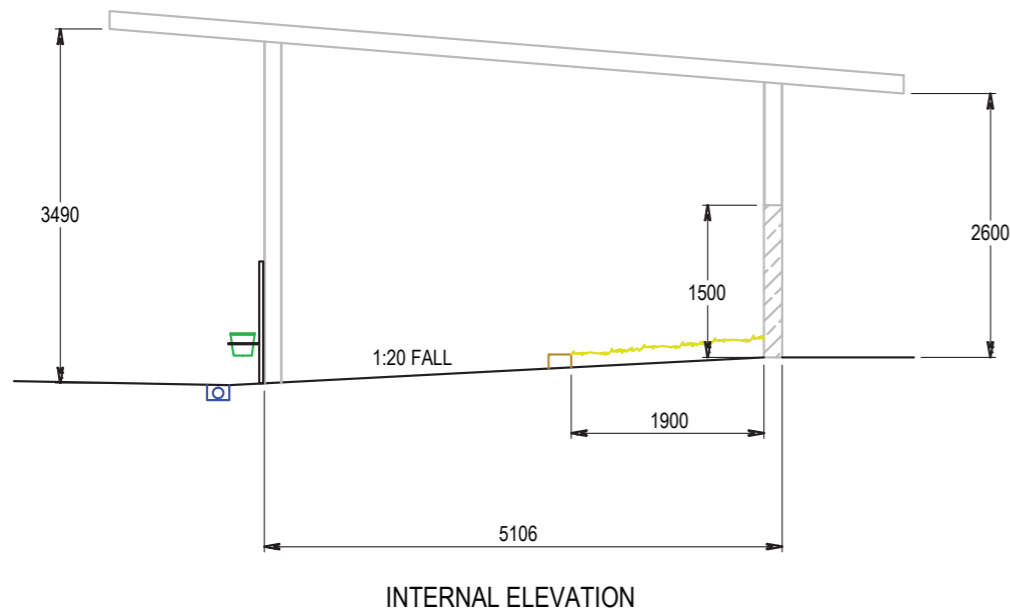
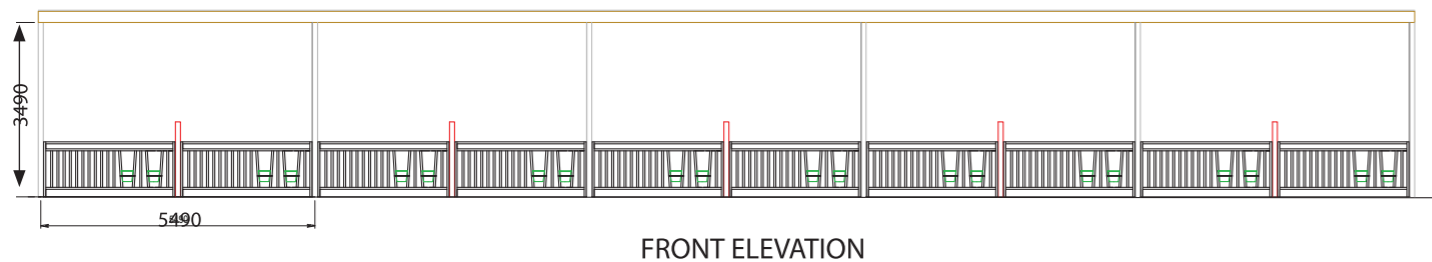
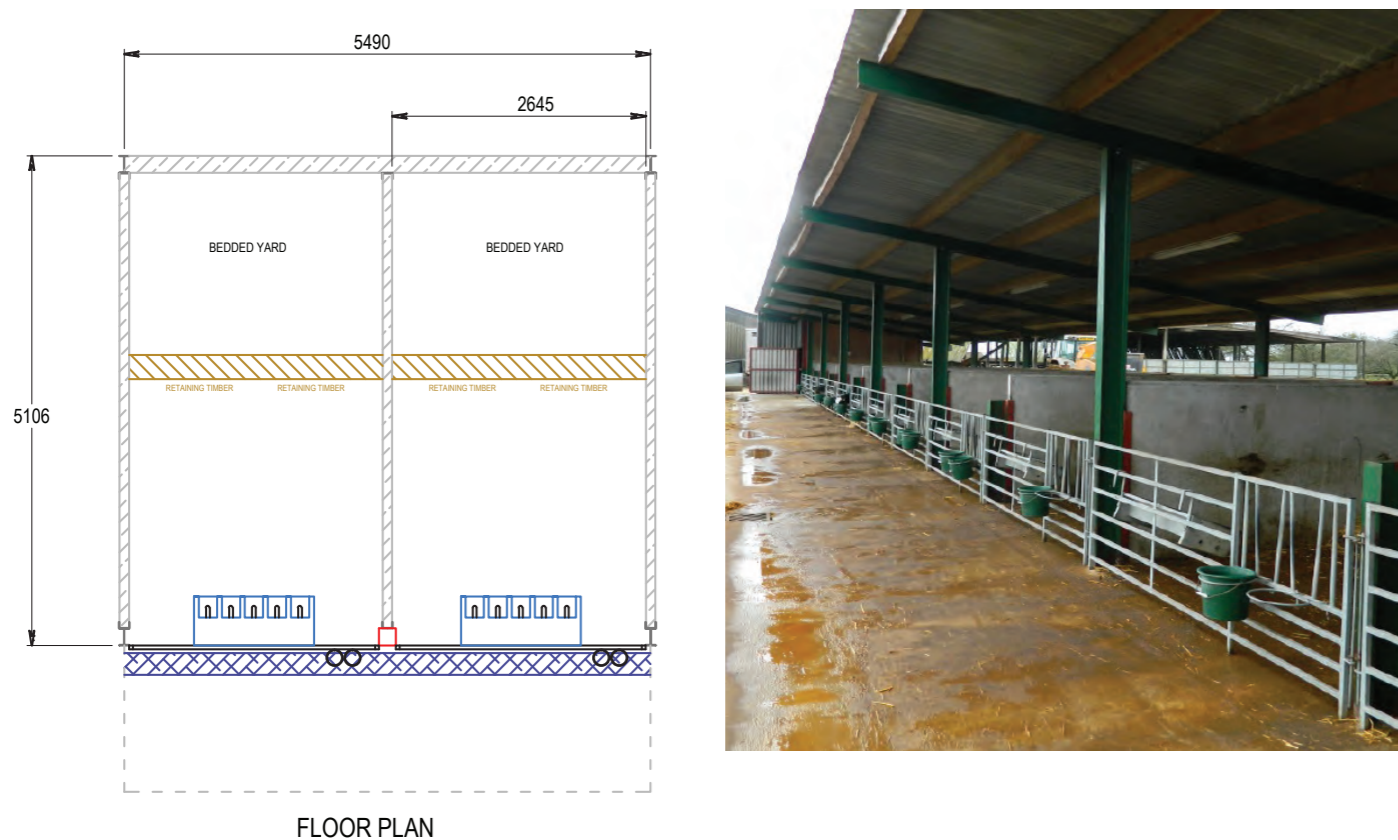


CALF HOUSE PLANS



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BONANZA CALF NUTRITION NEWSLETTER

ISSUE #2



THE CREAM OF THE CROP



Shine's Buttermilk Cream

Improving fat digestion and shown to have activity against Rotavirus¹



Shine's Non Dairy Cream

Made with 5 plant oils and with high levels of Omega 3. This blend helps to increase growth rates and reduce the effects of pneumonia²



Shine Once-a-day, Shine, Shine Complete, Compumate

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¹J. Dairy Sc. 2013. ² lower rectal temperatures and inflammation, Journal An. Sc. 2011

HARPER ADAMS TRIAL ON DRY FEED RATIONS

Successful calf rearing combines an early and high intake of colostrum with good nutrition, health and careful management of the calf. Some calf rearers have attempted to cut rearing costs by buying cheaper concentrates. The nutritional value of these concentrates is often reduced by using poorer quality sources of essential nutrients such as replacing cereals and soya bean meal with soya hulls and rapeseed meal.

The objective of this experiment was to investigate the effect of early weaning concentrate quality on the performance and health of artificially reared dairy-bred beef calves to 12 weeks. A standard good quality concentrate containing high levels of starch (from cereals) with soya bean meal was evaluated against a concentrate with a high fibre content formulated from feedstuffs such as soya hulls with protein supplied primarily from maize gluten, distillers grains and rapeseed meal i.e. an evaluation of 'good quality' versus 'medium quality' starter pellet.

The calves were fed 600g/day of Shine milk replacer and were gradually weaned when calves were eating 0.75kgs of concentrates.

The starch based concentrates were formulated from (in descending order of inclusion): maize grain, wheat, hi-pro soya, soya hulls, maize gluten, pollard pellets, molasses, distillers grains, rapeseed meal and minerals. It was analyzed to contain 20.4% CP, 7.4% Crude Fibre, 29.9% starch and 12.9 ME (MJ/kg DM).

The fibre based concentrates were formulated from: maize gluten, soya hulls, distillers grains, rapeseed meal, pollard pellets, maize grain, molasses, and minerals. It was analyzed to contain 20.7% CP, 11.0% Crude Fibre, 12.8% starch and 12.6 ME (MJ/kg DM).



Results:

Table 1: Live weights (kg)

Treatment	Starch	Fibre	Sig
Start	55.2	54.6	NS
3 weeks	69.0	67.9	NS
Weaning	86.7	85.5	NS
12 weeks	139.1	136.1	NS
Increase in liveweight	83.9	81.5	

NS = not significant. The calves fed the starch based concentrates gained an extra 2.4kg in weight from start to 12 weeks. There were no differences in last rib girth or wither height measurements.

Table 2: Daily live weight gains (kg)

Treatment	Starch	Fibre	Sig
Start - 3 weeks	0.66	0.63	NS
Start - weaning	0.73	0.72	NS
Wean - 12 weeks	1.28	1.19	NS
Start - 12 weeks	1.00	0.97	NS

Table 3: Feed intakes (kg) and Feed Conversion Ratio (FCR)

Treatment	Starch	Fibre	Sig
Milk replacer	25.3	25.4	NS
Concs - start to wean	20.2	19.7	NS
Concs - wean to 12 weeks	144.2	149.7	
Concs - total	164.4	169.4	
FCR - start to weaning	1.44	1.46	NS
FCR - start to 12 weeks	2.26	2.39	

The calves fed the starch based concentrates recorded improved FCRs.

Table 4: Financial performance – feed costs per calf and per kg gain (£)

Feed costs (£/calf)	Starch	Fibre
CMR @ £1,950/t	49.33	49.53
Starch Concs @ £304/t	49.98	
Fibre Concs @ £296/t		50.14
Feed costs/calf (£)	99.31	99.67
Feed cost per kg gain (£)	1.18	1.22

Simon Marsh who conducted the trial made the following conclusions and recommendations

Overall performance of the calves was very good significantly exceeding the targets for rearing calves to 15 weeks of 122kg. This excellent performance is likely to be partially due to the standard of stockmanship and feeding a high quality milk replacer. There was zero calf mortality in the study.

There were no significant differences in calf performance with feeding either a standard good quality concentrate containing high levels of starch with soya bean meal compared to a concentrate formulated with a high fibre content from soya hulls with protein supplied primarily from maize gluten distillers grains and rapeseed meal. However there was a numerical improvement in DLWG and live weight and by 12 weeks the starch fed calves had gained an extra 2.4kg.

There were no significant differences in calf health however there was a trend (P=0.09) for an improvement in coat bloom with the starch fed calves.

The fibre fed calves recorded higher concentrate feed intakes and due to the calves poorer performance this resulted in a deterioration in the FCR.

Total feed costs per calf were similar but costs per kg gain were lower with the starch based concentrates despite the fibre based concentrates being £8/t cheaper.

It can be concluded calf rearers should offer their calves a good quality starter concentrate based on cereals with the inclusion of some soya bean meal.

GOING BACK IS A STEP FORWARD FOR BUCKET-FED CALVES



Higher returns from improved calf health and performance on a dairy and beef farm that has reverted to bucket feeding has helped pay for a new calf rearing shed in just three years.

David Dibble, who farms with his father, Richard, and brother, Chris, at Lottisham Farms, Somerset, had been rearing dairy and beef replacements using a computerised feeder. But the housing was unsuitable and there were high levels of pneumonia and scour.

"The computerised system with its large group sizes and calves of varying ages was seen as one of the culprits. The second was the house the calves were housed in," explained Stuart Fry of Bonanza Calf Nutrition.

Not only were vet costs associated with these problems high but the time it took to rear calves put a strain on staff.

The Dibbles, who milk 380 cows, as well as running beef and sheep enterprises and a large arable acreage, decided to take action with support from Mr Fry.

Key considerations were disease control, calf welfare, performance and labour.

"We first needed an airy, bright house that took in plenty of sunlight as UV light is the best killer of cryptosporidium and coccidia," said Mr Fry. "It is also better to build an airy house and make it warm that the other way around."

The Dibbles opted for pens suitable for five

calves as this best suited the calving pattern and existing teat feeder. "Small group size and keeping calves isolated based on their age is key in reducing disease and improving performance," said Mr Fry. "The pens were designed to be two feet wider than the farm's loader so that they could be cleaned out in minutes."

The floor was critical; it was built with a fall of 1:20 - an 8 inch drop in a 13 foot pen. "Calves that are bedded at the back tend to dung and wet the front of the pen which is swept clean every morning," said Mr Fry. "A concrete wall was a compromise at the back of the pen but an overhang allowed bales to be placed at the back to keep the pens warmer and calves can be bedded from here as well."

Calves are fed Shine milk replacer with ad lib dry feed, straw and water.

Calf performance has improved vastly; weight gains above 0.7kgs/day/calf have been achieved in the first 8 weeks of life.

David now has more time to look at ways to improve this further because labour requirements are less and more time can be devoted to calf husbandry and welfare.

Vet and medicine bills have reduced to such an extent that, coupled with much lower levels of mortality, the cost associated with establishing the calf house has been cost neutral.



L-R: Stuart Fry and David Dibble discuss calf performance.