



LOOK OUT FOR
Trace element deficiencies **p30**
Dairy minerals warning **p31**
Weaning trial **p33**

Grass Watch: Growth rates take a hit after cold weather
Livestock **p34**



Driver's view: Two farmers give the lowdown on their foragers
Machinery **p54**



Efficient finishing helps to hit beef carcass specs

A careful feeding strategy is paying dividends for one Harper Adams Beef Focus Farm in the East Midlands, where carcass weights now beat the AHDB targets by 48kg. **Michael Priestley** investigates

Fast finishing is vital to bull profitability for Nottinghamshire farmer Ian Willison, who adapted his intensive system to meet tight market specifications on carcass weights. He believes feeding young animals when they are at their most efficient is key to reducing fixed costs on bulls from high growth-index sires.

By doing this and using terminal sire bulls within the top 5% of the breed, he is hitting daily liveweight gains of 1.82kg from weaning to slaughter, to reach 700kg at 13 months.

Selling bulls at 398kg carcass weights (48kg above AHDB target) at £3.30/kg dead carcass weight (dcw) is worth an extra £158 a bull (48kg x £3.30). This equates to an additional return of £6,320 for the year across the 40 bulls produced at Williamswood with similar feed costs.

Harper Adams beef specialist Simon Marsh believes Mr Willison has adopted the most-efficient system by finishing male calves at 13 months.

"The system maximises stocking rates and output on his farm. If Ian were to finish the calves at 18 months old as steers, he would either have to reduce herd size by 23% or acquire more land and buildings to keep the same herd size. If the calves were to be finished more extensively at 24 months, the herd size would need to fall by a dramatic 38%."

To achieve this the feeding mentality is "push, push, push" from birth, although Mr Willison stresses success with bull beef systems doesn't hinge on feeding alone.

He sees the finishing phase as the last piece of the puzzle – on top of the right hybrid genetics, good herd health and welfare, and a well-executed weaning strategy for his autumn-born Simmental-cross

FARM FACTS

- * 75 Simmental cross Blue suckler cows
- * Lowland 80ha farm, including 40ha of reclaimed opencast coalfield
- * Soil type is classified as medium loam over limestone
- * 36ha is in permanent pasture, with the rest in leys and 8ha of maize silage

suckler bulls.

Similarly, Mr Willison believes feeding high amounts of cereals can work only if based on a solid foundation of high dry (DM) matter intakes and a fibrous diet, allowing animals to "tick over" with a healthy rumen.

FEEDING REGIME

A 50:50 forage and blend finishing ration fed ad-lib incorporates home-grown grass and maize silage, with a focus on protein helping to achieve a daily liveweight gain from

weaning to slaughter of 1.82kg, well ahead of AHDB targets of 1.45kg (see "Performance comparison"). A 17% crude protein, high neutral detergent fibre and 19% starch rearer nut is targeted at bulls prior to weaning as part of a policy of all calves being creep-fed to promote frame development and maximise genetic potential.

Two weeks ahead of weaning, bulls – all of which are kept entire – are introduced to the fattening ration, which is built up to 7kg of maize silage and a further 7kg blend, delivering 14-15kg/day overall.

Daily concentrate feed rate is then stepped up to 8kg in the autumn, five to six weeks prior to slaughter as bulls approach 12 months of age. By 13 months, concentrates are increased to 10kg/day to finish tailenders, with bulls eating 20-22kg of ration overall.

Variety drives appetite and supports rumen function, explains Mr Willison, who supplies home-

grown maize for starch and high-quality digestible fibre from sugar beet. He keeps protein levels at 14-15% (in the DM) to maximise the growth potential of his bulls.

"These form the basis of a balanced ration based on cereals, with straw always available for long fibre," he says. He budgets for 60cm of bunker space a bull.

"Bulls looking gutty is never a concern, since this indicates a bull with good rumen function rather than a clean-bodied greyhound type of beast with acidosis."

Wheat straw is provided twice a week in racks for "scratch factor" at a rate of 1kg a head a day.

WEIGHING AND HOUSING

Recent years have typically seen between 30 and 40 bulls finished each year for ABP, although cow herd expansion will see as many as 50 bulls finished in the coming years, at the expense of home-grown barley for grass leys.

Bulls are finished in the shed in which they are overwintered and weaned in mid-April. Cows are turned out on to spring grass.

"Once we have grouped and housed bulls we try not to alter groups or the housing since



Ian Willison says feeding strategy must be combined with the right hybrid genetics and good herd health

TOP TIPS FOR FINISHING SUCKLER BULLS

- * Creep feed prior to weaning
- * Feed top-quality silage with high-energy concentrates
- * Initially feed a high level of starch, but reduce with digestible fibre-based feeds as finishing progresses for optimum rumen function and health
- * Select for slaughter based on market requirements and look for outlets for heavy carcasses
- * If the market continues to penalise heavy carcasses, do not store winter continental-bred steers and select breeding bulls with positive fat depth EBVs

growth rates to then see penalties for efficient, well-bred beef cattle," says Mr Marsh.

"If this market penalty continues, most breed societies will need to evaluate how they calculate terminal index and reduce the weighting on growth and place greater emphasis on calving ease and positive fat depth.

"However, this move will prove detrimental to finishing heifers, which are rarely slaughtered at heavy weights. The industry needs to evaluate optimal finishing systems for suckler-bred heifers."

this checks growth rates," he says.

His thinking is that groups of bulls can be split if need be, but ideally groups shouldn't have bulls added, in an attempt to reduce the stress on animals.

Equally important to consistency of environment is a consistent cattle weighing schedule, explains Mr

Willison. Using a simple race and crush, 25 cattle can be weighed in half an hour, an exercise he stresses should take into account gut fill.

"The difference in gut fill can be up to 30kg on the overall weight of the animal," he adds, potentially meaning you can be more than 0.5kg out in your daily weight gain calculations.

For this reason, Mr Willison's Simmental-cross bulls are weighed at the same time on a morning in the first week of each month to account for eating routines.

'TRAGIC SITUATION'

Adaptations have been made to produce an average carcass weight at Williamswood of just under 400kg to avoid penalties for heavy carcasses.

Monthly weighing and fast finishing are two important factors in running a system that will limit overheavy cattle and remain in control of slaughter weights, allowing cattle to be sold early if they have

FINISHING RATION: 50:50 FORAGE AND BLEND

- * Maize silage (29% DM and 33% starch) crimped barley and blend (13.5% CP and 23% starch), which is based on rolled barley, sugar beet pulp, biscuit meal, rape, soya hulls, syrup and minerals
- * Topped up with 50g of urea to supply effective rumen-degradable protein
- * Initial high-starch diet (37% DM) to maximise efficient growth rates, then gradually reduced

PERFORMANCE COMPARISON

	AHDB target	I Willison
Slaughter age (months)	14	13.3 (405 days)
Slaughter weight (kg)	600	694 (gut full)
Weaning age (days)	244	229
Weaning wt (kg)	340	374
DLWG birth to weaning (kg)	1.25	1.49
Days weaning to slaughter	180	176
DLWG weaning to slaughter (kg)	1.45	1.82
DLWG from birth (kg)	1.29	1.68
Carcass weight (kg)	350 (58.3% KO)	398 (57.3% KO)
DCG from birth (kg)	0.81 (0.77)	0.98 (0.93)
Carcass grade	-U/U+3	-U 3-4L
Concentrates (kg/bull)	1,750 (1,500kg DM)	1,356 (1,155kg DM)
Silage (kg/bull)	N/A	2,011 (651kg DM)

Note: DCG in brackets deducts 24kg for the bull calf birth carcass weight

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