

1 Making Reproductive Technologies Pay: A Commercial Perspective

Barb Downey, Downey Ranch, Inc.
Wamego, KS

2 History of Downey Ranch

- 550 head at capacity
- Spring calving only as of 2016
- 150 registered cows
- 400 commercial
- Range-type program
- Work diligently at low input cattle
 - Virgin heifers weigh about 50-55% mature weight at breeding
 - Mature cows weigh 1225
 - Cows on range year round except virgin heifers
 - Use stockpiled forages, grazing crops, and are reducing hay every year
 - Have used AI to some degree since 1990

In the toolbox at Downey Ranch:

- Artificial Insemination
- Estrus Synchronization
 - Heifers: MGA + PG with EAI and clean up TAI
 - Cows: 7 Day CO-Synch + CIDR with TAI
- Sexed semen
- Ultrasound
- Embryo Transfer (seedstock herd only)
- Management to make our tech "go farther"



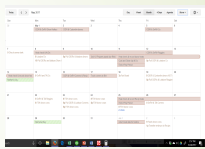
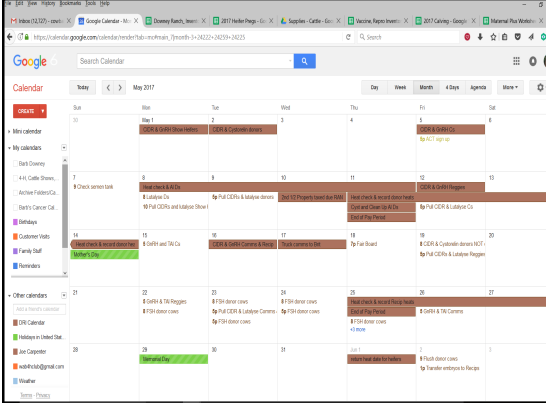
4 AI & Estrus Synchronization




- Have always synchronized heifers
- AI'd cows on natural heats for many years
- Started synching some cows in the late 2000s
- Started synching all cows 45+ days postpartum in 2011

5 Synchronization Timetable at DRI

- Heifers – MGA + PG with EAI and clean up AI (May 11)
- 1st Calvers – 7 day CO-Synch + CIDR with TAI (May 15)
- Registered cows – 7 day CO-Synch + CIDR with TAI (May 22)
- Commercial cows – 7 Day CO-Synch + CIDR with TAI (May 26)
- ET registered donor cows (Jun 2)





7 Costs to DRI (2017 figures)



- Synchronization & AI – includes labor, drugs, patches if EAI, NO SEMEN costs
- Heifers (MGA) \$13.15/head
- 7 Day CO-Synch CIDR: \$16.39
- 7 Day CO-Synch CIDR, by the book: \$20.66
- Semen Costs
 - Our own semen: \$2.37
 - Purchased semen: \$22.39
 - Sexed semen: \$25

8 Benefits of AI to DRI



- All the stuff about increased calf performance & weaning weight that others have or will cover
- Use proven conception rate semen


Conception rate	55 %	65 %	75 %
In heat on Day 1	80 %	88 %	94 %
Calve by day 25 of calving	59 %	69 %	78 %

Each female gets 2 chances to breed if she's cycling on Day 1. If she's cycling, but randomly, only 4 of each 21 will get 2 chances, the other 17 will only get 1.

$$= (CR * 4 + CR * 21) / 25$$

$$= CR + ((1 - CR) * CR)$$

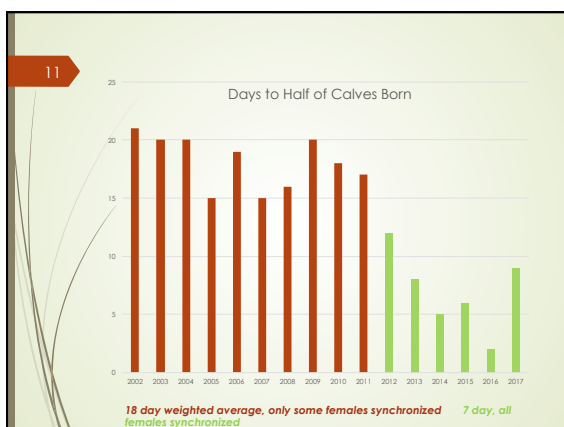
9 Benefits of AI to DRI



- All the stuff about increased calf performance & weaning weight that others have or will cover
- Use proven conception rate semen
- Run our cross-breeding program while maintaining purebreds with no hassles and with deliberately planned matings
- Use terminal sires as clean-up, ensuring our purebreds & F1s come from the females most fertile within our system
- Cut our bull battery roughly in 1/2

10 Benefits of Synch to DRI

- Calves born in the 1st 25 days of the calving season has increased
- % Cows Calving by 25d @ DRI**
 - 2002-2011: Only some cows synchronized
65.72%
 - 2012-2017: All cows >45d synchronized
77.80%
- Increase of 12.08%!**
- Days to half calved has decreased by 11 days



12 Benefits of Synch to DRI

- Calves born in the 1st 25 days of the calving season has increased
- % Cows Calving by 25d @ DRI**
 - 2002-2011: Only some cows synchronized
65.72%
 - 2012-2017: All cows >45d synchronized
77.80%
- Increase of 12.08%!**
- Days to half calved has decreased by 11 days
- Heat detection labor GREATLY reduced
- Post-partum recovery time increases
 - Calve on day 1 and have 83 days before AI day
 - Calve on day 25 and have 52 days until AI day
 - Calve on day 42 and have 35 days until AI day.



14

Sexed Semen

- We sell bred heifers in a developed market
- We bought semen & sexed a Hereford bull we owned (and liked his daughters) to use in our herd in anticipation of a high replacement female market
- Used it from 2011-2015
- Sold increased females from 2013-2015
- Averaged \$2764 (18 months) when fat cattle in the same time period averaged \$1875 (15 months)
- Heifers in 2016 averaged \$2065
- With their respective costs, the heifers were worth \$684 more per head.

Ultrasound

- Used to cost us ~ \$1000/year to hire ultrasound pregs on heifers only (sort AI from CU)
- 2014 – purchased wearable ultrasound with goggles for \$14,500, shared now with 2 other ranches (\$4,833 each)
- Cull price decline from Sept to Dec. has paid for the machine
- Keep only 1st service AI heifers without incurring excessive opens

Ultrasound Fun Stuff

- Introducer has decreased chute time while reducing human wear & fear
- Enables us to preg check earlier (30 days) without tiring out the arm
- Possibilities:
 - Extend breeding season and sell bred animals that might have gone open
 - Sex pregnancies for marketing options???
 - You tell me!

17

Management that makes our Reproductive Technologies do MORE

- Sandhills Calving System has our cows conveniently in management groups so we don't under/over-supply nutrients
- Fenceline weaning has our cows penned up for 5 days in September. We can preg and sort the opens right then and hit a higher cull cow market
- Fenceline weaning lets us wean whenever we want, thus using weaning as BCS management, saving "catch up" feed.
- Keeping 1st calf cows separate until they have their 2nd calf.

18

Thank you for your attention!

Now, what am I going to learn from all of you???