

Reproductive Management

Southern Section ASAS Webinar Series

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Measuring reproduction?

- Pregnancy rate
- Percentage calf crop
- Pounds of calf weaned per cow exposed

$$= \text{Total WW} / \text{Total \# of Cows}$$

— Accounts for

- Reproductive efficiency (pregnancy rate)
- Calving percentage
- Weaning rate
- Growth genetics and management

Lbs. Weaned / Cow

% Calf Crop	Avg. WW	Lbs./ Cow	\$ / Cow	Diff.
100	500	500	\$650	\$65
90	500	450	\$585	---
80	500	400	\$520	\$65
70	500	350	\$455	\$130

Reproductive Goals

- 90 to 95% in heat the first 21 days of the breeding season.
- 70% conceive on first breeding.
- Less than 5% difficult calving.
- 90% of cows bred and wean a calf.

Cost of Missing One Estrous Cycle?

Estrous Cycle length: 21 days

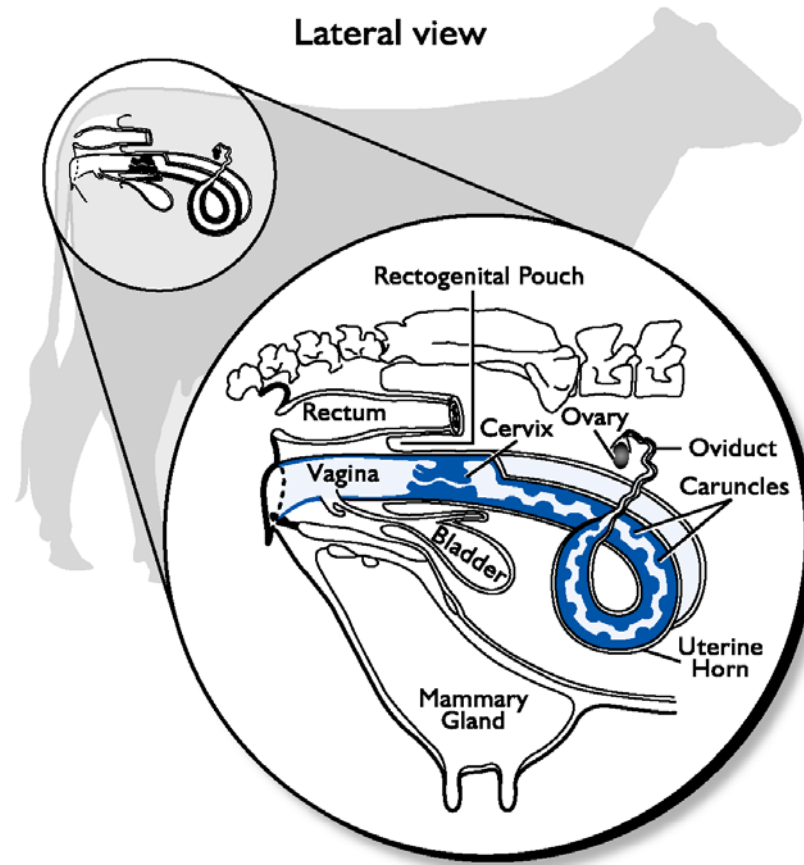
Estimate weight/day of age: 2 lbs

Market price (500 lbs): \$1.50/lb

$21 \text{ days} \times 2 \text{ lbs} = 42 \text{ pounds}$

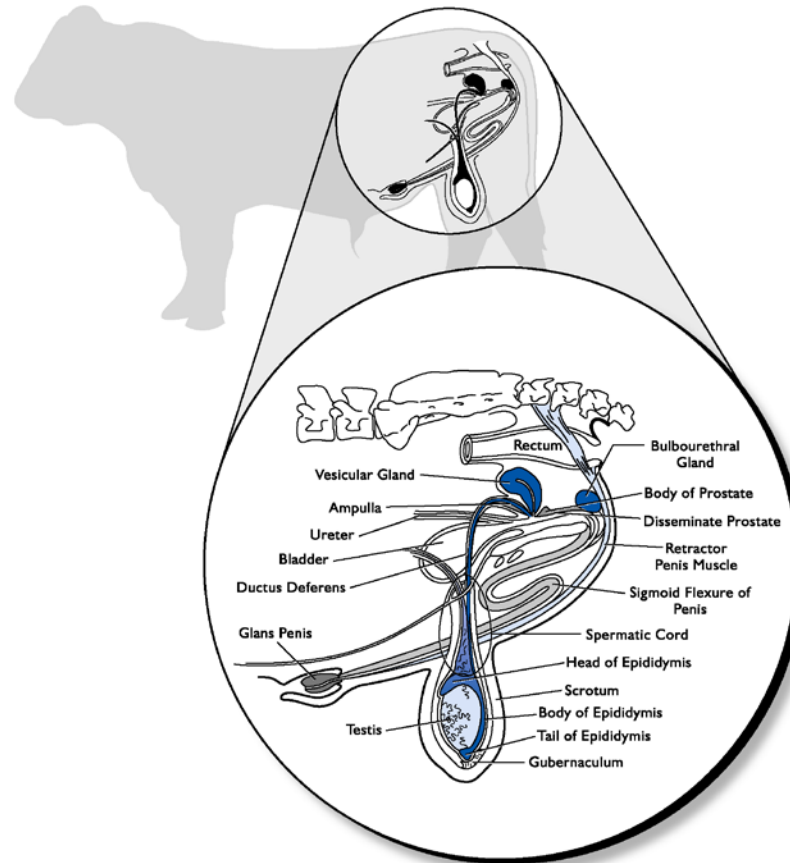
$42 \text{ lbs} \times \$1.50 = \63.00

Reproductive System of the Cow



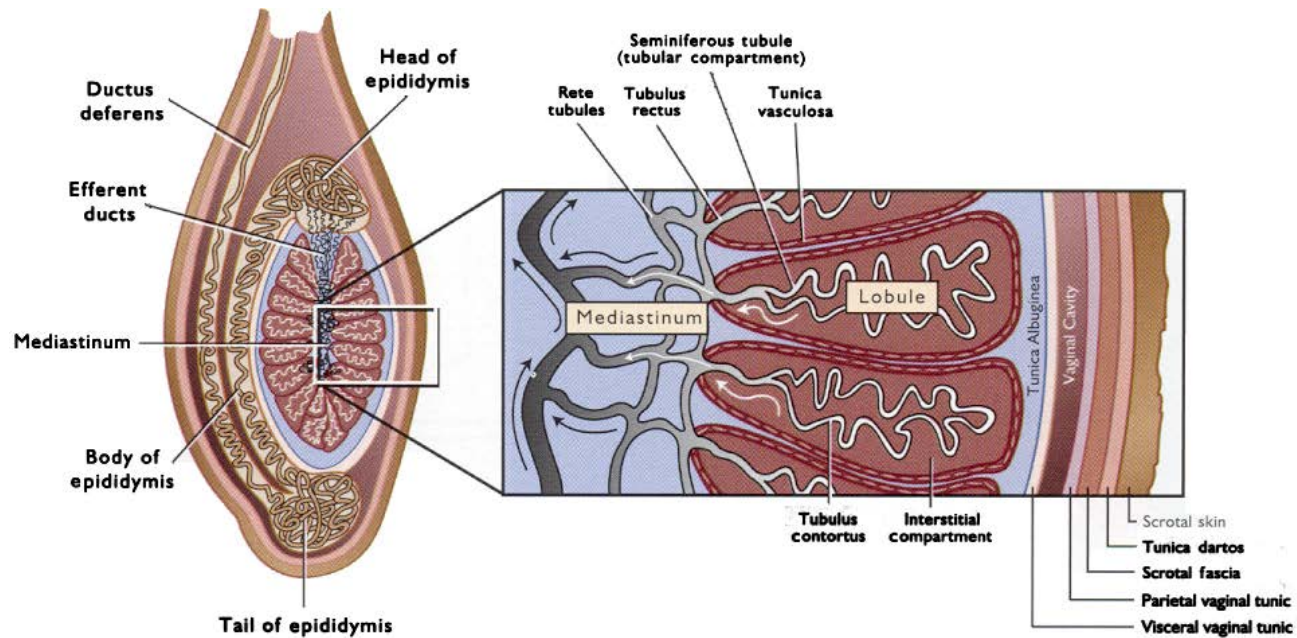
Senger, 2003

Reproductive System of the Bull

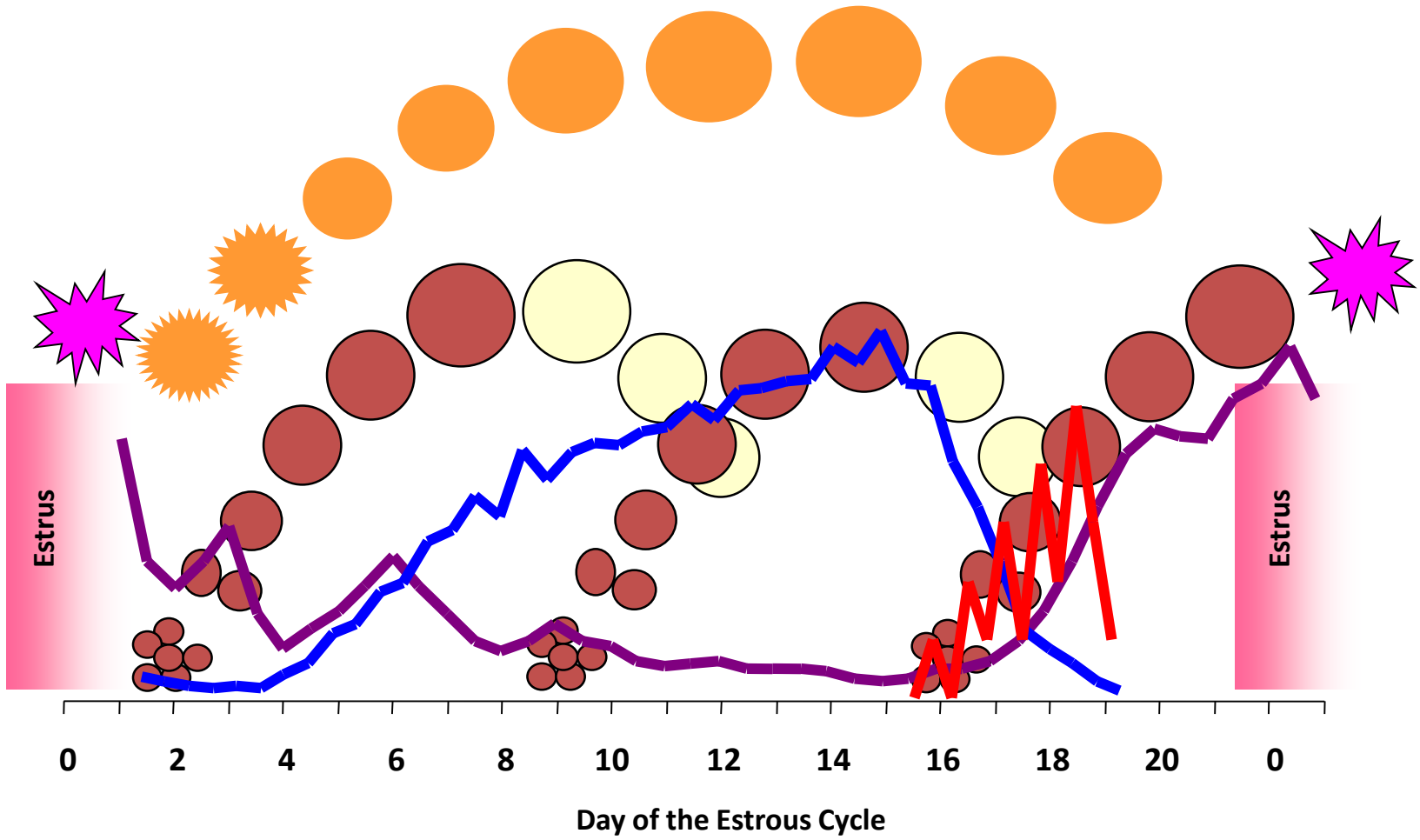


Senger, 2003

Sperm Production



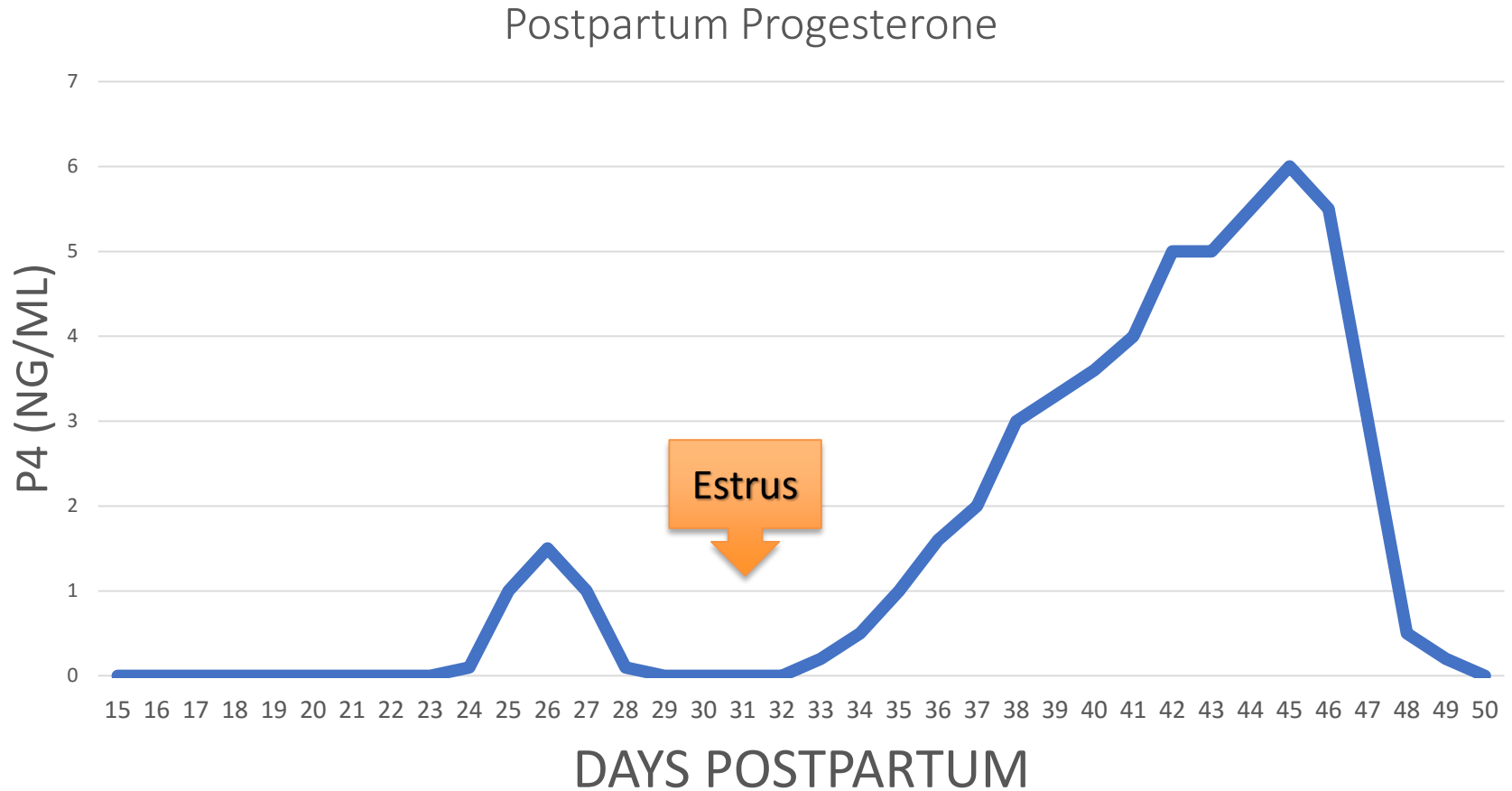
Senger, 2003



Anestrus



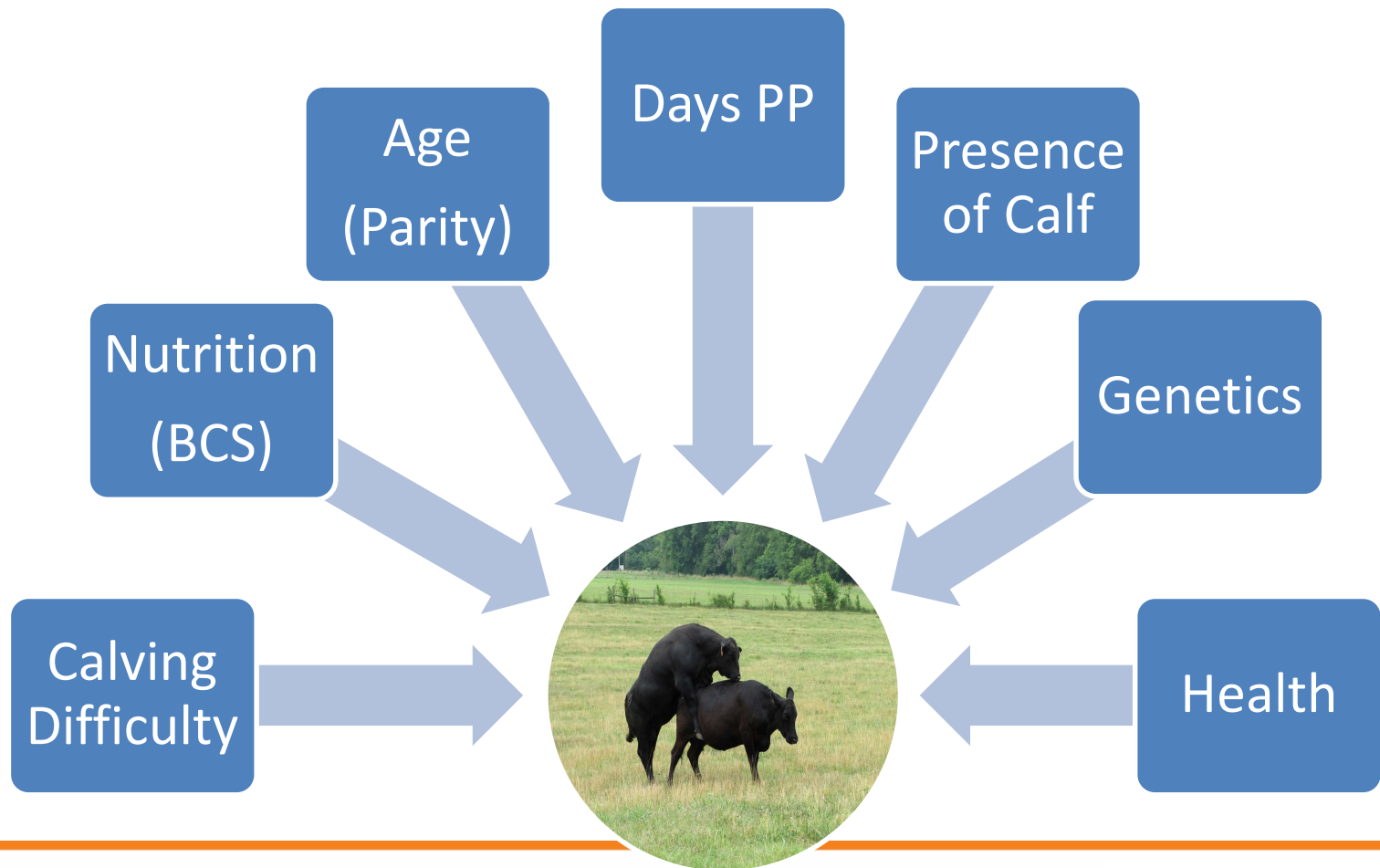
Anestrus – Pubertal & Postpartum



Factors That Control Puberty

- Age
 - Minimum age needs to be reached before heifers will start to cycle
 - Average age = 12 – 24 months
- Weight
 - Long-held rule of thumb, 65 – 70% of their mature weight prior to the breeding season
 - “Target Weight”
- Breed or breed type

Factors That Control Postpartum Anestrous





FACTORS AFFECTING REPRODUCTION

Nutrition



Body Condition Score (BCS)



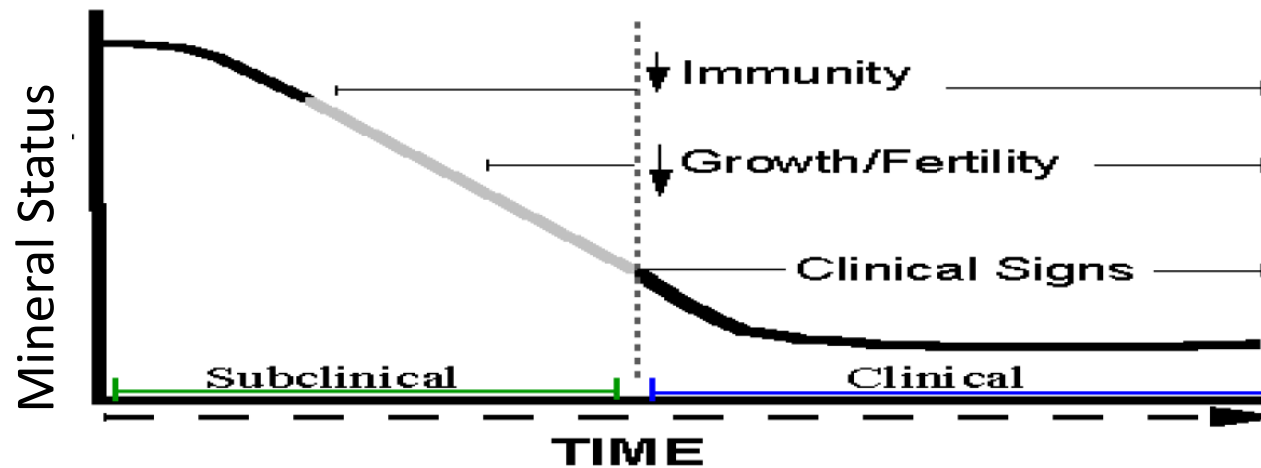
Nutrition

Forage Type



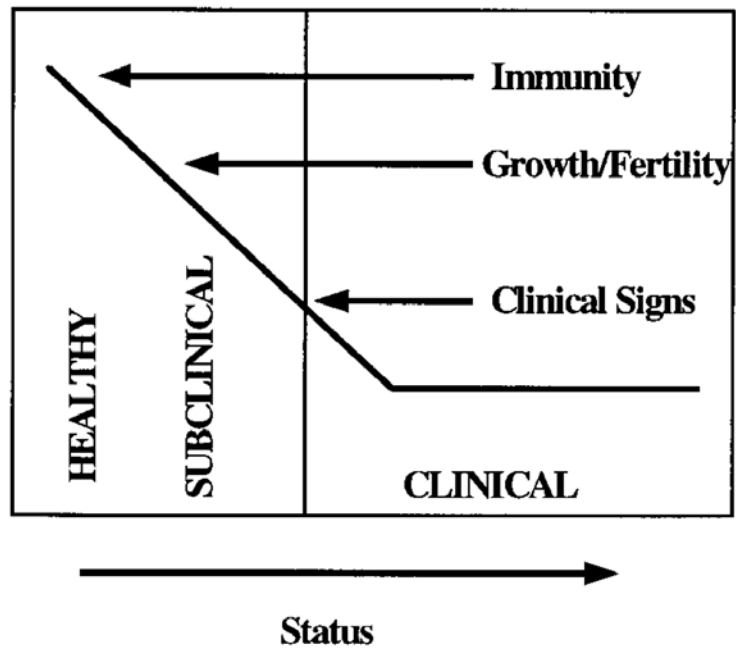
Nutrition

- Mineral Status & Performance

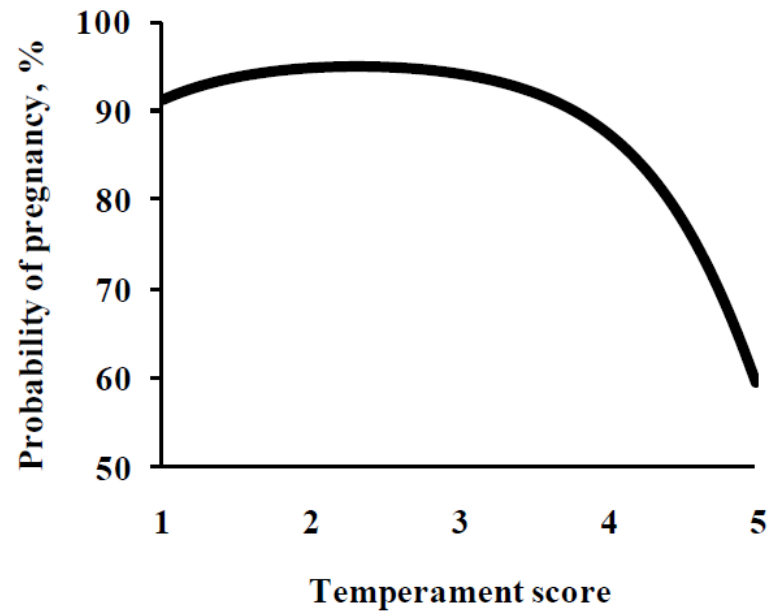


Wikse, 1992

Health



Temperament



Cooke et al., 2010

Season Effects on Fertility

- Increased numbers of follicles and larger follicle size in spring than fall (Lammoglia et al., 1996)
- Lower fertility rates during late fall and winter in *Bos indicus* cows (Randel, 1984)
- Lower serum progesterone concentrations and abnormal estrous cycle lengths in Brahman heifers during winter months (Stahringer et al., 1990)
- Summer heat stress

Crossbreeding

Trait	Heritability	Heterosis
Reproduction	Low	High
Growth	Moderate	Moderate
Carcass	High	Low



HOW CAN WE IMPROVE REPRODUCTION?

Calving Season Management



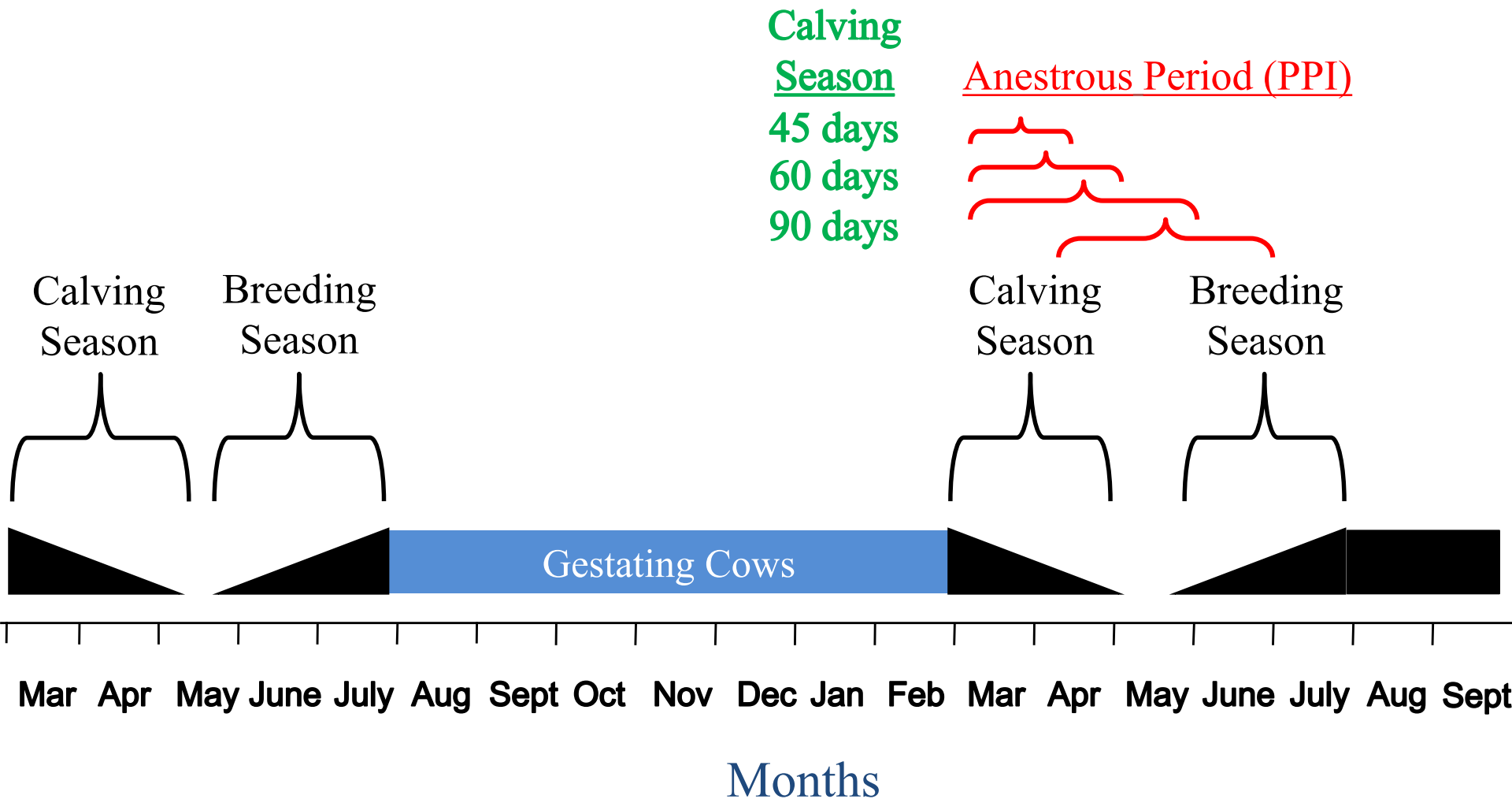
Controlled Breeding Season

- Concentrates management
- Easier to identify dystocia
 - Reduce calf (and maybe cow) loss due to calving difficulties
- Can focus on other management issues after calving season is over
- Calf crop will be similar in age and weight
 - Increased revenue from marketing uniform calves
 - Makes heifer development realistic

Calving Distribution

	First Cycle	Second Cycle	Third Cycle	Preg. Rate	Avg. DPP Next Season
Example 1	30%	30%	30%	90%	39
Example 2	10%	20%	60%	90%	27
Example 3	60%	20%	10%	90%	51

Reproductive Cycle – 60 d Breeding Season



Breeding Soundness Exam



- A BSE IS A SYSTEMATIC VETERINARY EXAMINATION OF THE BULL RESULTING IN A PREDICTION OF HIS POTENTIAL FERTILITY

Cull Open Cows

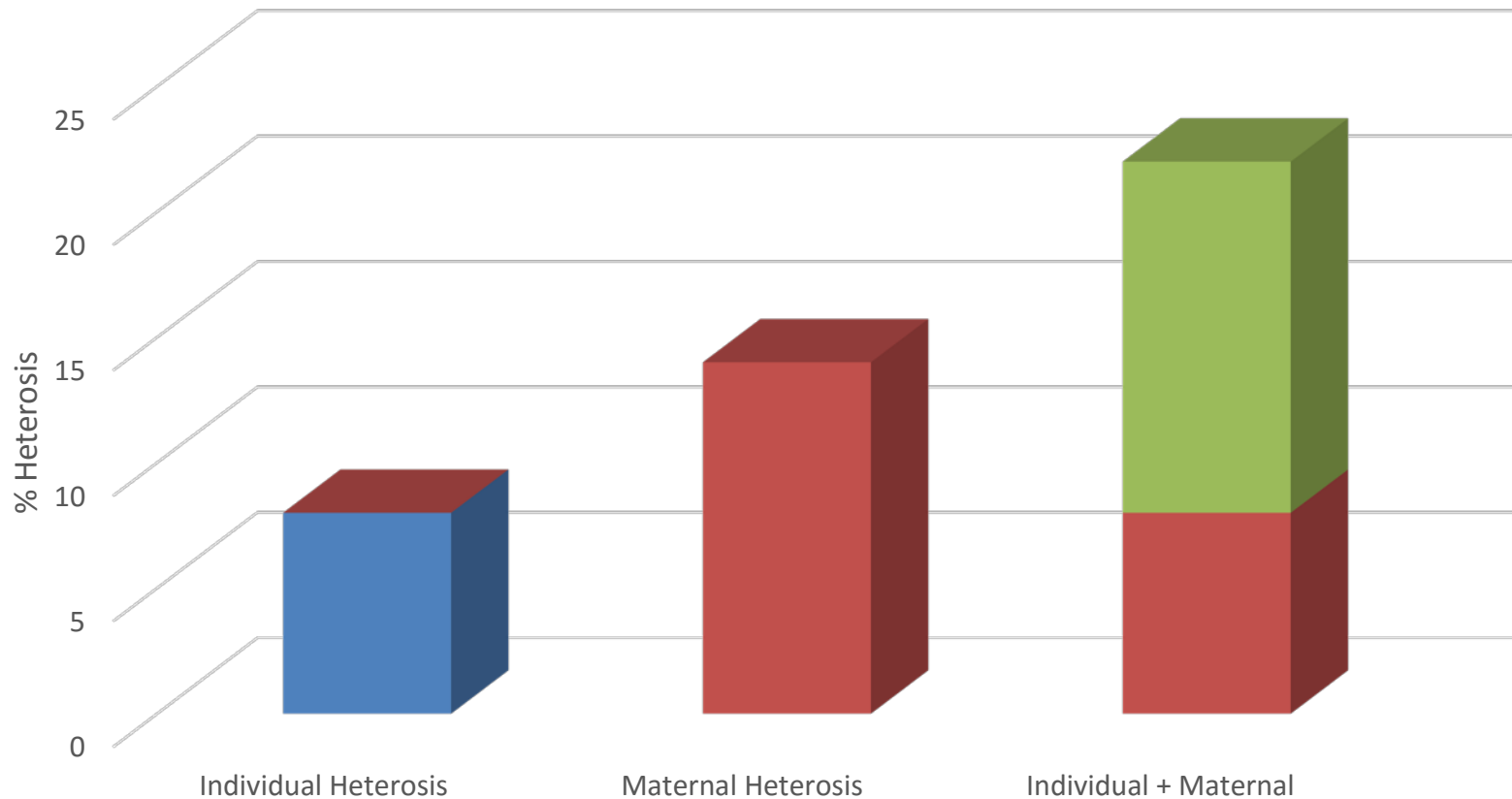


Select for Docility

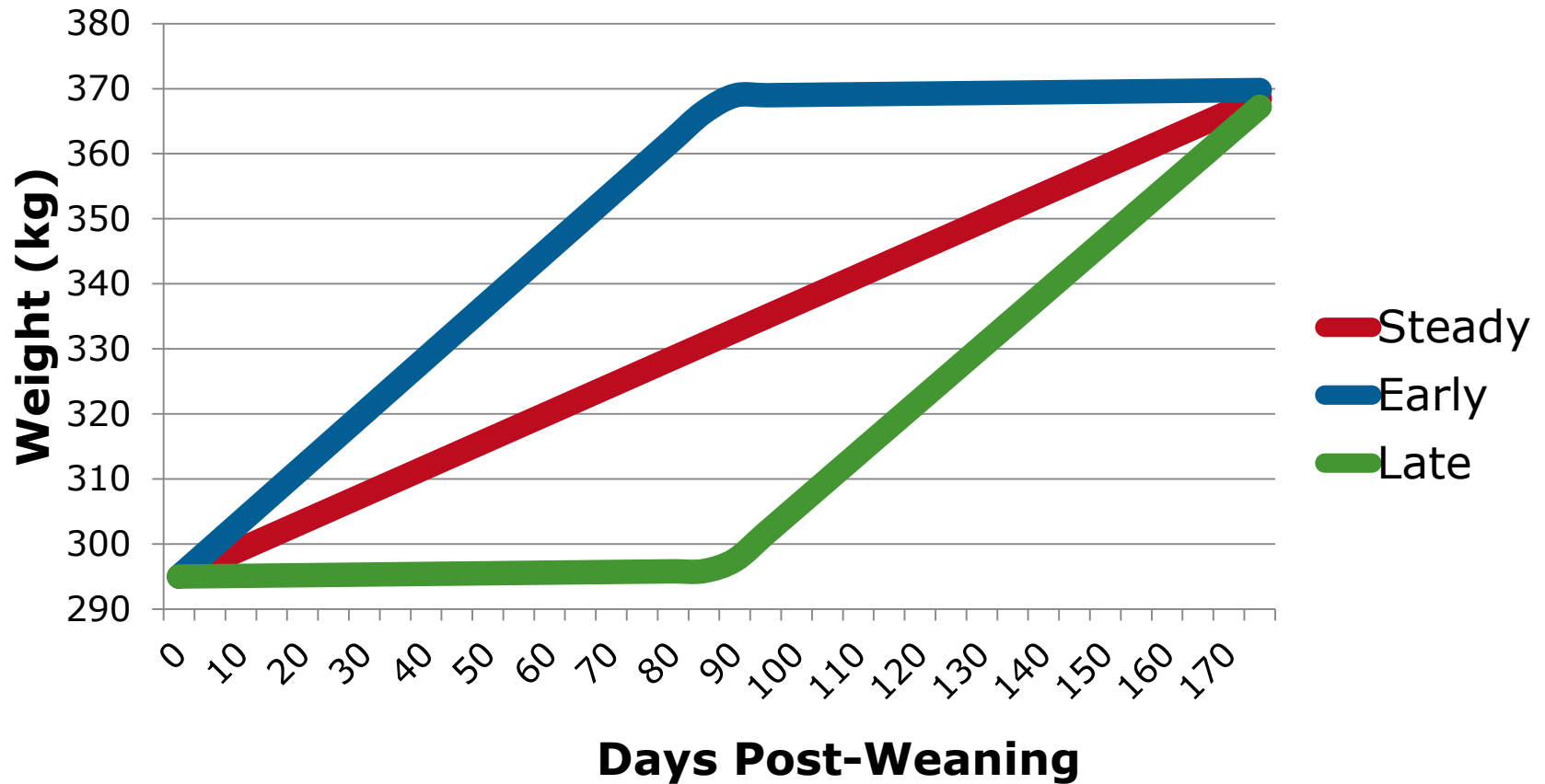
- Temperament is moderately heritable
- Retain and buy heifers from docile cows
- Use docile bulls
- Docility EPDs



Heterosis for lbs. Calf/Cow



Heifer Development



Steps in Heifer Development

- 1 month before breeding season
 - Vaccinate against Vibrio, Lepto, and respiratory/reproductive disease complex (IBR, BVD, etc.).
 - Develop synchronization system (use some type of progestagen)

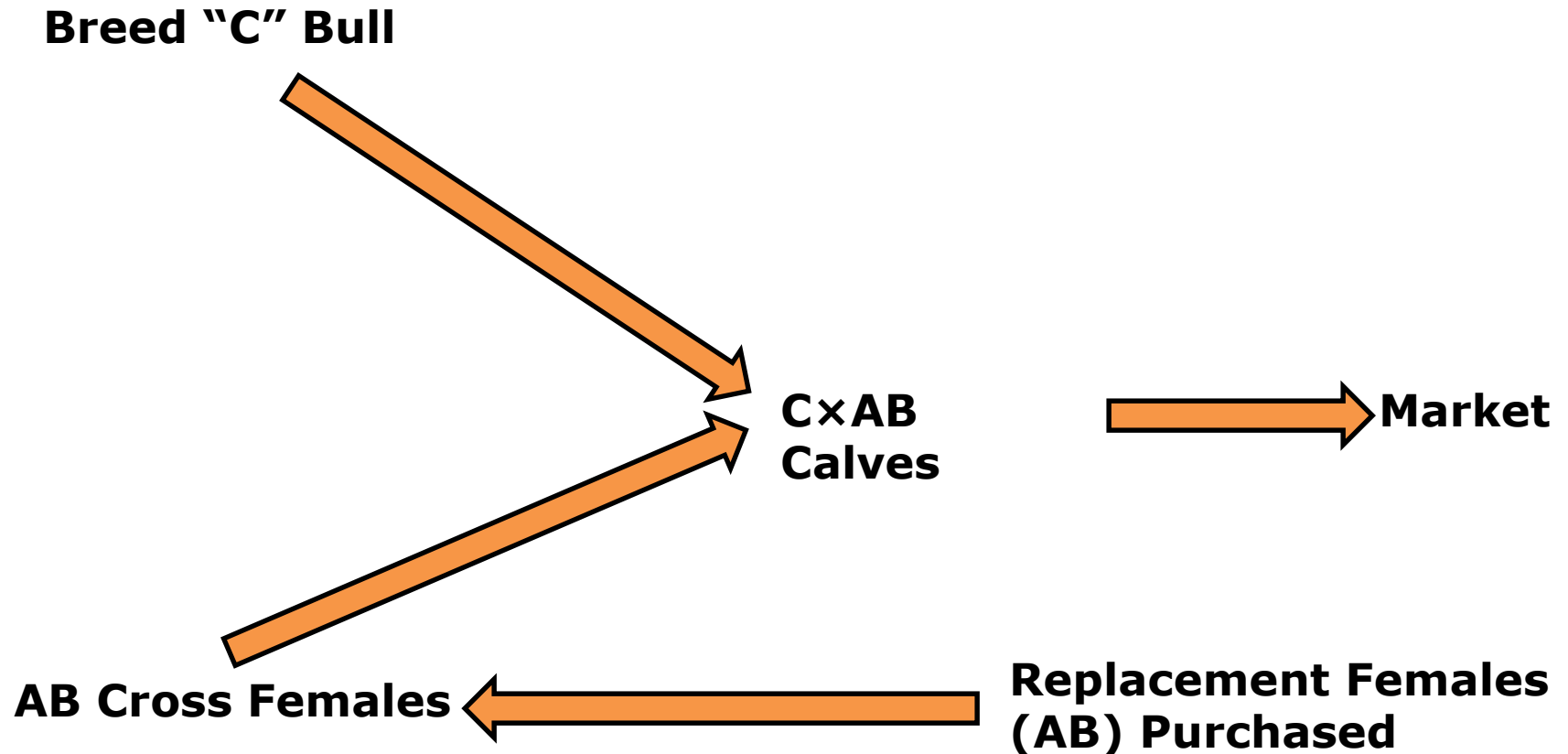


Steps in Heifer Development

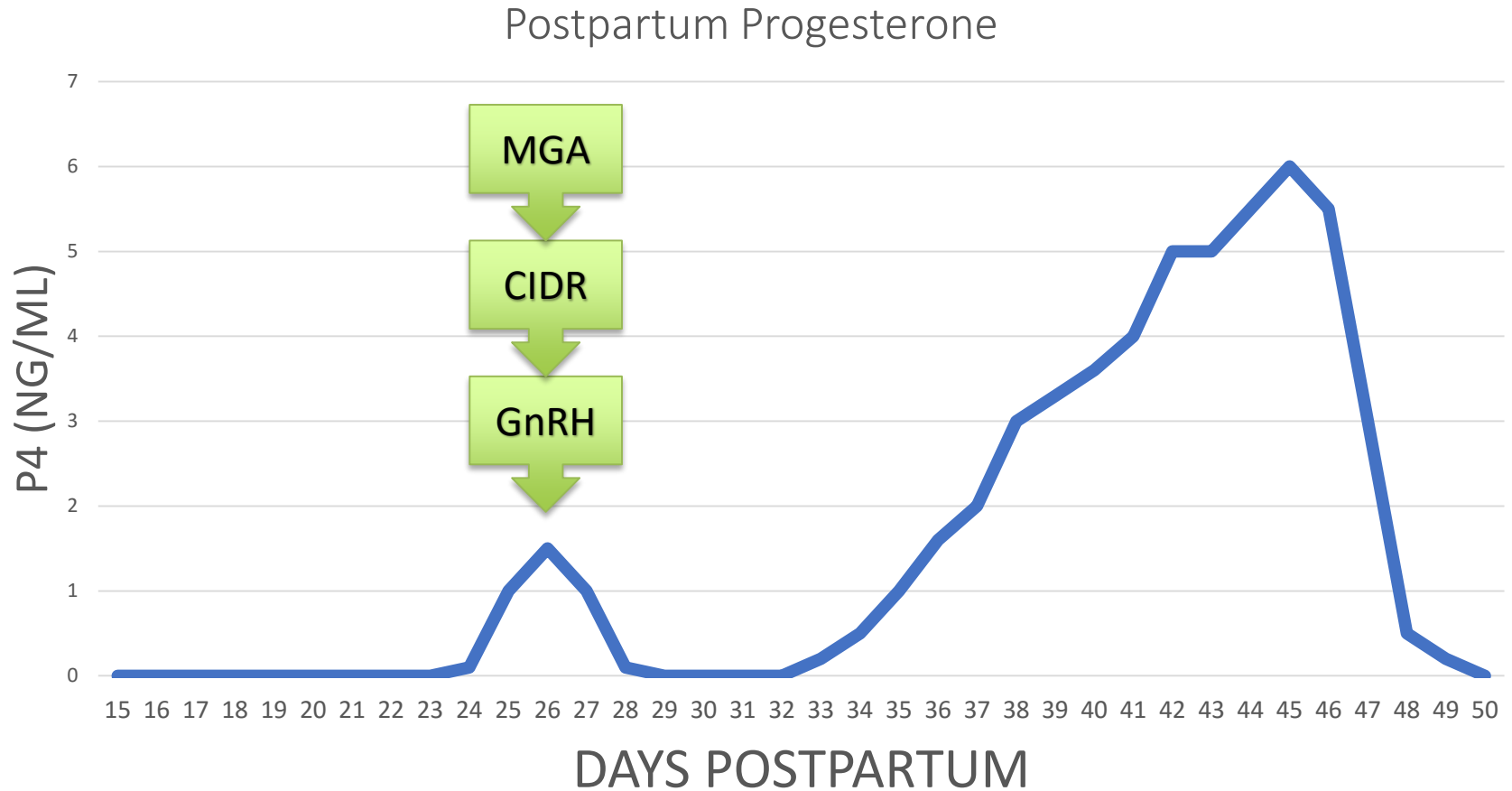
- Post – breeding
 - Pregnancy check
 - Cull open and late-bred heifers until replacement number is reached



Purchased Replacements



Anestrus – Pubertal & Postpartum



ES for Natural Service



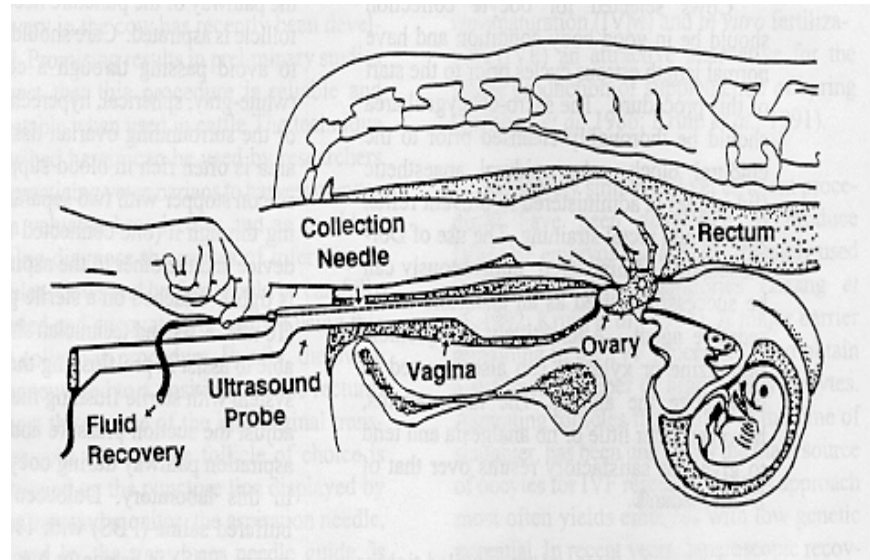
ES for Natural Service

Treatment	Numbers	Preg. Rate	1 st 30 Days
Control	621	83	47
MGA	614	93	78
Control	419	83	45
CIDR	421	91	80

Bull:Cow range from 1:23 to 1:42 (91% Preg PR)

Adv. Reproductive Technologies

- Artificial insemination
- Estrus Synchronization
- Embryo transfer
- In-vitro fertilization



Beef Cattle Repro

UT EXTENSION
INSTITUTE OF AGRICULTURE
THE UNIVERSITY OF TENNESSEE

< Cattle Prices >
Pull to Refresh

CME Feeder Cattle Futures, Continuous Contract #1
(FC1) (Front Month)

Current Week Prices		
Date	Open	High
Nov, 22	\$172.40	\$173.98
	Low	Settle
	\$171.93	\$173.48

Change from Previous Week		
Date	Open	High
Nov, 22	(\$3.15)	(\$2.03)
	Low	Settle
	(\$0.10)	(\$1.60)

Home Repro Alerts Resources

Beef News

BEEF

Visit beefproducer.com for more beef cattle news

 **NEW Contest: What are you thankful for?**
Wed, 18 Nov
With Thanksgiving just around the corner, we are showing our thanks by giving away three western art prints. Get all the ...
[Read More...](#)

 **Start now to prepare for calving season**
Tue, 17 Nov
It's the end of the year and that means countdowns as people look back at the year that was and look ahead a the year to ...
[Read More...](#)

 **New Chaney twins book raises money for A...**
Tue, 17 Nov
Christmas is just around the corner; do you have any ideas for your kids? Check out "It's All About That Beef" by

Home Repro Alerts Resources

Take-Home Message

- Reproduction is the key to making money in cow-calf production
 - Approach it as producing a commodity “crop”
- Many factors influence reproduction
 - Those factors can be managed
- Technology for reproductive management is rapidly advancing

SOLUTIONS

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