



More control of heifer growth rates and better health and longevity

## Straw switch has benefits

Tight forage supplies saw many producers switch to feeding heifers with straw-based rations in winter 2012 – and with surprisingly positive results. We spoke to a nutritionist and two producers to find out more.

text **Rachael Porter**

**S**witching replacement heifers onto straw-based rations has proved to be a successful strategy

to help preserve limited silage stocks. And, according to KW nutritionist Mark Scott, tangible improvements in

heifer performance, backed by university research, have led many producers to stick with straw-based rearing systems. Others have decided to make the change even when forage is plentiful.

### Control growth

“Straw-based heifer rearing makes it much easier to control growth rates, reducing the risk of heifers becoming over-fat and improving health and longevity once in the herd,” he says. “Research has also shown a significant reduction in white line and sole lesions

## Good growth after switch to straw-based diet

Like many with limited forage stocks in winter 2012, Lancashire-based producer Andrew Deacon moved youngstock onto a straw-based ration to maximise silage availability for the milking herd. Supplemented with KW’s Precision Lifetime Rearer 20 blend, the new diet was a great success, and straw-based rations are set to be fed to heifers again this winter.

“We’ve been increasing cow numbers, mostly through using sexed semen and rearing more heifers, so we’ve got

around 300 youngstock on the farm in addition to the 340 cows,” he explains. “The extra buildings we’ve taken on to accommodate the additional heifers work best as straw yards, so the drier ration is ideal.”

Run in conjunction with his mother and four full-time staff, plus part-time help when needed, the herd at Boyes Farm, Leyland, is currently averaging 11,000 litres per cow. Heifer age at calving is around 27 months, with the target of 24 months not far away.

“The heifers have done really well on the

straw and blend and I’m very pleased with the results,” says Mr Deacon. “They’re well grown, on target and seem to be more uniform in size.

“Getting the supplementation right is the key, and this year we’ve switched to maize gluten now that it’s available again, plus a vitamin and mineral supplement, so we’ll see how that performs.

“The system is a little more expensive than using silage, but for us it works well, we can use the silage to feed extra cows, and it’s definitely something we’re going to stick with.”

## On target with straw-plus-blend system

Farming in Cleveland and North Yorkshire, the Dugdale family has been rearing replacements on straw-based diets for the past five years, with around 110 heifers entering the block calving herd each autumn. Well grown for bulling at 15 months and calving in ideal condition at 24 months, heifers are now healthier and better adapted to life in the Crathorne Farm's milking herd.

"We used to give heifers the lower quality grass silage not fed to the milking herd, but they often struggled to gain weight," explains Joe Dugdale. "They were also housed in straw yards for the winter and the wet silage tended to produce loose dung."

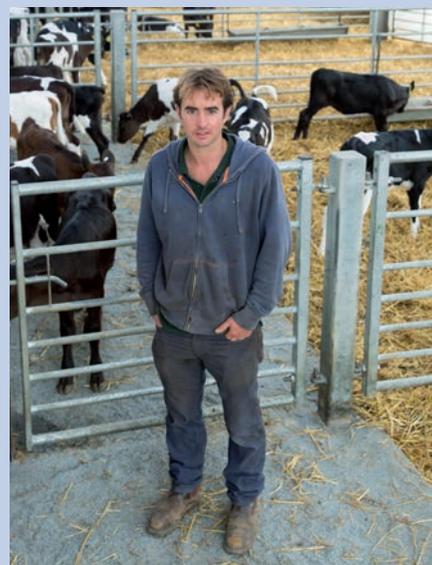
The switch to straw, supplemented with a 20% crude protein youngstock blend,

immediately cleaned up living conditions. And a recent change to cubicle housing pre-calving means heifers now enter the 400-cow cross-bred herd both pre-trained and in ideal condition.

"Milking rations are rough mixed and fed out with a bucket, with nothing fed in the parlour," says Mr Dugdale. "As a mixed farm we have the straw, so feeding that to heifers with a blend fits in really well."

"Calves are offered straw from a week old. It's a great system. We still graze for as long as possible each summer and achieve the two-year calving average that we need for block calving."

*Joe Dugdale: "Feeding straw cleaned up heifer living conditions under foot"*



	target growth rate (kg/d)	target liveweight (kg)
birth to 5 weeks	0.55-0.70	65
5 weeks to 4 months	0.80-0.85	145
4 months to 10 months	0.70-0.75	265
10 months to 12 months	0.85	320
12 months to 15 months	0.85	390
15 months to 22 months	0.85	575
22 months to calving	0.65	610

Table 1: Target growth rates and weights for Holstein heifers

– both pre- and post-calving – when heifers are fed a dry straw-based ration compared to a wetter silage-based one. "It's a result that has significant implications for cow health, welfare and longevity. Both types of lesion are precursors to more serious lameness problems and cows going lame in their

first lactation are known to experience more hoof problems during subsequent lactations."

Maintaining close control over energy and protein intakes is critical if heifers are to calve at the right size, in the right condition and at the right time (see table 1). And using straw as the primary forage can also improve rumen development due to the additional 'scratch factor' it brings to the ration.

### Cow health

"One of the biggest problems is too much energy in heifer diet's, leading to excessive fat pad development in the udder and over-fat heifers at calving," explains Mr Scott.

"The result is an increase in the risk of calving difficulties, lower post-calving appetite and a reduction in milk yield." Straw-based rations allow greater

control over energy intake, with protein quality and supply optimised through careful use of supplements (see table 2). Correct nutrition and growth during pre-puberty is particularly important if good rumen development and fast early growth to calve at 24 months is to be achieved. Getting the right balance of protein is key to supporting lean growth and the good frame size needed for heifers to consume enough feed post-calving to support milk production and continued growth.

### Rumen development

"Higher protein – at least 20% crude protein – youngstock blends, like KW's Precision Lifetime Rearer 20, are not only high in rumen-buffering digestible fibre but they also contain high levels of rumen-bypass protein. This digestible undegraded protein helps to drive lean tissue growth," says Mr Scott.

"Youngstock blends are also a popular choice for those looking for flexibility and improved cashflow. Smaller loads can be delivered when needed, are easier to store and require less capital to be tied up in bulk loads of straights."

Add in the fact that a 200-cow herd could save nearly 400 tonnes of grass silage – equivalent to around nine hectares cut three times – by switching heifers onto straw plus a blend, and it's easy to see how the benefits start to mount up. "If you want the best control over heifer growth and nutrition, the best performance post-calving and the best return on rearing costs, it really is the only choice," he adds. |

Table 2: Options for rearing replacement heifers on straw-based rations

straw plus youngstock blend	kg FW/head/day <sup>1</sup>			
	to puberty 4-10 months	to service 10-15 months	pregnancy 15-22 months	pre-calving 22-24 months
wheat straw	2.00	3.50	6.00	as per dry cow group
20% crude protein youngstock blend <sup>2</sup>	3.50	5.00	5.50	
energy (MJ ME/kg DM)	10.1	9.8	9.1	—
protein (% of DM)	16.0	15.1	13.0	—
wheat straw	1.80	3.20	5.80	as per dry cow group
maize gluten	3.50	5.00	5.50	
vitamin/mineral premix <sup>3</sup>	0.05	0.05	0.05	
energy (MJ ME/kg DM)	10.5	10.1	9.3	—
protein (% of DM)	16.1	15.0	12.9	—

<sup>1</sup> Feed requirement will vary depending on actual heifer liveweight

<sup>2</sup> Fed as KW Precision Lifetime Rearer 20

<sup>3</sup> Fed as KW Complete Youngstock