BEEF REPRODUCTION NEWSLETTER

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Welcome to our existing and new clients to yet another cattle breeding season.

This newsletter will be a refresher to some but will hopefully assist you in evaluating how to maximise your reproductive performance for the coming season.

Firstly it is important to understand what is achievable from your cattle and relating your actual results with the target results. From here you can start to assess where improvements or changes can be made.

Setting reproductive targets:

- Beef cattle conception rate approx: 60-70 %
- 1 cycle mating (21 days) 60 % pregnant
- 2 cycle mating (42 days) 84 % pregnant
- 3 cycle mating (63 days) 94 % pregnant
- 4 cycle mating (84 days) 98 % pregnant

Xcell Breeding's Reproductive Target: To have as many cattle cycling for fixed time programming and insemination.

Synchronization rate	*Conception rate*				
	50%	*60%*	*70%*	*80%*	
100%	*50%*	*60%*	*70%*	*80%*	*Pregnancy Rate%*
90%	*45%*	*54%*	*63%*	*72%*	
80%	*40%*	*48%*	*56%*	*64%*	
70%	*35%*	*42%*	*49%*	*56%*	
60%	*30%*	*365*	*42%*	*48%*	

Each year we face the same limitation of attempting to breed within one calendar year.

- The gestation of cattle is 282 days which is followed by past partum anoestrous period for cattle of 40 to 60 days. This leaves only 40 to 50 days (2 cycles) for MA cows to get back in calf each year.
- This stresses the importance of early heifer conception, as the average mating date will continue to creep backwards following heifer mating.
- Each young crop of heifers provides a chance to pull the average calving date forward, ultimately increasing their herd productivity. For commercial and stud farms aiming to capitalise on artificial insemination and simply achieve top fertility results, heifer rearing is critical to a successful and economical programme.
- Synchronization programmes pull the average Planned Start of Mating [PSM] forward to allow an extra mating cycle (3 cycles vs 2), which will improve the overall herd productivity as well as providing an opportunity to introduce new genetics into your herd.

For each day earlier a cow conceives, this corresponds to a 1 kg heavier calf regardless of the genetics, provided the cattle are in sufficient body condition.

Nutrition: Feeding is the cheapest supply of energy, protein, minerals and trace elements.

Heifer nutrition should be monitored by live weight:

The minimum heifer weight at joining is 60% of the mature cow weight, with a target weight set at 65 -70% of mature cow weight. After this point, animals can be monitored on condition score.

- i.e. 360 kg for 600 kg Angus cows
- This would require an average growth of 800g per day from birth.
- Prior to A.I heifers should be tail painted, to determine the percentage of cycling animals. This will confirm puberty and healthy cycling.
- Heifers should aim to be 85-90 % of mature weight at calving.
- R3 are not mixed age cows and require preferential feeding to ensure early and successful cyclical activity.
- For each 20 kg of weight gained post calving is associated with 7 day shorter post-partum interval.

Mixed age breeding cattle: Condition score is the most accurate and simple indicator as to how appropriate the current feed supply is.

Based on a condition score of 1-5 the following values are targets:

Timing	R3	MA Cows
Mating	3.5	3.0
Weaning	3.5	3.5
Calving	3	2.5

The most important thing to consider for weighing or condition scoring is- do you have the ability make changes following the results? I.e. preferential feeding of the light animals, restriction of the fat animals and potentially extra feeding or supplements if required.

Parasites: The worms that parasitize cattle are gastrointestinal worms and Lung worm.

Optimum conditions for larvae survival are with an average temperature of 10 degrees, yet larvae can survive to varying amounts at all temperatures!

- Resistance is obtained by 2 years of age - in the order of Cooperia first, followed by Ostertagia and Trichostrogylus.
- Ostertagia is predominately parasitizing in early spring.
- Trichostrongylus and Cooperia are most common from late summer to early winter.

The role of drenching is to reduce parasite levels on the pasture. This will subsequently prevent weight loss from further parasitization. This is achieved by routine drenching to kill parasites, yet enable some egg production to reduce resistance development.

Cross grazing: Co-grazing or cross grazing of cattle and sheep between paddocks every 28 to 40 days. Will further reduce pasture parasite levels.

By 3 months calves receive 50 % of their nutrition from milk and by weaning time calves receive 20-25% of their energy requirements from milk.

A drench programme is focused on young stock only- Highest Return on Investment.

1. *First drenching is at weaning*
2. *Followed by a routine drenching every 28 days until placed on crop, i.e. 5 drenches.*
3. *An additional drench prior to mating*

Drench choice	Product Name	Active ingredients	Cost for a 300kg weaner	Cost for 100 animals
Dual Combo	Switch	Abamectin/Lev	$1.22	$122
Triple Combo	Matrix C	Aba/BZ/Lev	$1.89	$189
Dual pour on	Eclipse	Aba/Lev	$3.78	$378

As a result of drench resistance all products should contain Levamisole and a Mectin type product. Orals have a greater efficacy and are much cheaper than pour on treatments, they are still the gold standard of treatment.

Trace elements and minerals: There is strong supporting evidence for positive effects on reproduction through supplementation with copper and selenium if there is a deficiency.

- *Supplementation is important for animals wintering on crops or on known mineral deficient soils.*
- *Long acting selenium (selovin LA) and oral copper boluses or copper injections (coppermax) provide sustained elevations.*
- *If there has been no previous trace element supplementation we recommend Multimin Cu 4- 6 weeks prior to breeding, this provides Cu, Mn, Zn & Se. This is a quick fix short acting (SA).*
- *Other products such as Iodine, Vit A, D, and E may also play a critical role in conception rates. This can be administered as on oral drench (vet LSD) at the start of the A.I programme (cidr insert).*

When to test: Cu and Se levels can be monitored through blood samples or through liver samples which is most commonly done when dry cows or prime stock are sent to the works.

Trace element/minerals	*Deficiency in animals*
Calcium	***Late winter/spring***
Magnesium	***Late winter/spring***
Copper	***Winter***
Selenium	***Winter***
Iodine	*Summer*
Cobalt	*Late spring/summer*
Zinc	*Summer*
Manganese	*Summer*

Disease:

The common reproductive diseases affecting cattle are BVD, IBR and leptospirosis

- All of which are able to be controlled through blood sampling and vaccination. ***Not all diseases are prevalent on all farms and the risk is far greater to open herds or trading farms.*** (Feel free to discuss this with Xcell vets)

BVD: *A sensitizer and booster vaccination is to be administered 3 weeks to 6 months apart based on the product used. Use as close to mating as possible. Annual booster pre-mating.*

IBR*: A sensitizer and booster vaccination 3 weeks apart. Annual booster prior to calving. Yearling bulls first vaccination at weaning.*

Lepto*: Sensitizer vaccination at weaning followed by a booster 4 weeks later at the next drenching. Annual booster pre calving (4-6 weeks)*

Along with the main reproductive diseases any other disease or stressor is capable of affecting the conception rate and the embryo survival. These may include:

- Campylobacter
- Salmonella
- Yersinia
- Mycoplasma
- Transport
- Excessive heat

If you have questions in regards to your future breeding programme or for advice on animal health plans and feed budgeting feel free to contact:

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