

Tullamore Farm: Better breeding key to performance

Tullamore farm is a beef and sheep demonstration farm located just outside Tullamore in Co. Offaly. The farm was set up in 2017 and is leased by the Irish Farmers Journal on a 15 year term. It comprises of 80Ha (200 acres) and is split across two different blocks of land. Shaun Diver is the full time farm manager and Shaun is in charge of the day to day running of the farm. The aim of the farm is to demonstrate best practice in a number of different areas like breeding, grassland management and animal health. At the moment there are 90 spring calving suckler cows on the farm and 250 mid-season lambing ewes. The farm is currently operating an under 16 month bull beef system for the male progeny and selling females as in calf heifers at 20 months of age. Cows calve in February, March and April and ewes lamb in March and April. Cows are predominantly Limousin and Simmental and the herd is in the top 2% in the country for the replacement index with the average replacement index of the herd at 129. The herd is operating at a high level of technical efficiency with calves per cow per year at 1.01 and a calving interval figure of 357 days. The herd calves all heifers at 24 months and the 6 week calving rate in 2020 was 76%

2020 Bull Performance

Performance is an extremely important in suckler beef systems and in bull beef systems you depend on good weight gains to achieve under 16 month bull performance targets. If poor weight gains

are recorded margins in an already financially tight system will be negative.

Factory sentiment to bulls towards bulls has changed over the last couple of years with delays in killing bulls in 2018 and 2019 making farmers consider other options for male born progeny on beef farms. This led to a drop of 70,000 young bulls being killed in 2020 with further contraction expected in 2021. Table 1 outlines the target weights and weight gains in an under 16 month bulls system.



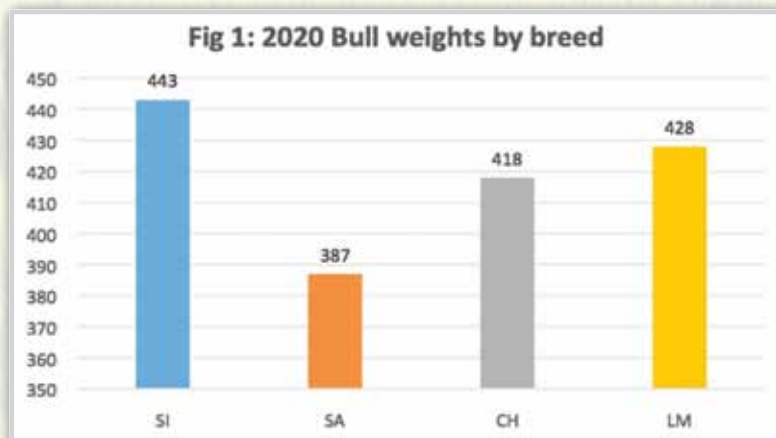
Adam Woods
Beef Editor
Irish Farmers Journal

Table 1: Target weight gains for March born progeny in under 16 month bull system

	Weight kgs	No. of Days	Weight gain kg	Average Daily Gain ADG
01/03/2020	45		45	
01/10/2020	330	214	285	1.3kg/day
01/02/2021	450	123	130	1.1kg/day
30/06/2021	690	149	240	1.6kg/day

Table 2: 2020 bull weights by breed

Table 2: Bull weight by breed			
443kg	387kg	408kg	428kg
SI	SA	CH	LM



In terms of breed performance the Simmentals are out in front with the 12 QCD calves coming in at 443kg. There are 6 LM2116 bull weanlings weighing 428kg. There are 12 Fiston sired calves currently weighing 418kg and 9 Salers calves weighing 387kg. The majority of the Simmental progeny are sired by Cloondroon Calling (QCD), the Limousins are sired by Tomschoice Ironstone (LM2116) and Castleview Gazelle (ZAG),

the charolais are all sired by Fiston (FSZ) while the Salers are sired by the Salers stock bull and Ulsan (SA22189). Fig 2 outlines bull performance from birth up to 14th January 2021. Bulls gained 1.33kg/day up to 200 days and then gained just over 1kg/day from September to January. This is back a little on last year's performance but over the last month bulls have grown well which should stand to them during the finishing phase. Their current daily live weight gain for their lifetime is 1.18kg/day since birth. The average weight of the 44 bulls on 14th January 2021 was 421kg. Weighing is critical at all stages of the production system to determine if corrective action is required.

Bull Ration

The weanling ration that the bulls are currently on is 16% protein and consists of rolled barley, beet pulp, maize distillers, flaked maize, soya bean meal and molasses. The bulls are currently on 6kg/day along with ad-lib fist cut silage. They will be stepped up onto a finishing ration over the next month and will gradually move to ad-lib feeding. Bulls will then move onto straw as the roughage source during the ad-lib phase.

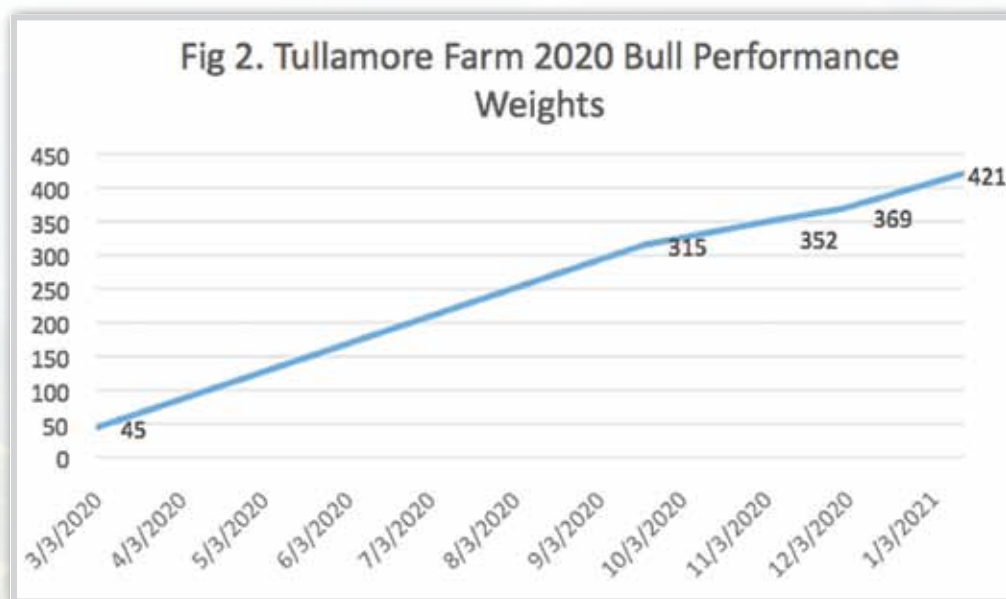
Other Management

Bulls are housed on slats with rubber mats and were dosed in November with a pour on for lice and worms. They were also clipped and have been vaccinated for pneumonia (BR, RSV and PI3) prior to weaning. Next week we will take a look at the finishing budget and see if the bulls would make more money to sell live at current market prices or go through to finish.

To sell or to finish in 2021

It never pays to switch systems too much but that doesn't say you shouldn't look at alternative ways of selling of finishing cattle. This week we took a look at the option of selling the bulls live as opposed to finishing them. With just 454kg of

This year's weights are behind last year's weights by about 25kg. Last year's bulls went on higher meal feeding at an earlier stage. We found that bulls almost came to finish a little too quickly and this meant a lower average carcass weight of 374kg/head last year. The aim this year is to get bulls to 700kg at slaughter to push the carcass weight to 400kg and maximise carcass value. This has meant keeping weanlings on the grower ration for longer to grow more frame before the finishing phase. Bulls have currently consumed 454kg of meal in their lifetime with this expected to rise to 1.5-1.6 tonne of concentrates per bull.



concentrate being consumed by the bulls to date, the expensive period is just about to start with the bulls starting on the ad-lib meal phase of feeding. Over the next 100-120 days the bulls will consume over 1.2 tonne/meal/head and with the finishing ration costing €270/tonne we need to be sure that the figures add up when the bulls are hanging up.

Current value

Looking at this week's Martbids table in the Irish Farmers Journal the average bull in the 400-450kg bracket was making €2.35/kg while the top 1/3 were making €2.66/kg. The Tullamore bulls are probably a high average in terms of quality just shy of the top third so we have put the price in at €2.45/kg. Table 3 outlines the bull budget from here to finish and compares that with current sale value. It's important to point out that this is just a budget from 1st February -30th June period and not a whole life budget.

Table 3: Finishing budget for Tullamore Farm Bulls

Current value on 1st February: 438kg @€2.50/kg	€1095
Meal: 1.2 tonne of finishing ration @ €270/tonne	€324
Vet/Dosing	€5
Straw/Silage	€25
Haulage	€15
Killing Costs	€20
Variable Costs:	€1484
Fixed Costs:	€30
Total Costs:	€1514
Breakeven price at 400kg carcass	€3.78/kg
Price needed to cover €150 labour/head for 150 days	€4.16/kg

Comment

Looking at the figures the under 16 month bull finishing system is a very tight margin business. This will be the 4th year we will have finished the male progeny as bulls and margins have been getting tighter and tighter since the first bulls were killed in 2018. Young bulls are currently making €3.75/kg plus a quality assurance payment of €0.12/kg on the grid. You would hope that the price will be well ahead of this come June 2021 but that word “hope” is the core problem with the beef finishing business. Tullamore farm have almost €50,000 tied up in stock in a shed that require a further investment of almost €20,000 to bring to finish. Like many other small cattle finishers we will do this with absolutely no idea or foresight of what beef price we will get in June 2021. We have spoken to the factory and they have no issue killing bulls as long as they are in spec with good flesh and under the desired carcass weight limits. We have made the decision to finish the bulls this year but its back to the drawing board for the 2021 born progeny and over the next few months we will take a look at what other options are available to the farm to increase margins.

Two year old calving on Tullamore Farm

Two year calving remains a real challenge for the Irish suckler industry with just 22% of heifers currently calving between 22-26 months in 2020. It's a well proven fact that heifers that calve at two years of age are more profitable. They have a higher output in their lifetime due to more calves produced. It also allows farmers reduce stock groups and make quicker genetic progress. Teagasc research at Grange has also showed that in a 50 cow herd with a 20% replacement rate for every month that calving is delayed an additional cost of €490/ is incurred or €50/heifer/month.

There is a thought that heifers will not be well enough grown out at 15 months to breed. Some farmers argue that heifers will become stunted, will be difficult to calve and won't go back in calf. Taking a look at some ICBF



One of the heifers at the 2020 Tullamore farm heifer sale. This heifer had five stars with a replacement index of €127. She is +15 for carcass weight and +10kg for milk. Sired by one of the highest ranked Simmentals available in AI, Derreen Declan. Dams first calf killed 365kg carcass at 14 months. She was sold due on 8th March 2020 to Salers bull for €1940.

data comparing the performance of 131,077 beef heifers that calved for the first time between 23 and 40 months, it would appear to dispel some of these myths.

Table 1: ICBF data on 131,077 beef heifers that calved for the first time between 23-40 months

Age at first calving	Calving Interval	% Calving for 2nd time	Average calving difficulty of bulls used	% Heifers calving unassisted	% Mortality at 1st calving
23-26 months	383 days	82%	4.7%	50%	3.2%
27-30 months	394 days	83%	5.1%	53%	2.8%
31-35 months	392 days	87%	5.2%	58%	2.6%
36-40 months	386 days	86%	5.2%	57%	2.0%

Table 1 outlines the performance of the heifers calved at different ages. Heifers calved at 23-26 months have a slightly better calving interval than heifers calved at an older age. Heifers calving at two years of age did require a little more assistance at calving and calf mortality was also marginally higher but the benefits outweigh the negatives. You

could argue that the calving difficulty of the bulls used on the heifers calving at two year old is a little high. The target should be to use bulls under 4% calving difficulty on heifers. Table 2 outlines the target weights for heifers to calve at 2 years old. To hit these target weights heifers must again .9-1kg/day from birth to breeding.

Table 2: Teagasc target weights for heifers calving at two year old

Mature Cow Weight	Weaning Weight	Breeding Weight	Calving Weight
Target % of mature weight		60%	80%
600kg	260-280kg	360kg	480kg
700kg	300-320kg	420kg	560kg



This heifer was sold at the 2020 Tullamore farm in calf heifer sale. She was genotyped 5 star with a replacement index of €170 ADG as a calf of 1.51kgs/day Her full sister this year is gaining 1.29kgs/day. She is +27kg carcass weight and +11kg for milk Sired by: AI sire Cloondroon Calling (QCD) Dams first bull killed 440kg at U=. First calved at 21 months and has a calving interval of 355 days after 5 calves. She was sold due to calve on 5th February to AI Limousin sire EBY selling for €2050.



This heifer was sold at the 2020 Tullamore farm heifer sale and had 5 stars with a replacement index of €144. +17kg for carcass weight and +8.4kg for milk. Sire Dereen Declan has a replacement index of €171. Dam previously bred U grade progeny. Calved at 26 months and has a calving interval of 350 after four calvings. She was sold due to calve on 15th Feb 2020 to LM2014 for the top price of the sale at €2100.



2020 Tullamore Farm heifer performance

The 2020 crop of Tullamore farm heifers were weighed on the 14th January 2021. Heifers started creep feeding on 15th August 2020 and were fed .7kg/day between mid August and mid September. They then moved onto 1.5kg of concentrates between mid September until the end of December 2020 along with ad-lib baled silage. This silage was baled off paddocks and ranged from 70-74 DMD, 32-46% DM and 11-13% protein. Concentrates were stopped on 1st January 2021 to avail of compensatory growth once turned out. The plan was to turn out as early as possible in February but this is looking like being closer to 20th February once the wet weather forecast at the weekend passes. Heifers will be around 380kg at turnout. They will be grazing approximately 60 days before breeding starts and weight gains should hit 1kg/day or over it during this time so that would mean heifers will be on average 420 kg at breeding.

Heifers will receive the first course of the BVD and Leptospirosis vaccine prior to turnout with the booster shot planned to go in at the end of March. Heifers will be tailpainted with a planned breeding start date of 1st May 2021.

The average replacement index of the group is €147. The highest index heifer in the group is a Salers cross at €201. The national average of 0-1 yr old heifers in the last evaluation run was €96.

There are 47 weanling heifers currently on the farm. Ten of these will be kept for breeding with a further 25-30 selected for our special in calf heifer sale in October 2021. The remaining heifers will be finished at the end of 2021 at 22 months. Total lifetime consumption of meal to date is 204kg or €54/head. Table 2 outlines the breed performance of the heifers. Table 3 outlines the breed performance of the 2020 born Tullamore farm weanling heifers

Table 3: Breed performance of the 2020 born Tullamore farm weanling heifers
Breed DOB

Breed	DOB	Weight 05/11/2020	Daily liveweight gain: Birth -5/11/2020	Daily live weight gain 5/11/2020-14/01/2021	Weight on 14/01/2021	Daily liveweight gain since birth	Replacement Index
AA	21/02/20	280kg	.93 kg/day	.70kg/day	328kg	.88 kg/day	€127
CH	10/03/20	266kg	.96kg/day	.78 kg/day	320kg	.91kg/day	€152
LM	23/02/20	308kg	1.05kg/day	.67 kg/day	353kg	.96 kg/day	€142
SA	12/03/20	290kg	1.05kg/day	.70 kg/day	337kg	.97 kg/day	€171
SI	11/02/20	336kg	1.11kg/day	.83 kg/day	392kg	1.04 kg/day	€145
Average	24/02/20	304kg	1.04kg/day	.72 kg/day	353kg	.97 kg/day	€147

Fig 1: Weight by Breed

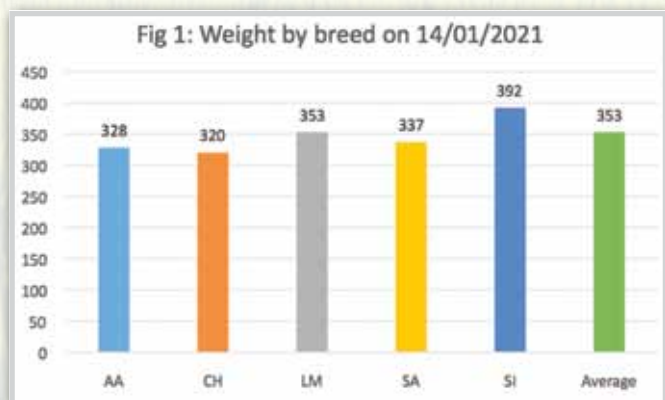


Fig 2: Replacement Index by breed

