The GEORGE Farm Vets

NEWSLETTER – November 2018

Heifer Rearing Targets

Heifer Rearing for Maximum Return

There is a wealth of evidence that shows that calving your heifers at 24 months is more economically efficient than calving at 36 months. The major factors that contribute to this are:

- yield – a 3 year old heifer produces more milk in her 1st lactation but a 2 year old heifer will already be starting her 2nd lactation so will quickly catch up
- feed – a 3 year old heifer is fed for a whole 12 months without any return on investment
- calving – more calving issues in 3 year old heifers resulting in higher loss of heifers in 1st lactation.

Before determining the growth rates you require in your replacement heifers to achieve this target, a number of factors need to be addressed such as:

1. **How many heifers do I need?** This is dependent on your herd size and culling rate. The following table shows how many heifers – from birth to calving – you need on the farm each year for every 100 cows in the herd:

Age at first calving (m)	Herd Culling Rate (%) (assuming 5% calf mortality)						
	17	20	23	26	29	32	35
22	33	39	44	50	56	62	67
24	36	42	48	55	61	67	74
26	39	46	52	59	66	73	80
28	42	49	56	64	71	78	86
30	45	53	60	68	76	84	92

Total number heifers needed per 100 cows

2. **Where are my heifers going to be when I want to breed them?** Have you got facilities to manage AI or will you need to rely on a bull to serve heifers at grazing? If using a bull, consider a fertility test before use.
3. **What treatments do I need to complete before breeding?** Vaccination programmes need to be completed before your heifers are served. Grazed heifers will also need worming and lungworm control.
4. **How many of my heifers are suitable for breeding?** A pre-breeding examination of heifers in the period leading up to the start of service can weed out any that are not suitable as replacements eg freemartins, immature reproductive tracts, poor growth.
5. **When am I going to stop serving heifers?** Whilst it seems a shame to discard heifers before they have had a calf, a heifer that takes multiple services to get in calf the first time and therefore calves well after the target age of 24 months is never going to perform within the herd. Accepting the loss early can reduce the financial impact of these sub-fertile heifers.

With the increased availability and quality of sexed semen, it is possible to target your reproductive programme to ensure you produce enough heifers each year for replacements whilst opening up a potential income stream by using beef semen for all other services.

Allowing for the fact that not all heifers will get pregnant to the first service, the aim is to ensure your replacement heifers grow at a rate that they are fit for service at 13 months. Our young stock plan covers the initial period of birth to weaning. If you achieve good growth rates during this period, there is no reason why you shouldn't be able to maintain these to hit the target weight for service from 13 months.

Age/stage	% mature body weight
6 months	30
9 months	40
Mating	55-60
Pre-calving	90
Post-calving	85
Second calving	92

Heifer growth rate targets

Puberty occurs when an animal reaches 40% of its mature body weight with around 75% of the frame growth occurring pre-puberty. Although poor weight gain can be compensated for at all stages of growth, poor growth in height in early life cannot. An animal stunted by one month of age will never recover that loss. Combining measurement of weight with withers height will ensure you avoid the risk of breeding short, fat heifers. In general, >0.7kg/day weight gain will result in a Holstein-Friesian heifer weighing 550-600kg post-calving.

Age (m)	Holstein		Friesian		Jersey	
	kg	cm	kg	cm	kg	cm
2	76	87	72	84	55	78
6	180	104	162	100	130	94
15	420	129	350	122	265	114
24 (pre-calving)	636	140	535	134	395	122
24 (post-calving)	568	140	485	134	350	122

Heifer rearing targets for main dairy breeds

Once your heifer is in calf, you need to maintain this growth rate through the first pregnancy to ensure you minimise the risk of over-fat heifers at calving.

Having achieved the target of calving at 24 months, these heifers require as little stress as possible as they transition into the milking herd. Try to avoid introduction of heifers into the whole herd for a minimum of 5 days post calving. Ideally, keep in a heifer group for at least four months of their first lactation. This ensures they have reached peak production and are back in calf before mixing with the whole herd. If a heifer group is not practical, introducing your heifers to the milking parlour prior to calving encourages milk production by reducing the fear of new surroundings; also overcoming the problem of mixing with the main herd at the point of calving. Introducing new heifers into the herd after afternoon/evening milking when cows are less socially active is also beneficial.

If you would like to review your heifer management and set some targets, please speak to one of the vets at the Practice.

Cathy Morris