



Economics of Artificial Insemination vs. Natural Service

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Overall Reproductive Objective

- ✓ Pregnancy Rate
- ✓ We want to our cows to maintain a 365 Day Calving Interval.

Artificial Insemination

Advancing the quality of the herd.

Why Not A.I.?

- Complicated Protocols
 - Sire Selection

- Synchronization is the most powerful tool available to accomplish a tight calving season in the least amount of time.

A.I. Advantages

- Avoiding some of the cost of Bull Ownership
 - Get access to high quality sires at modest prices
 - Producers are able to use superior bulls for breeding without the cost and responsibility of owning them
- Increase superior genetics
 - Bulls with high genetic merit are available to everyone
- A.I. allows many cows to be bred in one day, whereas a bull can only breed a few cows in a day
- Possible to increase fertility
- Disease Control Mechanism (Helps to Prevention the Spread of Diseases)
- Improved Herd Records
- Genetic Traits are Available

A.I. - Marketing Options

- Improved Economic Traits
 - Weaning Weights
 - Increased weaning weight due to age
 - More Cows Calving During the First 21 Days
 - Genetics
 - Average Daily Gain (Improved Performance)
 - Increased Uniformity
 - Offspring will share similar genetic traits which typically results in the offspring growing at the same rate
 - Calving Ease
 - Sell More Live Calves
 - Carcass Quality

A.I. Disadvantages

Increased Level of Management

- Requires a Skilled Technician
- More Labor Intensive
- Requires Proper Working and Handling Facilities
- Timing is Critical
- Technical Knowledge is Required.
- Time Consuming, Requires Planning
- More Risk. Errors can be Costly.

Natural Service Advantages

- Lower Management Requires
 - Less Labor Intensive
 - Very little management input required outside of exposing male and female animals
- More realistic choice for most operations
- Less risky than A.I.

Natural Service Disadvantages

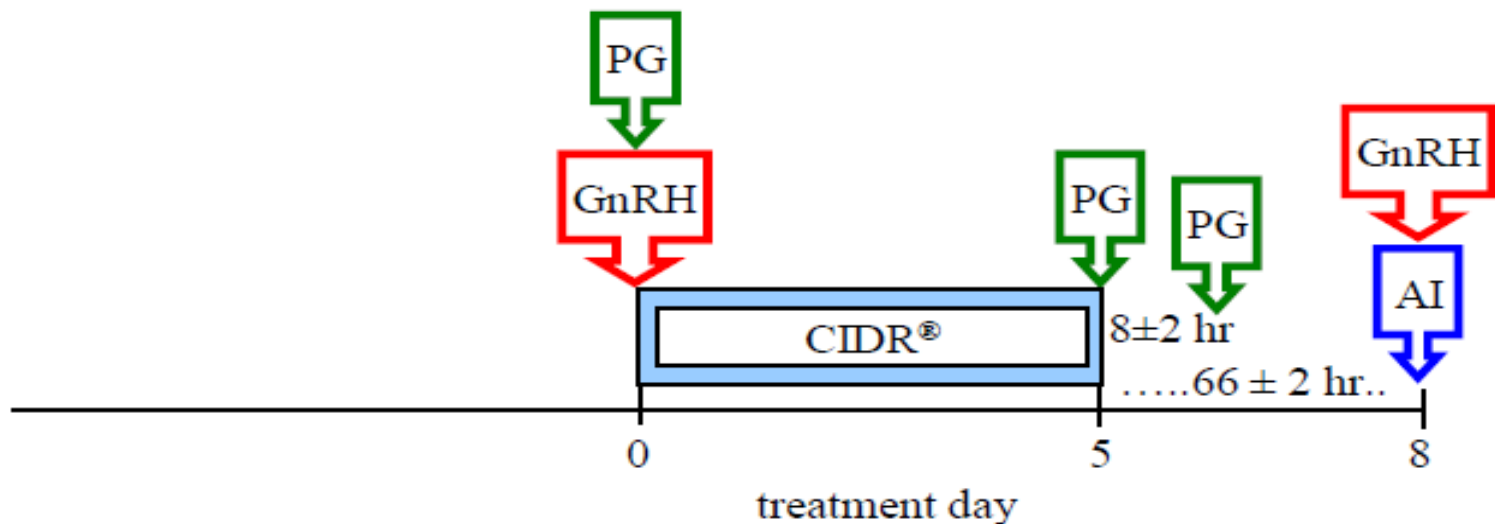
- Cost of Maintaining Sires to use for Natural Breeding
- Bull Maintenance Costs
 - Bulls must be Fed and Maintained Year-Round
- Typically longer calving season
- Takes longer to introduce new genetics
- Less uniformity within the herd

A.I. Protocol

FIXED-TIME AI (TAI)* for *Bos Indicus* cows only

PG 5-day CO-Synch + CIDR[®]

Perform TAI at 66 ± 2 hr after CIDR removal with GnRH at TAI.
Two injections of PG 8 ± 2 hr apart are required for this protocol.



Trips Through Facility

The number of times the cattle must go through the chute seems to be a major sticking point for a lot of people.

Trips Through Facility

Cows that are breed AI are worked (go through the chute) 4 times.

Trips Through Facility

- 4 Trips Thru the Chute
- 1 Minute & 40 Seconds Per Trip
- = 6 Minutes & 40 Seconds Total/Cow
- 4 People
 - Working the Head-Catch
 - Technician
 - Thawing the Semen
 - Moving the Cows from the Pen into the Chute
- Our Total Labor Per Cow is 26 Minutes & 40 Seconds
- $\$12.50 * 26 \text{ Minutes \& 40 Seconds} = \$5.57/\text{Cow}$

- The X-Day XX synchronization program costs ~ \$X.XX per cow and requires at X times through the chute.

Other Economic Considerations

- Providing adequate bull power for NS or the implementation of A.I.

I developed a spreadsheet to evaluate the economic costs and benefits of artificial insemination versus natural service for Beef Cattle herds in South Florida.

LESS BULLS, MORE COWS

Opportunity Costs

Summary

One should always weigh each option carefully and determine what is best for them.

There is not one right answer. The answer is based on the producer's level of management, herd fertility, and production costs.