

When cattle finish earlier, your finances and the environment benefit

Practices to reduce agriculture's environmental footprint, particularly greenhouse gases, will shape farming for years to come. This Limerick farmer is showing the way

Alan Dillon,
Green Acres programme manager

Sean Cummins,
Teagasc Green Acres programme

Age at slaughter is increasingly coming under the environmental spotlight. The younger the better, is the verdict. Limerick farmer Ciaran Bartley has made substantial progress in this area of his enterprise in recent years.

Ciaran, who operates a calf-to-beef system on 74ha in Boher, east Limerick, where 150-160 mainly Holstein Friesian bull calves are purchased each year, has reduced the average age of slaughter by 2.4 months.

A participant in the Teagasc Green Acres Calf-to-Beef Programme, Ciaran has worked closely with Green Acres advisor Sean Cummins and B&T advisor Aileen Walsh to improve the profitability of his farm in a sustainable way. Approximately 70% of the land base is classified as 'heavy'.

"Reducing the age of slaughter has been a target on the farm since we joined the programme," says Ciaran.

"Aiming to finish before the second winter challenges us to reach greater levels of efficiency and reduces the need for cattle sheds."

Younger at slaughter – why?

Data from ICBF has shown that reducing the national age of slaughter for the same carcass by just one



month to 25.1 months would eliminate 247 KT of greenhouse gases.

This is the equivalent of avoiding the slaughter of around 97,000 cows from our dairy and suckler herds.

If the average age at slaughter is reduced to nearer 24 months, it is the equivalent of close to 200,000 cows avoiding the same fate.

Trends in the national slaughter data from the last decade on cattle from the dairy herd show marginal improvement, with average age of slaughter from dairy beef cross cattle reducing by two days from 787.5 days to 785.7 days, while carcass weight increased from 334kg to 338kg.

The pure dairy cattle slaughtered over the same period maintained age of slaughter at 783 days, but carcass weight increased by 3.2kg.

Two months younger in the Treaty County

To evaluate how age of slaughter has changed on Ciaran Bartley's farm in

Table 1: Slaughter performance of Holstein Friesian steers

Year of birth	Age (months)	Carcass weight (kg)	Grade	Fat score
2016	26.6	295	O-	3=
2017	25.9	300	O-	3=/3+
2018	25	304	O-	3-/3=
2019	24.2	299	O-	3-/3=



Sean Cummins, Ciaran Bartley and Alan Dillon.

recent years, slaughter data from animals born in 2016, 2017, 2018 and 2019 have been compiled and analysed.

Driven by improved animal performance, Ciaran's age of slaughter for 2019-born animals was 2.4 months younger than calves purchased in 2016, while comparable carcass weights and carcass conformation scores were achieved.

An average age of 24.2 months was recorded for 2019-born animals, achieving a 299kg carcass, while calves purchased in 2016 achieved a 295kg carcass at 26.6 months.

How was it achieved?

At the beginning of the programme, Ciaran's system was evaluated to identify the strengths, and more importantly, to identify any areas of underperformance.

Although Ciaran has decades of experience in calf rearing, the first area where an issue was identified was during the calf rearing period.

"The issue did not lie in the way in which calves were managed from arrival to turnout, but more so in the way in which we were sourcing calves," says Ciaran.

A key target for the farm was to reduce the number of herds from which calves are purchased, with increased focus placed on purchasing calves directly off-farm. Through this change in calf buying strategy, Ciaran has reduced the number of source herds from a total of 37 in the spring of 2019 to just five this spring.

"Mortality rates have fallen significantly since we started doing this," Ciaran adds.

"Falling from 4.7% in the spring of

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Ciaran Bartley and Sean Cummins discuss silage. Quality silage is key to performance, both agree.

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2019 to 1.2% in 2021, the loss in animal performance associated with disease and illness has also been reduced significantly.

“Originally, I was buying calves directly off a buyer and they were coming from numerous herds. I was having a bit of trouble with disease during the calf rearing period. Over the last two springs, I’ve bought all of the calves directly from dairy farms and I’ve seen a drastic improvement in calf health.”

In addition, given the heavy nature of the land, increased emphasis was placed on silage quality.

Too often, animals failed to reach the desired levels of thrive over the winter months, leading to one of two things – increased age at slaughter or lighter carcase weights.

To counteract this lack of performance, Ciaran has pulled back silage

cutting dates on-farm.

“Our goal is to have first cuts completed by late May,” he says. This practice has resulted in first-cut silage quality on the farm improving from 68 to 72 DMD units.

On account of the improved winter feed quality, weanlings on the farm achieved higher daily weight gains over the winter months – gaining 0.18kg/head/day more in the winter of 2020 than the previous year.

Over a typical 140-day winter, this improvement in performance represents a liveweight increase of almost 25kg, equivalent to 25-28 days additional performance at grass for the second season in previous years.

“Making better quality silage has been the biggest benefit,” Ciaran said.

“The land here is very heavy and only in a very good year will you have cattle out before March 17.

“Animals are now performing much better over the winter months and are

suffering no setbacks.

“Those extra kilograms that are being gained over the winter months mean that animals are having to do less over the second grazing season.

“It also means that a proportion of steers are fit to draft in mid-October, eliminating the need for winter finishing.”

Another area where the Limerick native has made considerable strides is in grassland management, with weekly measuring and budgeting completed during the grazing season.

By implementing this technology, Ciaran has the flexibility to target steers for slaughter from mid-October onwards.

Through the combination of regular monitoring of livestock performance, maximising the performance from grass and targeting animals for slaughter based on type, Ciaran has been able to make significant strides in reducing slaughter age.

An early adopter

In addition to reduced age at slaughter, Ciaran has adopted a number of other goals to improve efficiency and reduce his ‘emissions footprint’.

Like many beef systems in Ireland, grass is the driver. However, soil fertility is the fuel on which it runs. When soil tests were completed at the beginning of the programme, just 7% of the

farmed area was optimum for pH, P and K, with 65% of the farm needing lime. Since initial soil tests were completed, over 200t of lime has been applied, while a fertiliser programme is being followed that also accounts for P and K applications. Although a huge array of fertiliser products are available on the market, just two form the backbone of Ciaran’s fertiliser purchase list – protect-

ed urea and 10-10-20. Slurry is targeted to silage crops.

“Slurry is applied to replace the nutrients taken off by silage crops,” Ciaran explains.

“Compound fertilisers are applied to low-index fields from the second round on. I made the switch to protected urea last year and I’m very happy with the results,” he concludes.