



FARMER LED, FARMER DRIVEN

DEESIDE

Bull Beef Enterprise Report
September 2023



BULL BEEF AT WOMBLEHILL



Background

Duncan has been finishing Stabiliser bull calves as bull beef in an intensive finishing system at Womblehill Farm, Kintore.

This helps cash flow at an otherwise quiet time of year.

Calves from Meikle Maldron are currently castrated and sold store. Duncan is keen to improve the enterprise. He would like a greater understanding of the viability of the two markets for male calves and discover how to enhance the efficiency of the system.

Bull beef challenges

More castrated beasts would allow Duncan to have a forage-based finishing system, grazing excess grass at Ingliston in the summer months. The drawbacks of the bull beef system is that all barley is purchased off farm, which is an additional cost to the system.

Homegrown barley would be a cheaper resource for the bull beef enterprise.

However, storage for feeding at Womblehill is a limiting factor.

Karen Stewart, Ruminant Nutritionist for SAC Consulting, visited Duncan and compiled a **Specialist Advice Report** on the bull beef enterprise funded through Scottish Government. Her findings make up the bulk of this report.

BULL BEEF FACTS

Diet

- Weaning Mid October to mid January – Oats/peas/barley wholecrop and 1kg of barley **(0.8kg average gain)**
- Mid January to mid February – Oats/peas/barley wholecrop and 5kg maxammon treated barley **(1.96kg/day average gain)**
- Mid February to slaughter– adlib maxammon treated barley, silage and straw both offered adlib* 1.8kg and 2.6kg average gains at weigh ins

*ad-lib silage offered along with the adlib barley may result in differences in the proportions each beast eats.

Cattle eating too much barley and silage with no straw to help rumen function may develop sub-acute rumen acidosis, affecting weight gains.

Adlib barley and straw only is advised for more consistent ration and consistent weight gains.

Duncan rears his pure breeding bulls on a 100% forage diet.

Notes

A conventional cereal-based system doesn't fit with Duncan's ethos or the rest of the farming enterprise

He does not grow cereals so reliance on purchased cereals and their volatility is a major weakness.

The main target is reducing or eliminating concentrate use and hopefully increasing margin while reducing risk & volatility.

COMPARISONS

Karen created gross margin tables to compare Womblehill's winter 2022/23 performance, with expected gains from a conventional barley beef system and an example of a longer keep forage-based finishing system. Key here is the higher weight gains expected from the conventional system, from weaning in October through to January.



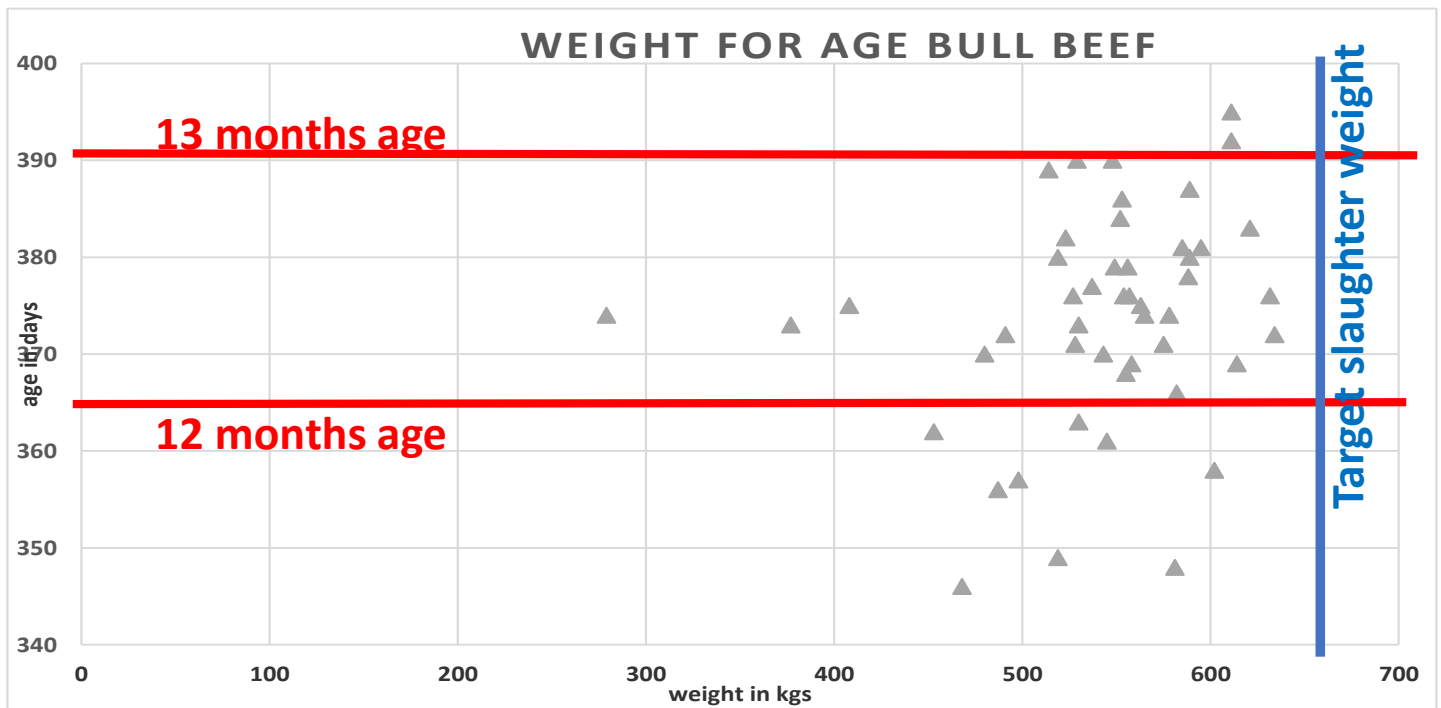
Note that the barley price plays a huge role in the cost of the barley beef system. Karen used the 2022 barley figure of £300/t.

WOMBLEHILL BULL BEEF 2022/23						
Variable costs	£/t	kg/day	Days in system	£/head	DLWG	Comments
Treated barley	300	1	91	27.30	>1kg/day	weaning to 12/01/23
Oat/barley/pea silage	40	25	91	91.00		
Treated barley	300	5	32	48.00	1-1.5kg/day	12/01/23-14/02/23
Oat/barley/pea silage	40	20	32	25.60		
Treated barley	300	12	120	432.00	>2kg/day	14/02/23 - finish
Silage	40	10	120	48.00		
Feeding straw	90	1.2	120	12.96		
Minerals	650	0.1	243	15.80		
Bedding straw				33.00		
Vets and meds				6.00		
Purchase of calf				600.00		250kg at weaning @240p/kg
Total cost/head				1339.66		
Output	Liveweight	DW (kg) (54% KO)	£/kg DW	£ Total value		
Finished at	650	351	5.00	1755		
GROSS MARGIN £				415.35		

CONVENTIONAL BULL BEEF 2022/23						
Variable costs	£/t	kg/day	Days in system	£/head	DLWG	Comments
Silage	40.00	13.0	75	39.00	1.4kg/day	From 250 to 355kg LW
Treated barley	300.00	4.5	75	101.25		
Treated barley	300.00	12.0	150	540.00	1.8kg/day	Assuming 12kg av. intake
Feeding straw	90.00	1.2	150	16.20		
Minerals	650.00	0.1	225	10.24		
Bedding straw				33.00		
Vets and meds				5.00		
Purchase of calf				600.00		250kg at weaning @240p/kg
Total cost/head				1204.44		
Output	Liveweight (kg)	DW (kg) (54% KO)	£/kg DW	£ Total value		
Finished at	625	337.5	5.00	1687.5		
GROSS MARGIN £				483.06		

ESTIMATE IF FORAGE FINISHING 2022/23						
Variable costs	£/t	kg/day	days in system	£/head	DLWG	Comments
11ME silage	40	30	210	252.00	1kg/day	taking calf from 250-460kg
Treated barley	300	2	210	126.00		
Minerals	650	0.1	180	11.70		
Grazed grass**	12	45	150	81.00	0.9kg/day	Grass at 6p/kgDM and 20%DM
Treated barley at grass	300	4	60	72.00		needed for last 2 months(?)
Vets and meds				7.00		
Bedding straw				0.00		
Extra labour***				10.00		***assumption made
Purchase of calf				600.00		250kg at weaning @240p/kg
Total cost/head				1159.70		
Output	Liveweight	Deadweight (54% KO)	£/kg DW	£ total value		
Finished at	595	321.3	5	1606.5		
GROSS MARGIN £				446.80		

Bull beef weight for age analysis - 29.04.23



For Duncan's bull beef system, the target slaughter age is between 12 and 13 months.

The target slaughter weight is 650kg. See the chart above.

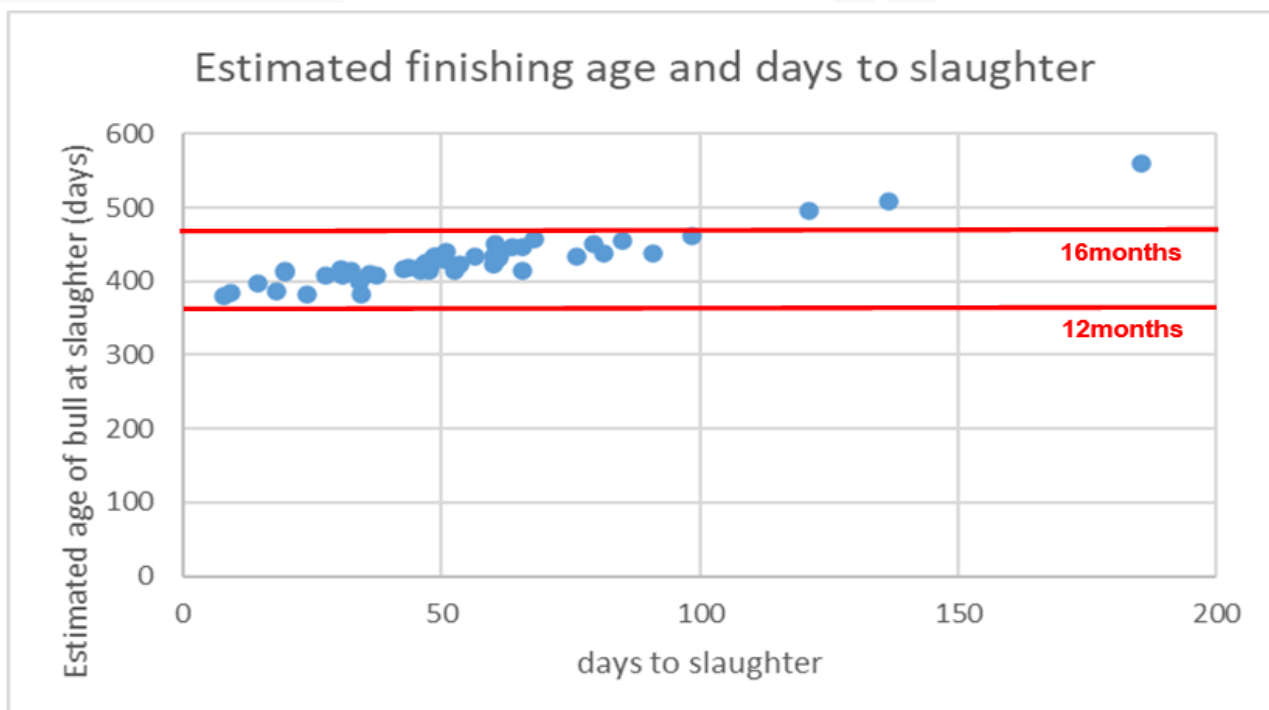
The triangles represent the weight and age of Duncan's bull beef animals on 29th April 2023.

Karen suggests that earlier weight gains would have moved many beasts shown within the 500-600kg weight band closer to the ideal weight for slaughter.

TIME TO FINISHING

Charting the figures below indicates that the bull on the left will be just over 12 months old at target weight, reached in approximately 10 days. Others will be closer to 16 months old.

For some lighter beasts, in late April, this target weight was still over 75 days away.



Thoughts on bull beef:

2022/23 – Karen's observations

Over the 3-month period from October to January bulls averaged 0.8kg/day on an adlib forage ration of oats/barley/pea wholecrop with 1kg of barley.

- The diet cost is 98p/day

Karen suggests an extra 3.5kg/day of barley (but less wholecrop) could increase DLWG to 1.4kg, an average 54kg heavier by late April, bringing the slaughter age down.

- The diet would cost 187p/day; an extra £80/head over this 90-day period.

Duncan weighs his bull beef regularly. This allowed Karen to note that in mid-January, an increase to 5gk/day max ammon treated barley along with the adlib wholecrop brought significant weight gains. 80% achieved over 1.5kg DLWG.

Then a transition to ad-lib barley to the system with adlib silage reduced some animals' weight gain. 71% achieved over 1.5kg DLWG.

- It is possible that adlib silage reduces appetite for high energy barley in some beasts.
- Karen suggests adlib cereals and straw only after a transition period.

Duncan's 2024 planning

Duncan utilises compensatory growth in the spring when the bulls hit high quality grass after modest growth through winter.

- **This sets them up for a healthy life as a breeding bull.**
- **Duncan thinks it could work with the finishers too.**

In 2022 and '23 some bulls which have not made the grade for breeding bulls have finished with good weights and grades as they approach 16 months. Duncan sees a huge opportunity here for the finishing bulls.

In 2024, finishing bulls will be split into two groups.

- **The heaviest 50% at weaning will follow the same feeding regime as his breeding bulls and finish at 15-16 months with little or no concentrates.**

Whilst conceding 2-3 months on slaughter age, the compensatory growth should be able to substitute most of the concentrate use and some straw while spending less time indoors.

- **The second, lighter, group will be treated in a similar way to last year.**

If grass-based finishing works, there is potential to increase numbers in future years.

- **It is important to find out at what weights range grass-based finishing is possible while working out what to do with the lighter bulls.**



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