

## **Bulls**

- Annual breeding soundness exam.
  1. Should be done 30-60 days prior to turnout.
  2. Palpation of internal sex glands: prostate, vesicular glands, and palpation of testes, epididymides and scrotum. Minimum standard no abnormalities.
  3. Scrotal circumference should be a minimum of 30 cm for yearlings and 34cm for 2 year olds and older.
  4. Visualization of penis with extension and no abnormalities should be found.
    - Example of abnormalities: frenulum, warts, adhesions, and spiral deviations need to be noted.
  5. Optimum BCS should be 6/9 with a smooth appearance.
  6. Visualization of eyes, feet and legs should be noted and no abnormalities found.
  7. Motility should be no less than 30%
  8. Semen morphology should be 70% normal or greater.
- Owners should observe bulls servicing cows.
- Also need to watch and see if cows are returning to heat after being breed.

### ➤ **Servicing Capacity**

1. Yearlings – 15-20 head
2. Mature Bulls – 20-40 head
3. This depends upon the ability of the bull, breeding season, and pasture size.

### ➤ **Other information**

- Bulls need to be fit prior to breeding season; ***this requires some form of exercise.***
- All bulls should be BVD/PI negative.
- New bulls should be quarantined for 3-4 weeks and until BVD/PI status is proven.
- Other tests may be necessary depending upon previous history of bulls.
  - Examples include Trich and Bangs

### ➤ **Parasite Control**

1. Deworming twice a year- once at BSE and again in the fall
2. Spring use panacur and lice control
3. Fall use an Avermectin product.
4. Fly control as needed (fly tags option).

### ➤ **Vaccinations**

1. Annually with IBR, BVD, Vibrio and Lepto (Virashield 3 +VL5)
2. Other vaccinations that maybe considered:
  - Foot rot
  - Trich
  - Pinkeye
  - Wart vaccine (availability in the future is questionable)

## **Heifer Development**

### ➤ **Vaccinations**

1. At least 3 Modified Live Vaccines (MLV) before entering breeding herd, with last dose 30-60 days prior to AI or bull turn out.
2. MLV should include both IBR and BVD using a broad antigenic selection of vaccines (different vaccines)
  - EX: Bovishield Gold
  - Jencine or Express 5
  - Vista 5 SQ VL5
3. Vibrio and Lepto 5 way with HB should be in the last dose given prior to bull turn out.
4. Bangs vaccination needs to be done before 1 year of age.
5. Cows should be annually vaccinated with Bovishield 5 or Vista 5 alternating on a yearly basis and Vibrio and lepto 5 way with HB at 30-60 days before breeding.
6. Second option is on label use with Bovishield at pregnancy exam.
7. Other vaccines generally not recommended except under special conditions. Ex: Trich or Neospora.
8. Scour vaccines can be used as a tool to control scours.
  - Should be given on label prior to calving. Ex: Scour guard, Pilishield, Scour Boss or Gaurdian.

### ➤ **Nutrition**

1. Heifers should be developed together and not with older animals due to dominance of larger animals.
2. Analysis of feedstuffs allows for the most economical balanced ration.
3. Heifers should be feed to a BCS of 5.5-6.0 to prevent over feeding and the problems that over feeding causes.

### ➤ **Parasite Control**

1. Fecal should be done to determine deworming need and to aid in product selection.
2. In absence of a fecal exam it will be assumed that cattle need to be dewormed.
3. Lice control should be done on all cattle.
  - Grubicide/Lice in fall prior to Nov 1<sup>st</sup>.
  - A second dose of lice control may be needed in late winter early spring (Jan-March).
4. Coccidia control should be started at weaning with Decox or Corid preferably in feed.
5. Ionophores (Rumensin and Bovatec) can be used to control coccidia following initial treatment.
  - Ionophores have been shown to hasten puberty in heifers.

➤ **Target Weight**

1. The old rule of thumb 65% of mature body weight is being challenged. Recent research is showing no difference in fertility for heifers developed from 50, 55, 60, and 65 %. It is probably more economical to develop heifers at lower target weights.
2. At this point taking the middle ground would offset reproductive failure and the risk with economical benefits of developing to lower target weights 55-60%.
3. Second critical target weight is 85% mature weight at calving.

**Expected Mature Weights and Target-Weights for Heifers**

Frame Score	Expected Mature Wt.	55% of Mature Wt. (lbs)	60% of Mature Wt. (lbs)	65% of Mature Wt (lbs)
2	953	524	572	619
3	1027	565	616	668
4	1100	605	660	715
5	1173	645	704	762
6	1247	686	748	811
7	1320	726	792	858

➤ **Bio-security**

1. All heifers should be BVD/PI tested prior to entering breeding herd (home raised or purchased). For more information on BVD see handout. This can be done at Bangs vaccination.
2. Purchased heifers should be quarantined from herd for 3-4 weeks and until BVD/PI negative status is known.

➤ **Reproduction**

For any one breeding season (60-90 days) the following reproductive standards should be achieved. These are the minimum percentages of pregnant animals for this period.

1. 1<sup>st</sup> calf (replacement) heifers 85%
  - Recommended shorter breeding season possibly 30-40 days, which puts more pressure on reproductive goals.
2. 2<sup>nd</sup> calf heifers and adult cows 90%.
3. If your percentages fall below these goals then consultation with a veterinarian is recommended.
4. Twin Forks Clinic has also developed a questionnaire that explores possible problems/causes for low reproductive performance in your herd. Pending this, further action and/or testing may be deemed appropriate.

➤ **Pelvic and Uterine Scoring**

1. Usually done 8-12 months of age.
2. Can be done at bangs vaccination.
3. This procedure can be utilized to reduce dystocias and eliminate infertile or sub fertile heifers, and also to detect pregnant females.
4. Pelvic measuring is best utilized with frame scoring to cull heifers that are unacceptably large via frame score and select heifers that meet desired pelvic area. Otherwise we are selecting for larger cows that tend to have larger calves therefore increasing dystocia levels.
5. Mis-shaped pelvic structures should be eliminated.
6. An alternative to frame scoring would be to eliminate heifers from bottom 10% and the top 10% selecting from the middle.

**Reproductive Tract Scores**

<i>Reproductive Tract Score (RTS)</i>	<i>Uterine Horn Size/Tone</i>	<i>Approximate Ovarian Size</i>			<i>Ovarian Structures</i>
		<i>Length (mm)</i>	<i>Height (mm)</i>	<i>Width (mm)</i>	
1	<20 mm diameter No Tone (immature)	15	10	8	No palpable follicles
2	20-25 mm diameter No tone	18	12	10	8 mm follicles
3	25-30 mm diameter Slight tone	22	15	10	8-10 mm follicles
4	30 mm diameter Good tone	30	16	12	> 10 mm follicles CL possible
5	> 30 mm diameter Good tone	>32	20	15	> 10 mm follicles CL present

➤ **Timing /Length of Breeding Season**

1. It might be appropriate to breed heifers for shorter period of time (30-40 days) and selecting only pregnant heifers as replacements. Open heifers can be marketed as heiferettes at an economic advantage. Long term this should improve herd heifer fertility and profitability.
2. By breeding heifers at cow breeding season, heifers calve early in the season, saving you time, and labor by not having to check heifers, prior to the start of cow calving season.

➤ **Implants**

1. It is generally not recommended, and no economical benefit to implant heifers that will be kept as replacement heifers.

➤ **Synchronization Programs**

1. Synchronization programs should be utilized to shorten breeding seasons even for bull bred heifers.
2. See synchronization handout for more information.