1 **Where is the Moo-Lah in beef heifer development?**

2 **A Brief Bio**

- ▶Graduated from Iowa State University with a B.S. in Microbiology
- ▶Earned my DVM from Iowa State University
- ▶Earned a MS in Population Sciences in Animal Health
- ▶Mom to two little boys and a girl
- ▶"Heifer-developer" herself

3 **Outline**

- ▶Goal of beef heifer development
- ▶Economics
- ▶Management Events
- ▶Health Management

4

- ▶"Breed in the first 21 days of the breeding season, calve uneventfully and without dystocia, and breed back promptly."

5 **Why does it matter?**

- ▶Building foundation for the future
  - ▶14.9% replacement rate
- ▶Land availability
- ▶Economics

6 **ECONOMIC HEIFER MODELING**

Harlan Hughes model

7 **Costs of heifer development**

- ▶$1121 from pregnancy to weaning heifer
- ▶549 lb. calf @ $204.30 cwt=$1121 OPPORTUNITY
  - ▶Alabama Livestock Sales December 20th 2023

8 **Dry lot vs. Winter Pasture**

9 **Dry lot wintering costs**

10 **Dry lot wintering costs**

11 **Dry lot wintering costs**

12 **Dry lot wintering costs**

13 **Dry lot wintering costs**

14 **Yardage: What is your overhead**

15 **Yardage**

1. Fixed
2. ▶Property Taxes
   - ▶Interest

- ▶Property Upkeep
- ▶Depreciable Structures
- ▶Property Insurance

3 Expected

4 ▶Labor
- ▶Fuel
- ▶Electricity
- ▶Structure Repair
- ▶Equipment Repair
- ▶ Petroleum-based Items
- ▶Rent
- ▶Manure Disposal
- ▶Phone
- ▶Services
- ▶Hardware
- ▶Depreciable equipment
- ▶Interest on Cattle Loans
- ▶Yard Maintenance

16 **Dry lot wintering costs**

17 **Wintering to breeding cost**

18 **Costs from breeding to pregnancy diagnosis**

19 **Projected cost summary for developing raised replacement heifer 2013**

20 **Costs of heifer development**
- ▶Labor costs not factored in $17 per heifer are not included
- ▶Bedding if in true dry lot situation not included
- ▶Prices vary on geographical location and market
- ▶

21 **Economical Tools**

22 **Economical Tools**

23 **Heifer Management Events**

24 **Heifer Management Events**

25 **Selection at weaning**
- ▶Understand the producer's goals
- ▶Selection points to analyze
  - ▶Dystocia score
  - ▶Weaning weights
  - ▶Frame score
  - ▶Docility
- ▶15% more heifers than target
- ▶

26 **Heifer Management Events**

27 **Nutritional management**

28 **Nutritional management**

- ▶Segregation based on body condition score
- ▶55-65% of Target Mature Body Weight
- ▶Target gain is 1-2 lbs./day
- ▶BCS 5.5-6
- ▶BALANCE BALANCE BALANCE
- ▶FIND A NUTRITIONIST NOT A FEED SALESPERSON

29 **Nutritional management**

- ▶

30 **Impact target weight on pregnancy rates in replacement heifers**

31 **Which one do I choose?**

1 55%

2 ▶High feed costs
- ▶Low variation between size, breed, or genetics
- ▶Available feedstuff
- ▶High value cull animal if open
- ▶Lower weaning weights
- ▶Early maturing heifers
- ▶Moderate or smaller framed cows
- ▶Excess of heifers or breeding animals

3 65%

4 ▶Low feed costs
- ▶High variation between size, breed, or genetics
- ▶Available feedstuff
- ▶ Low-value cull animal if open
- ▶Large-frame cows
- ▶NEED replacement heifers
- ▶High costs to purchase replacement animals

32 **Ancillary nutrition**

- ▶Ionophores
- ▶Implants
  - ▶Proceed with caution

33 **Helpful tools**

- ▶BRANDS

34 **Heifer Management Events**

35 **Pre-Breeding selection management**

- ▶30-45 days prior to breeding
- ▶Weight/Age/BCS
- ▶Structural soundness
- ▶Pelvic Score
- ▶Frame Score
- ▶Reproductive Tract Score
- ▶Antral Follicle Count
- ▶Disposition Score
- ▶
- ▶

36 **Pre-Breeding measurements/selection**

Pelvic Measurement

- ▶Rice Pelvimeter vs. Krautmann Litton
- ▶Measure pelvic height and pelvic Width
- ▶Area=Pelvic width x Pelvic height
- ▶Calculate estimated pounds of calf
- ▶Finds outliers
- ▶Puberty may exert a positive influence on pelvic area
- ▶
- ▶

37 **Pelvic measurement-Scenario 1**

38 **Pelvic measurement-Scenario 1**

39 **Pelvic measurement- Scenario 2**

40 **Pelvic measurement- Scenario 2**

41 **Pelvic measurement- Scenario 3**

42 **Pelvic measurement- Scenario 3**

43 **Frame score**

- ▶Hip height
- ▶Linear correlation
- ▶Frame score should be consistent
- ▶Beef Improvement Federation.org

44

45 **Reproductive tract score**

- ▶Palpation vs. Ultrasound
- ▶Expect 1 score increase in 30 days
- ▶Two Scores

46 **Reproductive tract score**

47 **Reproductive tract score**

48 **Antral follicle counts**

- ▶Ultrasound ovaries performed via processing speed
- ▶High: >25 follicles @ 3 mm diameter
- ▶Low: <15 follicles @ 3 mm diameter
- ▶Not based on cycle dependent
- ▶Predicts reproductive longevity ???
- ▶No change in pregnancy outcome

49 **Disposition score**

50 **Helpful Tools**

- ▶Build a Spreadsheet accessible on the phone to auto calculate!

51 **Heifer Management Events**

52

53

54 **Sire selection**

- ▶Breeding Soundness Exam
- ▶EPDs
- ▶Affordability

55 **Heifer Management Events**

56 **Post breeding**

- ▶85 % MTBW
- ▶Heifer needs to gain 0.5 kg/day
- ▶Good condition into calving = quicker recovery to breed
- ▶Colostrum management of the calf

57 **Health management**

58 **References**

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59 **Questions?**