins the walled silo.

- A good-sized cattle assembly yard and cattle crush between the slatted shed and the walled silo.

Figure 1
Chris McCarthy's yard



- | | |
|----------------------------------|------------------------------|
| 1 Loose shed | 8 Walled silo |
| 2 Clean yard | 9 Silage apron |
| 3 Slatted shed | 10 Hay and straw shed |
| 4 Store | 11 Calving area |
| 4a Chemical store | 12 Slatted pens |
| 5 Isolation box | 13 Calf creep area |
| 6 Stores | 14 FYM store |
| 7 Assembly yard and crush | 15 Effluent tank |

Pro-active health planning

Herd health plays a key role in optimising the output and profitability on livestock farms. The consequences of poor herd health include reduced thrive, higher mortality, additional labour and increased veterinary costs.

As part of his farm plan, Chris consulted with the BETTER farm management team and his local vet to draw up a herd health plan.

This plan identified the key areas where his herd is susceptible health-wise and sets out measures to address potential risks.

Cows are vaccinated with a scour vaccine before calving to prevent the spread of rotavirus and coronavirus in calves. All cows can be vaccinated on the same day as the calving spread is so compact.

Before the breeding season starts, cows are vaccinated against Leptospirosis and BVD to help reduce the risk of any fertility issues in the herd.

At turnout, and again in autumn, cows are supplemented with magnesium to prevent grass Tetany.

Around eight weeks after housing, cows are treated for liver fluke. Dry cow minerals are fed from six weeks prior to calving.



Chris puts a lot of emphasis on having a clean environment at calving time. Hygiene plays a key role in minimising a calf's exposure to disease.

Calving pens are disinfected and bedded with clean straw regularly. Calf navels are dipped with iodine and Chris ensures that calves get adequate colostrum as soon as possible after birth.

Cows and calves are turned out to grass as soon as weather conditions permit and Chris feels that this is important in reducing the risk of calf scour.

During the grazing season, calves are treated for roundworm and hooose on three occasions, with the first dose in early June, the second in mid-July and the third dose given in early September, two weeks prior to the commencement of weaning.



What size paddock?

Before joining the BETTER farm programme, the farm consisted of eight large fields. In order to increase output and improve grass utilisation on the farm, Chris divided the farm up into smaller, more manageable paddocks.

Fields were divided by installing additional permanent and temporary fencing. Farm roadways allowed stock to be easily moved to and from the farmyard, which suits the one-man system.

Water troughs were positioned in locations where they were optimised by multiple paddocks rather than being placed in the corner of the field. The aim on the farm is to grow grass in three weeks and graze it in three days. Hence, three-day paddocks were set up. A common question arises regarding correct size of paddocks when dividing up fields. An example of calculating the grazing area is outlined in Table 1 below and this assumes a group of 10 cows and 10 weanlings grazing on free-draining, productive ground.

Table 2: Grazing area relative to stock numbers

10 cows and 10 weanlings	0.50Ha (1.25 acre)
20 cows and 20 weanlings	1Ha (2.5 acres)
30 cows and 30 weanlings	1.5Ha (3.75 acres)
40 cows and 40 weanlings	2Ha (5 acres)

Table 1: Calculating grazing area of paddocks

Stock numbers	Liveweight	Days	Total kg liveweight
10 cows	650Kg	3	19,500kg
10 weanlings	200Kg	3	6,000kg
		Total	25,000kg
			@ 2% body weight
		Intake per day	510kg
		Target cover per grazing cover	1,200kg
		510/1200 = 0.50Ha (1.25 acre)	



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Maximising grass utilisation

Over the past number of years, the number of grazing divisions on the farm has increased from eight large fields to 17 individual grazing paddocks. Paddocks are grazed in three days and are typically allowed to recover over a three-week period.

Paddocks allow for better control of grass, increased grass growth and improved animal performance.

Cattle get used to being moved on a regular basis and this helps when animals have to be brought into the yard over the course of the grazing season.

When Chris was setting up his paddocks, he placed the electric fence wire high to allow calves to forward creep graze ahead of the cows. This ensures that calves always have access to the most digestible grass available.

Since 2009, Chris has been measuring grass growth using a plate meter on a weekly basis. He uses this information to establish the number of grazing days ahead for livestock.

He can decide if he needs to take out surplus grass as baled silage or spread extra fertilizer if he identifies a possible deficit.

Earlier this year, Chris started to use the online PastureBase Ireland programme, developed by Teagasc.

The programme allows him to compare grass growth on his farm against other farms in the BET-

Table 1: Autumn grazing for Chris McCarthy's farm

Week	Grazing area		Actual area grazed per week
	per day (ha)	per week (ha)	
10-17 Oct	0.6	4.2	
17-24 Oct	0.6	4.2	
24-31 Oct	0.6	4.2	
31 Oct-7 Nov	0.6	4.2	
7-14 Nov	0.53	3.73	
14-21 Nov	0.53	3.73	
21-28 Nov	0.53	3.73	
Total		28Ha	

TER farm programme or local region.

Chris aims to move cattle into paddocks at the ideal pre-grazing grass height of 10cm to 12cm and grazing down to 3.5cm before moving cows onto the next paddock.

Utilisation of grass is key in this system, with a target utilisation of 80%. This is undoubtedly reliant on weather conditions.

Maintaining high levels of grass growth throughout the season is dependent on factors such as correcting soil pH, addressing P and K deficits and continuing with his reseeding programme.

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Earlier this year, Chris started to use the online PastureBase Ireland programme, developed by Teagasc

AUTUMN GRASSLAND MANAGEMENT

There is plenty of potential on Irish livestock farms to make better use of grass in autumn time. Every additional tonne of grass dry matter utilised is worth €90/ha.

Utilising the extra grass pro-



duced and prolonging the grazing season should be the key objective on livestock farms this autumn.

The focus of autumn grazing management is to increase the number of days at grass and animal performance, but also to set the farm up during the final rotation to grow grass over winter and provide early grass the following spring.

TOP TIPS FOR AUTUMN GRAZING

➔ On dry farms, start closing paddocks from 10 October.

➔ On heavy farms, start closing paddocks from 1 October

➔ Aim to have 60% grazed four weeks later.

➔ Target best-quality swards for priority stock.

➔ Aim for an average grass cover of 7cm to 8cm in late September.

➔ Increase rotation length from 30 days in early September to 40 days by October.

➔ Graze driest paddocks first near the sheds and do not re-graze after closing.



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Calf performance

Chris McCarthy is achieving excellent growth rates with the calves in his herd. This can be attributed to:

- Good herd health and stock management throughout all stages of the year.
- Selecting stock bulls with good terminal traits leading to heavier weaning weights.
- Selecting replacements bred from cows with good maternal traits, with an emphasis on good milk yield to drive weaning weight.
- Excellent grassland management to ensure that cows are producing milk so that calves meet their full growth potential.

The average daily liveweight gain of calves from birth to weaning on the farm over the past five years is outlined in Table 1.

Bull calves have gained 1.36kg per day on average, while heifers averaged 1.20kg per day.

This performance is well ahead

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Compared to the national average liveweight gain, Chris's weanlings would be generating an additional €7,600 in terms of farm sales from his herd of 55 cows

of the national average performance for bull and heifer calves, which currently stands at 1.15kg per day and 1kg per day, respectively. This extra liveweight gain has led to heavier sale weight of weanlings in early winter.

Compared to the national average liveweight gain, Chris's weanlings would be generating an additional €7,600 in terms of farm sales from his herd of 55 cows. Considering that most of this weight gain is achieved from a grass-only diet, the actual margins are more than likely higher.

ACHIEVING WINTER TARGET GAINS

The cost of maintaining weanlings over winter can quickly become very expensive if they are not achieving an adequate level of performance.

The target on the BETTER farms is to have weanlings gaining a minimum of 0.6kg of liveweight gain per day throughout the winter period.

Table 1: Comparison of daily liveweight gain

	Bulls (ADG from birth)	Heifers (ADG from birth)
Chris's weanlings (2009-14)	1.36kg/day	1.20kg/day
National average (NA)	1.15kg/day	1kg/day
Weight difference in 10 months over NA	+63kg	+60kg
Value of extra weight *	€145	€132
Additional sales on 55 cows	€7,614	

*Assuming prices of €2.30/kg for bulls and €2.20/kg for heifers



Making good-quality silage is essential to keep weanlings thriving over winter without a heavy reliance on concentrates.

Table 2 outlines the amount of concentrate supplementation required for silage of different

nutritional quality (DMD). Over a 120-day winter, feeding a 70% DMD silage and 1.5kg/day of meal versus a 60% DMD silage and 3.5kg/day of meal could save up to €72 per weanling.

Table 2: Supplementation rates for different silage quality

Forage	Meal feeding per day (16% ration)	Winter period 120 days total meal	Cost (assuming €300/t)
76% DMD silage	0	0	0
70% DMD silage	1.5kg	180kg	€54
65% DMD silage	2.5kg	300kg	€90
60% DMD silage	3.5kg	420kg	€126



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A to Z of FARM SAFETY



A

Always consider **SAFETY** on the farm.

B

BULLS: Beware of aggressive animals on your farm. Be sure to cull cross bulls, cows, rams, stags from your farm.

C

CHILDREN: Always supervise children on the farm, especially during machinery operations.

D

DRAWBARS: Never let anyone ride on the drawbar of your tractor or any other machinery. Do not allow anyone ride in an open trailer.

E

ELECTRICITY can kill. Beware of overhead power lines and buried cables.

F

FORESTRY and tree felling: Take care not to be caught under falling trees and logs. Attend a chainsaw and tree felling course.

G

GAS: Slurry gases can kill. Remove all stock from slatted sheds before agitating. Never enter a shed when slurry is being agitated. Close agitation point after each use.

H

HORSES: Some horses can be dangerous. Always wear safety equipment e.g. helmet when handling or riding horses. Be wary of being kicked by horses.

I

INSPECT: Check safety equipment on your farm regularly, e.g. machinery safety covers, PTO guards, fire extinguishers and First Aid kits.

J

JAWS: Keep away from blades of shear grabs, mowers, revolving knives and chainsaws.

K

KEEP CLEAR of machinery such as tractors, HiMacs, bulldozers when they are working. Stay in their line of vision and wear a high visibility jacket or vest.

L

LIVESTOCK: Be wary of being kicked or crushed while working in pens, yards or fields with livestock.

M

MACHINERY: Ensure safety covers and PTO guards are in place and working on all farm machinery. Avoid wearing loose clothing near machinery.

N

NEVER start a tractor when you are standing on the ground alongside it.

O

OVERTURN: Remember tractors have a high centre of gravity and can overturn easily. Drive slowly over uneven ground.

P

PESTICIDES and other toxic chemicals: Keep them out of the reach of children. Read the label and follow the manufacturer's advice on proper use, storage and disposal.

Q

QUAD bikes: Always wear a safety helmet when using a quad bike. Avoid letting children on them. Drive slowly over rough ground.

R

ROOFS: Use a roofing ladder when working on farm sheds. Stay clear of skylights.

S

SAFETY: Complete and update your Risk Assessment Document. This can be completed online at www.farmsafely.com. Take action on risks highlighted.

T

TRAINING: Attend a Farm Safety training course NOW at your local Teagasc centre.

U

UNTIDY: Poorly maintained farmyards/farm can lead to accidents. Keep your farmyard/farm neat, tidy and well maintained.

V

VISION: Your eyesight is vital – protect it. Wear safety goggles where your eyes are in danger.

W

WARNING SIGNS should be erected to warn the public of dangers or hazards such as "Tractors Crossing", "Beware of Bull".

X

XTRA: Be extra careful when there are children or elderly people on the family farm. Restrict access to dangerous ponds, tanks, unstable heights etc.

Y

YOU and YOUR FAMILY: Take every precaution to remain safe and healthy. Assess every farm task carefully for potential dangers or risks. Organise and complete tasks with safety in mind.

Z

ZOOONOTIC DISEASES and infections which can be transmitted from animals to humans. E.g. TB, Toxoplasmosis, Weil's Disease, E.Coli ... Wear gloves when handling livestock. Always wash your hands after being in contact with animals.