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Intensive finishing of late maturing breed weaned suckler bred steers

With producers in some parts of the country unfortunately having issues marketing suckler bred bulls and incurring penalties for heavy weight (380+kg) carcasses I thought it appropriate to do some modelling and projected margins using standard costs for intensive finishing of late maturing breed spring born suckled steers.

The standard bull system is based on finishing a 330kg weaned calf on ad lib cereals plus some silage to finished weights of 650kg having recorded a DLWG of 1.52kg from weaning to slaughter. With a 58.5% kill out this will produce a 380kg carcass which is assumed to grade U=2= at 14 months old having been fed 1.75t concentrates and 1.2t (360kg DM) silage resulting in an FCR of 5.88:1.

The steer systems are based on finishing a 310kg weaned calf on either ad lib concentrates or concentrates and silage fed on a 50:50 dry matter basis. The steers finished on ad lib concentrates are assumed to be finished at weights of 560kg having recorded a DLWG of 1.39kg from weaning to slaughter. With a 58% kill out this will produce a 325kg carcass estimated to grade at R+4= at 13 months old having been fed 1,450kg concentrates and 900kg (270kg DM) silage equating to an FCR of 6.13:1.

The silage and concentrate fed steers are assumed to be finished at weights of 585kg having recorded a DLWG of 1.31kg from weaning to slaughter at 14 months old. With a 57.3% kill out this equates to a 335kg carcass assumed to grade at R=4= having been fed 0.98t concentrates and 3.1t (925kg DM) silage equating to an FCR of 6.46:1. Details of suggested rations with alternative types of forages are shown in appendix 1. Full details on performance targets for bulls, steers and also intensively finished heifers are shown in appendix 2.

In the modelling both systems involve finishing the heifers from the herd at 20 months old with 330kg carcasses with silage costed at £80/t DM and concentrates including some home grown cereals at £160/t to finish the calves. With a base carcass price of £3.42/kg with a 5p deduction for bulls using the ABP price grid the gross margin per cow for the bull systems was £603. The silage plus cereal and cereal steer systems margins were £570 and £568 respectively. The key factor for success with the steer silage system is using some high (11.0+) ME silage. If there isn't a market for bulls then consider the option to finish them as steers with relatively minimal effect on margin especially if you have some good quality silage that can be fed. The steer systems will obviously overcome any potential housing and handling issues with young bulls.

I also modelled a system based on selling calves at 8 months old (1 month after weaning) with steers weighing 350kg live @ £2.60/kg equating to £910 and heifers weighing 320kg @ £2.30/kg equating to £736 and the gross margin per cow was £530.

Obviously there will be significant regional variation on carcase and feed prices but this will affect both systems whether its bulls or steers for any particular farm. Higher concentrate feed costs will obviously favour the silage steer system.

I am unaware of any recent trial work intensively finishing suckler bred steers. If you consider that finishing steers at 325-335kg carcase weights at 13-14 months old is relatively low I would comment that we intensively finished some ¾ bred Limousin steers back in 2003 at Harper Adams on a cereals/whole crop trial and recorded carcase weights of 275-285kg grading R/-U4L. See Harper Adams beef trial report 2003(b) for further details. Since 2003 there has been a marked improvement in the genetic merit of our cattle and the Limousins involved in the study were bred by bulls with average Beef Values.

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Appendix 1

A diet containing 15%CP in the DM is recommended for steers which can be reduced to 12% at 60-75 days to slaughter.

Example least cost formulated rations which contain 12% CP in the DM for a 400kg continental steer & 1.3kg DLWG

Forage (silage)	Average Grass	Good Grass	Wholecrop	Maize
Analysis (DM/ME/CP)	25%/10.5/12%	28%/11.2/14%	45%/10.8/9%	30%/11.2/8%
Silage (kg)	15.3	17.6	12.0	20.1
Barley (kg)	4.8	3.4	3.0	1.7
35% CP Pellets (kg)	80g mins	80g mins	0.7	1.1
Concs (total)	4.8	3.4	3.7	2.8
DMI (kg)	8.0	8.2	8.6	8.4
TMR M/D (ME)	11.9	11.9	11.6	11.6
TMR CP (% in DM)	11.7	13.1	12.0	12.1
Concs CP (% in DM)	11.5	11.5	17.0	22.5
Forage (% in DM)	47	63	63	71
Starch (% in DM)	29	20	30	28
Feed cost (p/d)*	73	73	76	104

* Costs based on barley @ £113/t, 35% CP mineralised pellet @ £322/t and silage @ £80/t DM

Example rations formulated to contain 15% CP in DM

Forage (silage)	Average Grass	Good Grass	Wholecrop	Maize
Silage (kg)	15.3	17.6	12.0	20.1
Barley (kg)	3.9	2.8	2.0	0.8
35% CP Pellets (kg)	1.0	0.6	1.7	2.0
Concs (total)	4.9	3.4	3.7	2.8
DMI (kg)	8.1	8.2	8.6	8.5
TMR M/D (ME)	11.8	11.8	11.5	11.5
TMR CP (% in DM)	14.8	14.9	14.8	14.9
Concs CP (% in DM)	17.4	16.6	24.7	31.9
Forage (% in DM)	45	63	63	71
Starch (% in DM)	24	17	25	28
Feed cost (p/d)	95	85	120	104

Example rations formulated with 50% concentrates & 15% CP in DM

Forage (silage)	Average Grass	Good Grass	Wholecrop	Maize
Silage (kg)	N/A	13.7	9.5	14
Barley (kg)	N/A	4.0	3.2	3.1
35% CP Pellets (kg)	N/A	0.7	1.6	1.8
Concs (total)	N/A	4.7	4.8	4.9
DMI (kg)	N/A	8.2	8.4	8.4
TMR M/D (ME)	N/A	12.1	11.8	12.0
TMR CP (% in DM)	N/A	14.9	14.9	15.0
Concs CP (% in DM)	N/A	16.6	21.1	22.0
Forage (% in DM)	N/A	50	50	50
Starch (% in DM)	N/A	24	29	29
Feed cost (p/d)	N/A	100	122	127

Appendix 2

Targets for intensively finished continental bred suckled calves

Feed	BULLS	STEERS		HEIFERS	
	Cereals	Cereals	Silage	Cereals	Silage
Start wt (kg) @ 7 mo. old	330	310	310	290	290
Slaughter age (months)	14	13	14	13	14
Slaughter wt (kg)	650	560	585	525	545
DLWG from birth (kg)	1.42	1.30	1.26	1.21	1.17
DLWG from weaning (kg)	1.52	1.39	1.31	1.31	1.21
Carcase wt (kg)	380	325	335	300	310
Carcase DG from birth (kg)	0.89	0.82	0.78	0.76	0.73
Carcase class	U=2=	R+4=	R=4=	R-4+	O+/R-4+
Concentrates (kg)	1,750	1,450	980	1,375	840
Silage (kg DM)	360	270	925	270	950
FCR (kg DM: kg gain)	5.88	6.13	6.46	6.24	6.59