REARING THE 2015 HERD

by

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Research and development has played, and will continue to play, a major role in supporting our industry as it embraces the opportunities and faces up to the challenges which lie ahead. These challenges are being met through an integrated research and development partnership in which AFBI, AgriSearch and CAFRE are actively involved in research programmes and knowledge transfer events, both at AFBI and CAFRE sites, and on farms across Northern Ireland. These research and development programmes have been designed to tackle areas of our production systems where real progress can be made. This week's article produced by Steven Morrison, AFBI Hillsborough focuses on breeding and rearing dairy heifers, an area where today's decisions will have a major impacts on the performance of the dairy herd in 2015 and beyond.

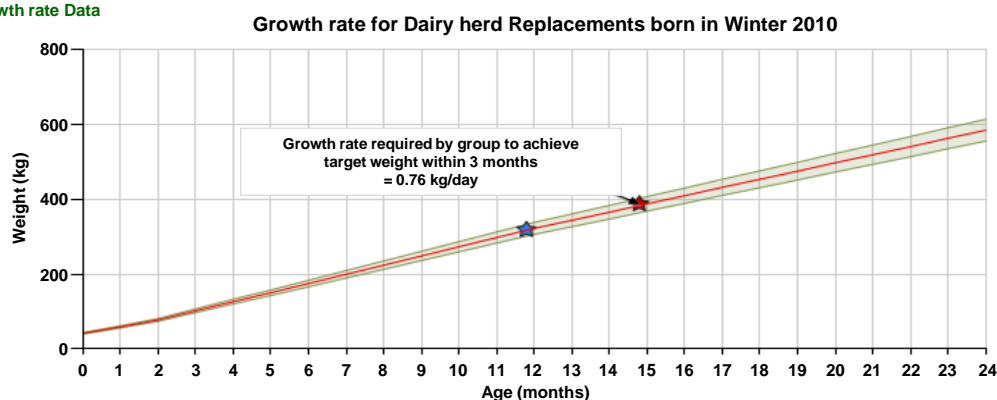**Monitor to manage dairy herd replacements**

Monitoring the growth and development of dairy heifers against appropriate targets is the key to success in heifer rearing. AFBI have developed 2 major tools to assist dairy producers calve heifers at the optimum body size (540-580 kg) and age (23-25 months of age).

Firstly, a calibrated weigh band to enable producers to determine accurate weights for their heifers. This recognises the fact that less than 10% of producers have weighbridges available to record heifers through the various rearing phases (AFBI/CAFRE survey). With over 21,000 animal recordings used to calibrate the weigh band, this tape gives a robust and reliable prediction of the live weight of Holstein-Friesian heifers. The weigh band has recently been updated and is currently available from your CAFRE dairying adviser

Coupled with the weigh band, AFBI have now launched the BovIS Growth Monitoring Tool within DARD online services. This intuitive web based programme enables easy monitoring of weight for age right through the rearing period with targets set from the latest AFBI research. The Growth Monitoring Tool returns from APHIS a list of available animals within the user's herd that meet the date of birth range selected. Based on the mature weight of the cows within the herd, a customised growth curve is generated against which the inputted animals' weights are assessed (Figure 1). The producer can clearly see how the individual or group of animals are performing against target and make an informed decision on how to best achieve the next target.

Animal Summary Table	Summary Chart	Individual Animal Chart	

Average Growth rate Data

Growth rate for Dairy herd Replacements born in Winter 2010

Growth rate required by group to achieve
target weight within 3 months
= 0.76 kg/day

Dairy Herd Replacements born in Winter 2010

Animal Tag No	Sex	Breed	Date of Birth	Age (months)	Weight (kg)	Target Weight (kg)	Target Weight in 3 Months (kg)	Target Live Weight Gain (kg)
UK 9 390002 8519 4	F	Holstein	01/09/1011	12.0	320	323	388	0.75
UK 9 390002 8520 5	F	Holstein	03/09/2011	11.9	300	323	388	0.96
UK 9 390002 8521 6	F	Holstein	06/09/2011	11.8	280	323	388	1.18
UK 9 390002 8522 7	F	Holstein	07/09/2011	11.8	320	323	388	0.75
UK 9 390002 8523 1	F	Holstein	07/09/2011	11.8	275	323	388	1.24
UK 9 390002 8524 2	F	Holstein	07/09/2011	11.8	250	323	388	1.51
UK 9 390002 8525 3	F	Holstein	09/09/2011	11.7	375	323	388	0.15
UK 9 390002 8526 4	F	Holstein	10/09/2011	11.7	390	323	388	-0.02
UK 9 390002 8527 5	F	Holstein	10/09/2011	11.7	340	323	388	0.53
UK 9 390002 8528 6	F	Holstein	10/09/2011	11.7	340	323	388	0.53
			Average:	**11.8**	**319**	**323**	**388**	**0.76**

Note: It may not always be physically/practically possible to achieve stated growth rate within 3 months. Please consult with your CAFRE Development Advisor.

Figure 1 Example output from online BovIS Growth Monitoring Tool

Within the dairy industry there are significant opportunities to reduce the average age of calving (currently 30 months of age), through the appropriate management and feeding. This will have significant economic (estimated at 1ppl savings in the cost of production) and environmental benefits (estimated 5% reduction in greenhouse gas emissions). This latest AFBI tool is designed to help the dairy industry realise these opportunities.

Breeding replacements

There is good news in terms of the genetic merit of heifers coming into dairy herds in Northern Ireland with continuing increases in genetic merit for milk production traits, but now gains are also being made in udder health and lifespan traits. Furthermore the decline in genetic merit for fertility which has occurred over the last two decades is now coming to a halt.

In terms of sire selection, PLI (Profitable Lifetime Index) provides the basis for appropriately balanced breeding decisions. Moving forward, the PLI will continue to develop to include further new traits and to take into consideration changing market outlooks, new environmental considerations and developments in production systems. AFBI is involved in this work led by Scottish Agricultural College and DairyCo, helping to ensure that PLI remains optimum for Northern Ireland milk production systems.

Whilst we are making good progress on genetics, the rate of genetic progress can be much quicker within the Northern Ireland dairy industry. For this, we need to address (a) low levels of performance recording relative to our competitors (milk recording and animal health and fertility recording) and (b) relatively low use of the PLI by producers for sire selection. To tackle low trait recording needs commitment from producers to record more and integrated databases to make best use of all records.

Summary

Research and development has enabled heifer rearing blue-prints to be developed with real economic and environmental benefits. The AFBI/AgriSearch/CAFRE initiative on the feeding and breeding of dairy herd replacements is working to underpin the widespread adoption of this research.