Teagasc/Irish Farmers Journal

BETTER FARM BEEF CHALLENGE

AUTUMN WALKS 2019

IRISH FARMERS JOURNAL farmersjournal.ie

teagasc
Agriculture and Food Development Authority
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John and James Flaherty
Cordal, Castleisland, Co Kerry
Farm walk date and time:
Tuesday 10 September 5pm

Thomas Holmes
Tullysleve, Ballina, Co Mayo
Farm walk date and time:
Thursday 12 September 5pm

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Teagasc/Irish Farmers Journal

BETTER FARM BEEF CHALLENGE

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Adam Woods
Beef editor, Irish Farmers Journal

On behalf of the stakeholders of the Teagasc/*Irish Farmers Journal* BETTER Farm beef challenge, I would like to welcome you to our two BETTER farm autumn open days. We hope you will find these farm walks informative and practical and that you can take home some key messages to improve the profitability of your farm.

While increasing output and subsequent gross margin has been a central theme to all farms in the programme, it is the manner in which this higher output is achieved that brings the greatest learnings. All of the programme farms have placed a huge emphasis on grass and growing and utilising as much of it as possible in a bid to reduce costs – particularly as we face into autumn grazing. Achieving high animal performance over the winter is also critically important. Looking at factors such as ventilation and winter health regimes is key here. Most importantly, I want to thank John and James and Tommy and their families for opening up their farms to public view. With the support of Martina Harrington, Tommy Cox and John Greaney, as well as their local Teagasc B&T advisers Eugene O'Doherty and Tom Kelly, I have no doubt that these two farms will continue to grow and improve their businesses in the years ahead. Finally, I would like to acknowledge the continued support of the programme sponsors FBD, ABP, Dawn Meats and Kepak.

Martina Harrington
Teagasc/ Irish Farmers Journal BETTER farm beef challenge manager, Teagasc

On behalf of the Teagasc/*Irish Farmers Journal* BETTER Farm beef challenge management team, I would like to welcome you to the farms of John and James Flaherty and Tommy Holmes. It has been a pleasure to work with both farms and I want to thank them, and their families, for their openness and willingness to work with us over the last two and a half years. I would also like to take this opportunity to thank their local Teagasc B&T advisers Eugene O'Doherty and Tom Kelly and the Flahertys' previous adviser Edward O'Mahoney for their contribution to the programme.

The BETTER Farm beef challenge has been designed specifically to demonstrate how the adoption of key technologies can benefit suckler farms both practically, in the day-to-day running of their farms, and financially. The strength of the programme is that these technologies, such as improved grassland management, soil fertility, breeding and herd health for example, are being adopted not on research farms but on commercial family farms. The purpose of these walks is to demonstrate the positive effect of the changes made by the Flahertys and Tommy Holmes on their respective farms. I hope you find the days useful and can identify at least one change that you can bring home to your own farm to benefit you. Thank you for your time, enjoy the walks and take the opportunity to ask questions.

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John and James Flaherty

Welcome to Kerry

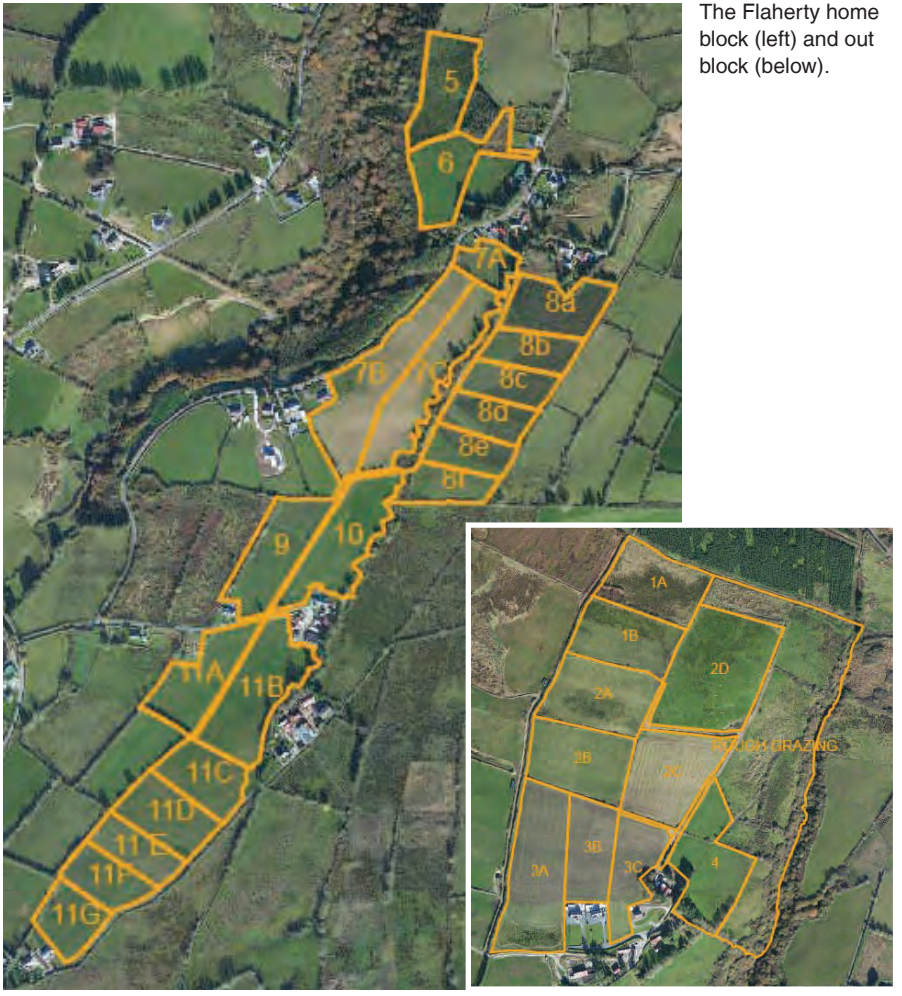
On behalf of my father John and myself, I would like to welcome everyone here today to our farm in Castleisland. We sincerely hope you have an enjoyable day and find it both informative and worthwhile.

Since joining the Teagasc/*Irish Farmers Journal* BETTER Farm beef challenge in 2017, we have implemented many changes inside the farm gate.

Like many other beef farmers countrywide, we too have faced many ups and downs on the farm over the past 12 months. The difficult spring in 2018 led to increased vet bills, as we had a herd health breakdown. The weather conditions experienced last summer forced us to feed stock throughout periods of the summer and no doubt affected the profitability levels of the farm in 2018. However, last winter was thankfully a short one and, to date, 2019 has been a very good grass-growing year.

The farm has implemented numerous positive changes focusing mainly on efficiency. While the beef system has changed, breeding and grassland management and a herd health plan have been the main areas we've focused our attention on – moving to 100% AI and erecting more paddocks and implementing a vaccine plan.

The completion of the farm plan at the start of the programme gave us a clear vision as to what areas we needed



The Flaherty home block (left) and out block (below).

to focus on. We decided to complement our own suckler system with a dairy calf-to-beef system, but we have since scaled back on the dairy calves, placing more emphasis on breeding top-quality suckler stock through AI. Moving from a weanling system to an under-16-month finishing system has undoubtedly boosted output.

Finally, we would like to thank both Teagasc and the *Irish Farmers Journal* for allowing us to participate in this programme and we would also like to thank the industry stakeholders for their continued support of the programme. In particular, we would also like to give special recognition to our local Teagasc B&T adviser Eugene O'Doherty and Teagasc BETTER farm adviser John Greaney for their continued work and advice. We would also like to thank our previous BETTER farm adviser Alan Dillon.

John and James Flaherty

Efficiency is key in Kingdom

When father and son duo John and James joined the BETTER Farm programme, they carried just shy of 40 suckler cows. The herd used to contain a number of pedigree Parthenaise cows, but these are being phased out, with a greater focus now on commercial suckler cows.

Originally, the plan was to carry 50 suckler cows and operate a small dairy-calf-to-beef system too, bringing all stock to finish.

However, both men have decided to concentrate entirely on the sucklers, since breeding has gone so well over the last two seasons.

The current plan is to calve down 60 cows over a 10-week period in spring. All progeny will be brought to finish in an under-16-month bull and 24-month heifer-beef system.

Sheds have undergone development work to cater for the added suckler cows and progeny.

Changing from the original weanling system took time and has put added pressure on cashflow, but, on the flip side, output has increased from 350kg/ha in 2016 to 890kg/ha in 2018.

The Flaherty farm, just outside Castleisland, is split into two blocks - a home block and a rented out block.

In terms of grassland management, the infrastructure on the home farm was always quite good because the farm was in dairy previously.

Since joining the programme, the Flahertys have capitalised on the good paddock system, getting the most from grass, especially in the shoulders of the year, on what is a heavy farm.

In 2017, the farm grew 8t DM/ha. Despite the dry summer last year, the farm managed to grow slightly more, with 8.2t DM/ha recorded for the season.

Thus far, 2019 has been a brilliant grass-growing year and, with silage reserves replenished, John and James are confident of breaking the 10t DM/ha mark.

The soil fertility status on the farm is variable. The ground surrounding the sheds on the home block is in good order at index 3 for both phosphorous (P) and potassium (K). This is the case on most farms countrywide, mainly down to the fact these fields get the most slurry.

The out block needed some attention in terms of infrastructure, fertility and drainage. A considerable amount of that ground is now reseeded and paddocked.

But the out farm still has an underlying fertility problem, with pH, P and K all sub-optimal. To their credit, the Flahertys have focused on these paddocks, using compound fertilisers such as 18:6:12.

Overall, the farm's stocking rate currently stands at 1.9LU/ha, but there is the potential to carry 2.3LU/ha as the stock numbers rise.

Table 1: The Flahertys' farm plam 2017-2021

Measure	2017	2018	Target 2021
System	Suckler-to-weaning	Suckler-to-beef	Suckler-to-beef
Stocking rate (LU/ha)	1.35	2.12	2.3
Land base (adj.ha)	41	41	41
Gross output (kg/ha)	350	890	926
Gross output value (€/ha)	654	1,794	1,962
Variable costs (€/ha/% of output)	319/54%	1,331/74%	981/50%
Gross margin (€/ha)	335	464	981

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John and James Flaherty

Firmly focused on classy continentals

When John and James joined the programme in 2017, 36 cows calved down that spring. This summer, 46 were served to AI. The main technology they have adopted since joining the BETTER Farm beef challenge is the use of AI.

While the work load over the breeding season has increased, they feel the improved quality of stock greatly outweighs this. Not only do the Flahertys have brilliant calves on the ground, they have also tightened their calving spread to 10 weeks. Shortening the calving period was something they were eager to do – calving from January to May was becoming extremely inefficient.

The tighter calving pattern makes life that bit easier when running the farm, having a positive effect on things such as labour (James works full-time off-farm) and having a more uniform bunch of calves.

The cow type on the farm is predominantly Parthenaise-cross, with Charolais,

Table 1: AI sires used on the Flaherty farm

Name	Code	Breed	Replacement index	Terminal index	Calving difficulty
Birches Littleman	ZLT	AA	€97	€67	2%
Bivouac	CH2218	CH	€178	€178	4.3%
Bolide	BZB	PT	€147	€99	6.6%
Cavelands Jolly	LM2395	LM	€119	€141	5.5%
Clondown Eddie	EDW	BA	€65	€149	4.4%
Cloondroon Calling	QCD	SIM	€170	€99	6.6%
Curaheen Dickens	KDZ	SIM	€88	€82	8%
Lisduff Red Pepper	AA4303	AA	€132	€85	1.1%
Ulsan	SA2189	SA	€218	€119	1%
Vaillant	VTA	SA	€175	€98	1.3%

Table 2: Breeding 2019

Three-week submission	78%
Six-week submission	100%
Three-week conception	59%
Conception to first service	80%

Limousin, Salers and Simmental strains running through.

Ideally, they are looking for a good square cow, having plenty of milk and producing a calf every 365 days.

Maternal heifer calves bred through AI are finally beginning to filter through the system and these are starting to act as top-quality replacements to reach the target numbers.

AI has given James the flexibility to pick and choose different sires depending on the individual cow. A list of stock bulls used on the farm is given in Table 1.

While 100% AI may sound daunting to some full-time farmers, let alone a part-time operator, the clever system operated by the Flahertys is extremely impressive and allows for easy AI management.

The farm is positioned in a long narrow block with a roadway up the middle. The yard is ideally positioned in the centre.

Throughout the breeding season, cows graze alternative sides of the yard every second day. Therefore, they have

an incentive to walk through the yard each day in search of fresh grass. As they make this move, John and James can easily pull out cows showing signs of heat.

Coupled with this, the Flahertys also run a vasectomised bull with a MooCall heat detection system to further enhance their chances of picking up cows. Results from breeding in 2019 was very satisfying (Table 2).

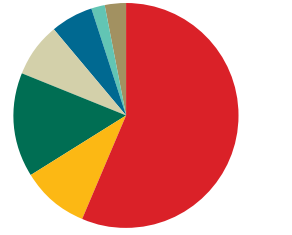
While John and James have worked hard to improve the herd's key performance indicators, there is still scope for improvement.

Calving interval stands at 390 days and although it is slightly ahead of the national average, they hope to reduce this further to 365 days.

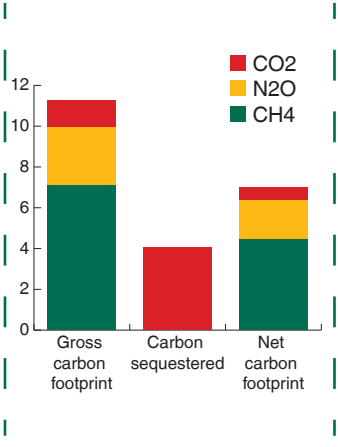
In 2019, they calved all cows and heifers in a staggering seven weeks, but it is time to start putting the icing on the cake and improve the calves/cow/year, which currently stands at 0.85.

BEEF CARBON FOOTPRINT

John and James Flaherty



- Belching (methane) 57%
- Manure management 10%
- Fertiliser and lime 15%
- Grazing 8%
- Purchased feed 6%
- Electricity and fossil fuel 2%
- Indirect N loss 3%



The Flaherty farm . .

is nourishing 140 people

stores 16.5t of carbon

maintains 77ha of biodiversity

Originally, John and James Flaherty operated a spring-calving suckler-to-weanling systems. Since joining the BETTER Farm programme, they have moved to bringing all progeny to finish with a target of finishing bulls under 16 months and heifers at 21 months. Although this involved improving housing facilities and increasing farm inputs, by changing to a finishing system it improves the overall productivity of the farm, which in turn will reduce the carbon footprint per kilo of liveweight gained on farm.

The Flaherty farm is fragmented, with some of the leased land needing attention to address grass quality and soil fertility issues. By increasing the pH level of the soil through liming, the Flahertys will be able to increase the proportion of the farm at soil index 3 for P and K.

Combining this with improved grazing infrastructure and a pasture management plan, grass growth will increase on the farm and provide high-quality grass, which in turn will optimise animal performance during the grazing season. This increase in grass growth from improved grassland management will improve the response to fertiliser and reduce carbon and ammonia losses. Furthermore, it will allow for the planned increase of the herd to 50 cows.

By implementing a herd health plan, the Flahertys have improved the health of their herd, which allows more animals reach their potential, thus optimising animal performance, increasing overall beef production and improving the overall efficiency of the system. Herd health was a serious issue on the farm last year, with a pneumonia outbreak in spring 2018. Pneumonia can increase the carbon footprint of beef by 4% through poor animal performance. The Flahertys have been proactive in preventing such outbreaks from reoccurring by improving ventilation in winter housing and putting a vaccination plan in place.

Beef Environmental Efficiency Pilot

Objectives: To further increase economic and environmental efficiency in the suckler herd through better-quality data on herd performance, supporting decision-making on farm.
Eligibility: The pilot will be open to all suckler beef farmers who commit to completing the mandatory action required within the duration of the pilot.
➲ Action: weigh unweaned calf and their dam and submitting weight records to ICBF.
➲ Payment will be on beef breed (dam and sire) animals born in the herd between 1 July 2018 and 30 June 2019.
Requirement 1 – All calves being submitted for weighing must have been born between 1 July 2018 and 30 June 2019.
Requirement 2 – Unweaned live calf and dam must be weighed on the applicant's holding, individually and on the same day.
Requirement 3 – Only scales registered in accordance with the pilot terms and conditions may be used.
Requirement 4 – Weights must be submitted between 8 March 2019 and 1 November 2019.

FLAHERTY WEANING EFFICIENCY REPORT

Early in 2018, the ICBF launched a suckler cow weaning report, aimed to help beef farmers identify their best beef-producing suckler cows.

In essence, the report calculates the weight of the offspring at 200 days as a percentage of the dam's body weight. The target 200-day calf weight (% of cow's weight) set by ICBF is 42%. In 2018, the Flaherty herd met this target, with an average weaning weight for the entire herd coming in at 42%.

For 2019, James has increased this figure by 1%, to 43%. The average weight of James's cows is 636kg. The best-performing suckler cow achieved 60% of her own weight at 200 days – weaning a 368kg bull calf. The poorest-performing cow weighing 728kg came in at 22% – weaning a 162kg calf. In future, James will move away from keeping these heavier, poorer-performing cows.

Table 1: Top five males on 200-day weight

Calf tag	Dam parity	200-day weight (kg)	ADG (kg)	Dam jumbo	Dam rep index
10597	3	371	1.62	1832	★★★★★ €180
80620	4	368	1.63	1399	★★★★★ €156
20598	5	328	1.44	70327	★★ €63
20607	3	319	1.36	1653	★★★★★ €152
60635	5	315	1.35	50341	★★★★★ €119

Table 2: Top five females on 200-day weight

Calf tag	Dam parity	200-day weight (kg)	ADG (kg)	Dam jumbo	Dam rep index
20631	5	321	1.33	356	★★★★ €97
40633	7	319	1.37	267	★★★ €80
10622	7	316	1.31	255	★★★★★ €116
20615	8	298	1.25	199	★★★★ €101
80595	9	294	1.27	327	★★★★★ €106

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Fresh, clean air is a natural disinfectant

Housed animals need to be able to breathe in fresh, clean air to thrive and remain healthy. The availability of this fresh, clean air is dependent on the effectiveness of the ventilation in the shed.

Good ventilation supplies enough clean air to remove gasses, odours, dust, bacteria and removes heat and moisture generated by the animals housed. Fresh air is actually a disinfectant.

If a virus is coughed up in a building, it will last for 20 hours. However, if the same virus is coughed up outside in fresh air, it will last for about 20 minutes. Air actually deactivates the virus and we need to make maximum use of fresh air in sheds.

To know if you have an issue, you need to observe the conditions in the shed before housing and at housing.

When you enter a shed and look up, you should not see cobwebs, condensation and rust damage on the walls/roof or blackened timber.

The shed should not be warm and stuffy or smell of ammonia. If you see these present, it means there is not enough air circulating through that shed.

In Ireland, natural ventilation is the preferred method of ventilation of livestock housing and this is dependent on the inlets and outlets in the shed being big enough for the number and size of the stock being housed.

The ways in which natural ventilation occur are through:

- The stack effect in calm conditions; or
- The combined stack effect and wind; or
- Wind, but only when the outside air speed is more than 3m/sec.

The stack effect is driven by the heat produced by the animals. The animals produce heat and warm the air.

The warm air rises, escapes through the outlet area (highest point of the house) and is replaced by clean fresh air through the inlet area.

If there is no outlet available or the outlet is too small, the air will cool down and come back down on the animals. This air will be moist and will almost certainly carry harmful bugs, which have been proven to cause ill health and respiratory problems.

If the inlets are too small, this air is slow to come in and help push out the warm air, reducing the airflow. So the rate of ventilation is influenced by the size of the inlet and outlets.

However, it is also influenced by the roof pitch and the height difference between inlets and outlets, the height of the eaves and the proximity or interference from other buildings.

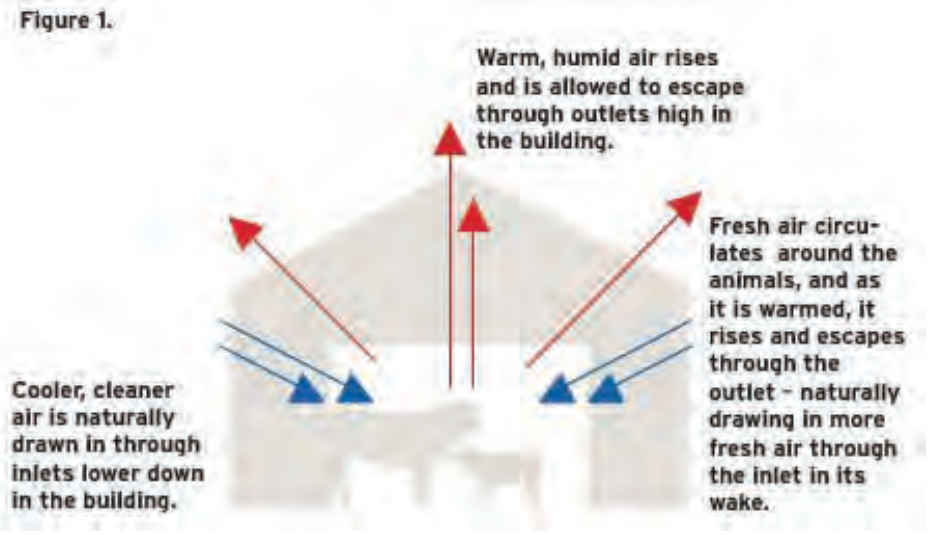
Ideally, cattle sheds should be sited with the side at right angles to the prevailing wind. However, open-sided buildings should be orientated with the open side sheltered from the prevailing wind.

If you suspect you have an issue, what can you do?

INLET

- Angle out the side cladding, at the bottom. Moving out the side cladding to leave a clear opening between the side wall of the shed and the side cladding, just below the top of the side wall, will provide a good inlet. Air is deflected upwards from the side wall as it enters. This can be done easily enough with box section steel. The box section will make

Figure 1.



it secure and will allow the gap width to be maximised.

➲ Where sheds have a wall built right up, the easiest solution is to knock off a few lines of blocks to provide a continuous opening. Monitor how it works to see if any more needs to be done

➲ Replace side sheeting with vented sheeting, space boarding, Yorkshire boarding or a windbreaker.

➲ Remove any trees, hedges or other obstacles blocking wind from the side of the shed.

OUTLET

➲ Raise the ridge cap if possible.

➲ Spaced sheeting in the roof is excellent, but really not practical unless all the sheeting is being replaced.

➲ Raising sheets is a practical method to turn the roof into a 'breathing' roof. One or two lines of sheeting per bay can be raised above the plane of the roof by about 100mm to 150mm with an overlap of about 100mm to 150mm at each side to prevent in-blown rain. The raised sheets run up along the slope of the roof (which is usually across the width of the shed) and possibly up and over a round roofed shed, as well, if one is present. The size of the outlet can be calculated by multiplying the total length of all the openings by the raised height and comparing them to the guidelines.

OTHER CONSIDERATIONS

Draughts are just as bad, if not worse, than poor air movement and stuffy conditions.

Doors left open continuously are just as bad as a shed with no doors. Doors should not be used to provide extra inlet or outlet area.

Doors may be opened in mild or warm weather to supplement ventilation, as long as they don't cause draughts. Doors used to supplement inadequate ventilation will lead to draughts.

Light is also very important in animal housing, mainly for the animals, but also for the person looking after and observing them.

Any improvements to natural light that can be made in conjunction with making improvements in ventilation should be availed of.

Winter dosing

There are several factors which will affect the performance of an animal during housing. Diet is obviously main one. But after diet, the health status of an animal is most important. Parasites such as stomach worms, lungworm and fluke can have a serious effect on animal performance. As cattle only pick up parasites at grass, housing offers farmers the ideal opportunity to clean out stock.

LUNGWORM

Dosing should be considered at least four weeks before housing to allow any damage to the lungs to heal before animals come into sheds where they will face a dustier, more enclosed environment. There is no reported anthelmintic resistance in lungworm. If you use a product with persistency (eg avermectin) you can do your housing dose for lung and stomach worms at this stage, just check the product as to what the length of persistency is.

STOMACH WORMS

Can be treated like lungworm or at housing. There is anthelmintic resistance in stomach worms. This is where the parasite we are looking to control has the ability to tolerate the normally effective dose of the anthelmintic being used. Table 1 shows the three classes of anthelmintic in Ireland. In work carried out by Orla Keane of Teagasc, resistance to Ivermectin was found on 100% of farms tested. Seventy-five percent of farms tested had resistance to white drenches and 25% had resistance to yellow drenches. It is thought that levamisole is used less, thus reducing exposure of the stomach worm population to this product. This may account for the higher efficacy of this drug. Anthelmintics from different classes (eg 1-BZ, 2-LV or 3-ML) have different modes of action, but, within a class, products have the same mode of action – when resistance develops to one product within a class, then all the products in the same class will become useless on your farm. Incorporating a rotation regime of active ingredients into your health plan will help to minimise the risk of anthelmintic resistance and should be discussed with your vet.

FLUKE

Fluke is present on most farms and needs to be considered always at housing. If killing cattle, check with the factory what the livers were like or use farm beef health check data available from the ICBF. Dosing for fluke is complicated by the fact that there are many products and they kill different stages of the parasite. It depends on how long the cattle are housed as to what product you should use (see Table 2). Be careful with withdrawal dates if you are killing cattle too.

VIRUSES

These can happen at any time, but the stress of weaning, castration and especially housing can bring on the symptoms. These viruses can reduce the performance of your animal even slightly, so many farmers are unaware they are present and performance is affected, or they can cause major outbreaks of pneumonia, causing death and associated costs. The most common viruses are IBR, RSV and Pi3. A proper vaccination programme can play an important role here in reducing their effect. Animals should be vaccinated at least one month before housing to allow the immunity to build up. There are many products on the market so it is best to consult your vet to implement a proper vaccination plan.

Table 1:

Class	Common Name	Chemical	Sample products
Benzimidazole	White (1-BZ)	Albendazole	Albex, Endospec, Tramazole
		Fenbendazole	Panacur, Zerofen, Fenben
		Oxfenbendazole	Oxfencare, Parafend,Wormal
Levamisole	Yellow (2–LV)	Levamisole	Levacide, Vermisole
Macrocyclic Lactone	Clear (3-ML)	Ivermectin	Animec, Bimectin, Qualimec
		Doramectin	Dectomax
		Eprinomectin	Eprinex
		Moxidectin	Cydectin

Table 2:

Active ingredient	Sample product	Dose after cattle housed		Admin route	Withdrawal
Triclabendazole	Endofluke 10%	2 weeks	Early immature, immature, adult fluke	Oral drench	56 days
	Fasinex 240	2 weeks		Oral drench	56 days
	Tribex 10%			Oral drench	56 days
Closantel	Closamectin inj Closamectin Pour-on	7 weeks	Immature, adult fluke	Injection	49 days
	Flukiver bovis	7 weeks		Pour-on	28 days
		8 weeks		Injection	77 days
Nitroxynil	Trodax	8 weeks	Immature, adult fluke	Injection	
Albendazole	Albex 10%	10 -12 weeks	Adult fluke	Oral drench	14 days
	Endospec 10%	10 -12weeks		Oral drench	14 days
Clorsulon	Bi mectin plus	10 -12weeks	Adult fluke	Injection	66 days
	Ivomec super	10 -12 weeks		Injection	66 days
Oxyclozanide	Levafas Diamond	10- 12 weeks	Adult fluke	Oral drench	28 days
	Zanil	10 -12 weeks		Oral drench	13 days

EXTERNAL PARASITES

Winter is also the most common time to see infestations of external parasites, such as lice and mange, and these should be considered when selecting treatments.

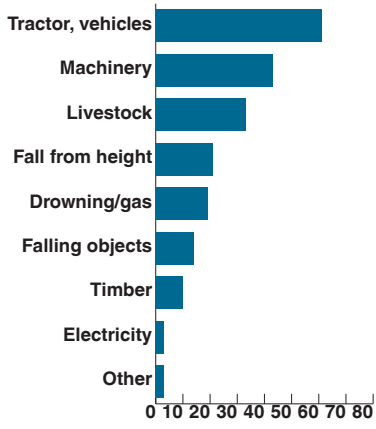
Injectable and pour-on products can be used for mange and sucking lice, but only pour-on products are effective against chewing lice.

Everybody's responsibility

The fatality rate in agriculture in Ireland is, unfortunately, far higher than any other economic sector. Worryingly, the level of farm accidents is not decreasing either. Similar accidents occur each year, with research showing that, in general, farmers' attitudes to safety will only change after serious injury occurs.

In the last 10 years (2009-2018), 207 people have died in agriculture and forestry-related accidents. The main causes of these deaths are seen in Figure 1. The most vulnerable to death and injury on Irish farms are both children and the older farmer (>65 years of age), accounting for almost half of the total number of fatalities.

Figure 1
The main causes of farm accidents in the last 10 years



FARM SAFETY CHALLENGE

The farm safety challenge is a mandatory challenge, with all farmers required to complete a farm safety risk assessment on an annual basis and update this on a yearly basis, and to introduce two positive changes to their farms annually.

As part of the farm safety challenge, participants will also attend safety training days every year during the programme in areas such as livestock handling and machinery safety.