Replacement Heifer Development

Changing Minds for the Change In Times

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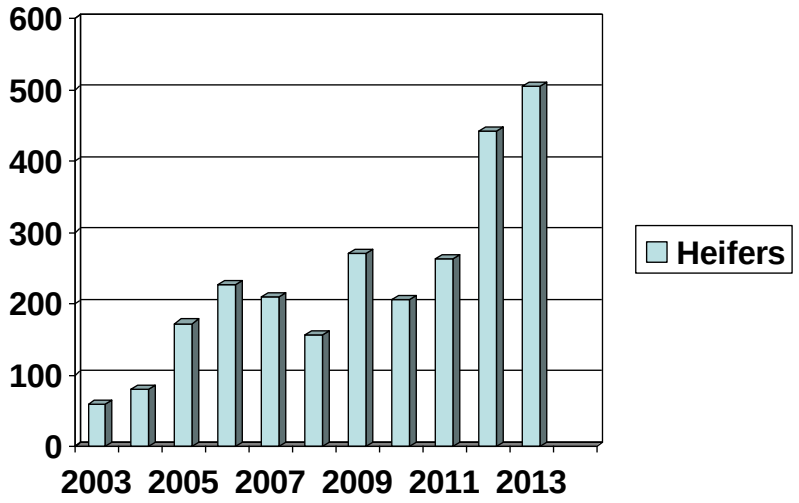
Many changes have occurred that have brought about how some beef producers manage their cattle operations

- Grain prices
- Land allocation
- Livestock prices
- Technology
- Time
- Weather

These changes have led to developing and maintaining a dry lot replacement heifer program

- History
  - Began 2003 with 59 head of commercial heifers
  - Set program timeline and protocol
  - Communicated with producers
  - AI'd heifers
  - Set up great relationship with Angus producer for clean up bulls



Common Reasons for Failed Heifer Development

- Heifers not of adequate age/puberty at breeding
  - 35% of beef heifers fail to reach puberty by 15 months of age (need 1-3 months prior to breeding)
- Nutrition too fat or too thin
  - Gone to wet glutten/hay ration for majority of development
- Bull power/Bull selection
- Weather
- Infectious disease
- Not rebreeding the following season

Common Reasons for Failed Heifer Development

- Space
- Time
- Money

VMC Heifer Development Program Provide the Control and Management

- Prior to arrival
  - Weaned for 21-45 days
  - Vaccinations and boostered at least 10 days prior to arrival
  - Dewormed,deloused

Control and Management

- Arrival
  - ID
  - Booster vaccinated
  - Weighed
  - Hip Height
  - BVD ear notched

Control and Management

- Mid February
  - Weight
  - Disposition scored
  - Pre-breeding vaccination
  - Freeze branded

Control and Management

- April 1st
  - Weight
  - Pelvic Measured
  - Reproductive Tract Scored
- Mid-April
  - Synchronization begins

Control and Management

- May 15th
  - Heat detect and breed then time breed
- May 20th
  - Clean-up bulls turned in
- July 1st
  - Pull bulls
- August 1st
  - Ultrasound

Selection of the Replacement Heifer

- Try to select heifers out of the 1st 21 day calving window
  - Moderate to high heritability
  - Puberty 10-12 months of age at breeding

Selection of the Replacement Heifer

- Early growth heifers
  - Mammary fat deposits
  - Hormonal imbalances
    - Decreases fertility

Selection of the Replacement Heifer

- Fertility
  - Cull heifers that are extreme
  - Breeding season 45/65 day window
    - 60-70% 1ST service conception rate
    - 90-95% pregnant after 65 day breeding season

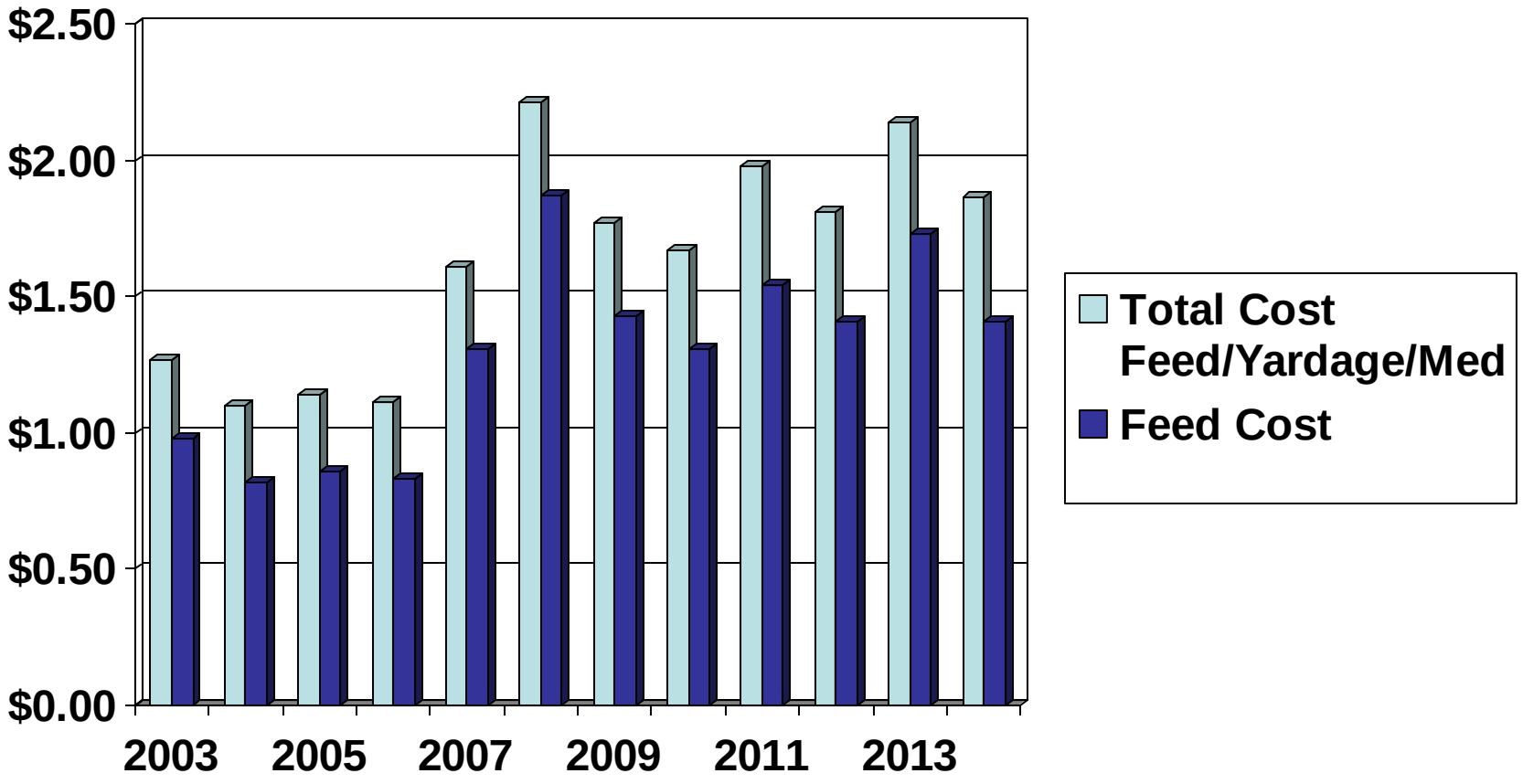
Selection of the Replacement Heifer

- Calving ease (pelvic measure)
  - 1st calf heifers dystocia rate 30%
  - 10% calf mortality rate
  - Delayed return to estrus or breed back
    - 85 days average
- Bull side of the equation
  - Use high accuracy low birth weight bulls
  - Herd bulls with large pelvic areas=increased pelvic area in replacement heifers

Selection of the Replacement Heifer

- Milking ability
  - The every other year scenario
- Structural soundness
- Temperament
  - Disposition scores
- Frame score (1-9 scale)

2003-2013 Feed/Yardage/Med Cost Per Day(2014 Projected Cost)



Total RTS Comparison With Missouri Data

2003-2013	VMC	Pregnancy Rate	
RTS	Exposed	Head	Percent
1	12	5	42%
2	419	352	84%
3	1006	873	87%
4	692	594	86%
5	98	80	82%
Totals	2227	1904	85%

1997-2001	Missouri Heifer Program	Pregnancy Rate	
RTS	Exposed	Head	Percent
1	38	22	58%
2	509	409	80%
3	2475	2096	85%
4	3163	2752	87%
5	2417	2127	88%
Totals	8602	7406	86%

What is a Reproductive Tract Score(RTS)

- Rectal Palpation of the uterine horn and ovaries
  - 11-12 months of age
  - Gauge sexual maturity
  - Size of uterine horns (reproductive tract)
  - Ovarian follicular development

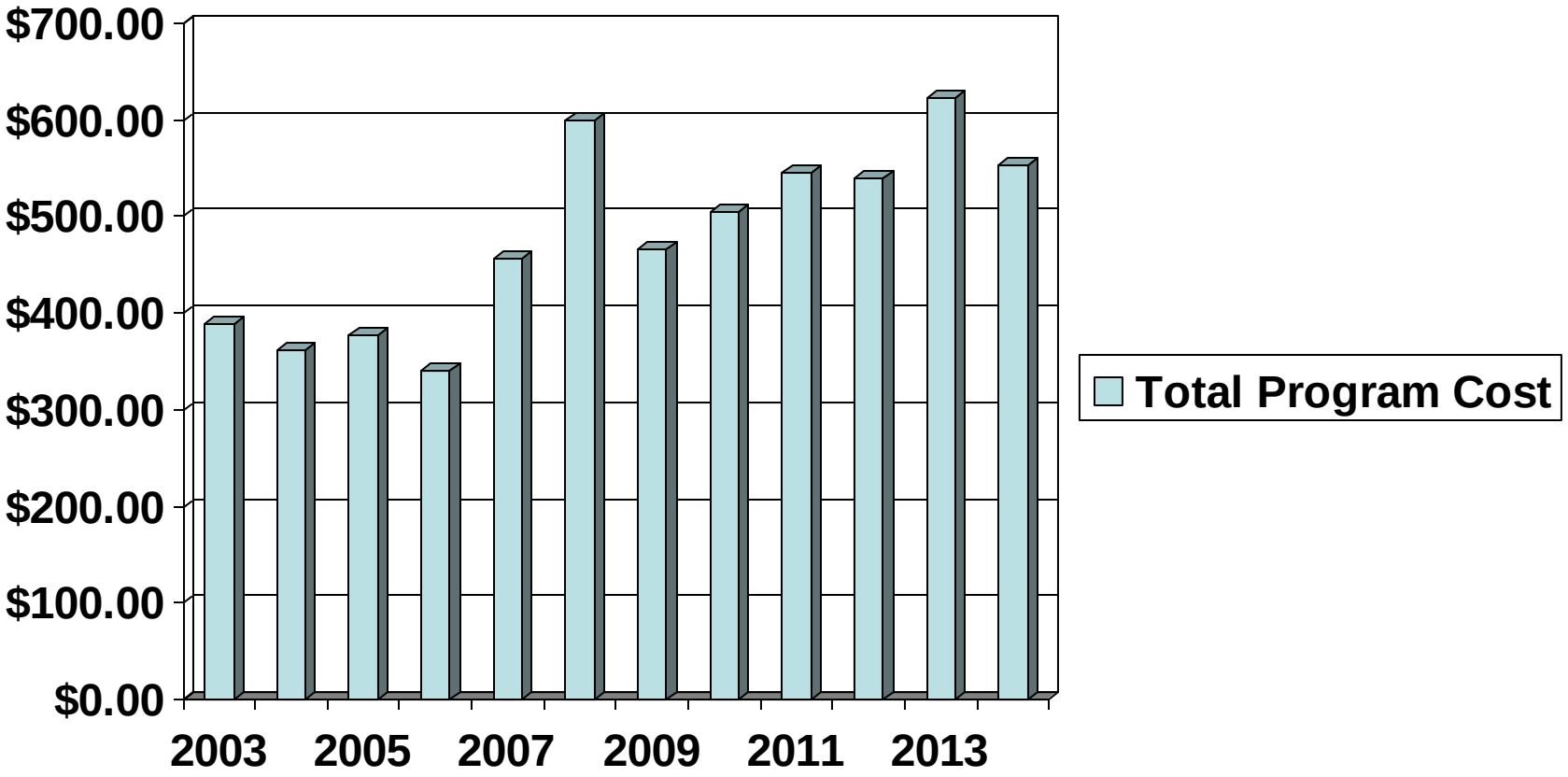
The RTS Chart

Reproductive tract score	Uterine horns	Size and characteristics of ovaries			
		Length	Height	Width	Ovarian structures
1	Immature <20 mm diameter, no tone	15 mm	10 mm	8 mm	No palpable follicles
2	20-25 mm diameter, no tone	18 mm	12 mm	10 mm	8 mm follicles
3	25-30 mm diameter, slight tone	22 mm	15 mm	10 mm	8-10 mm follicles
4	30 mm diameter, good tone	30 mm	16 mm	12 mm	>10 mm follicles
5	30 mm diameter, good tone, erect	>32 mm	20 mm	15 mm	>10 mm follicles, corpus luteum present

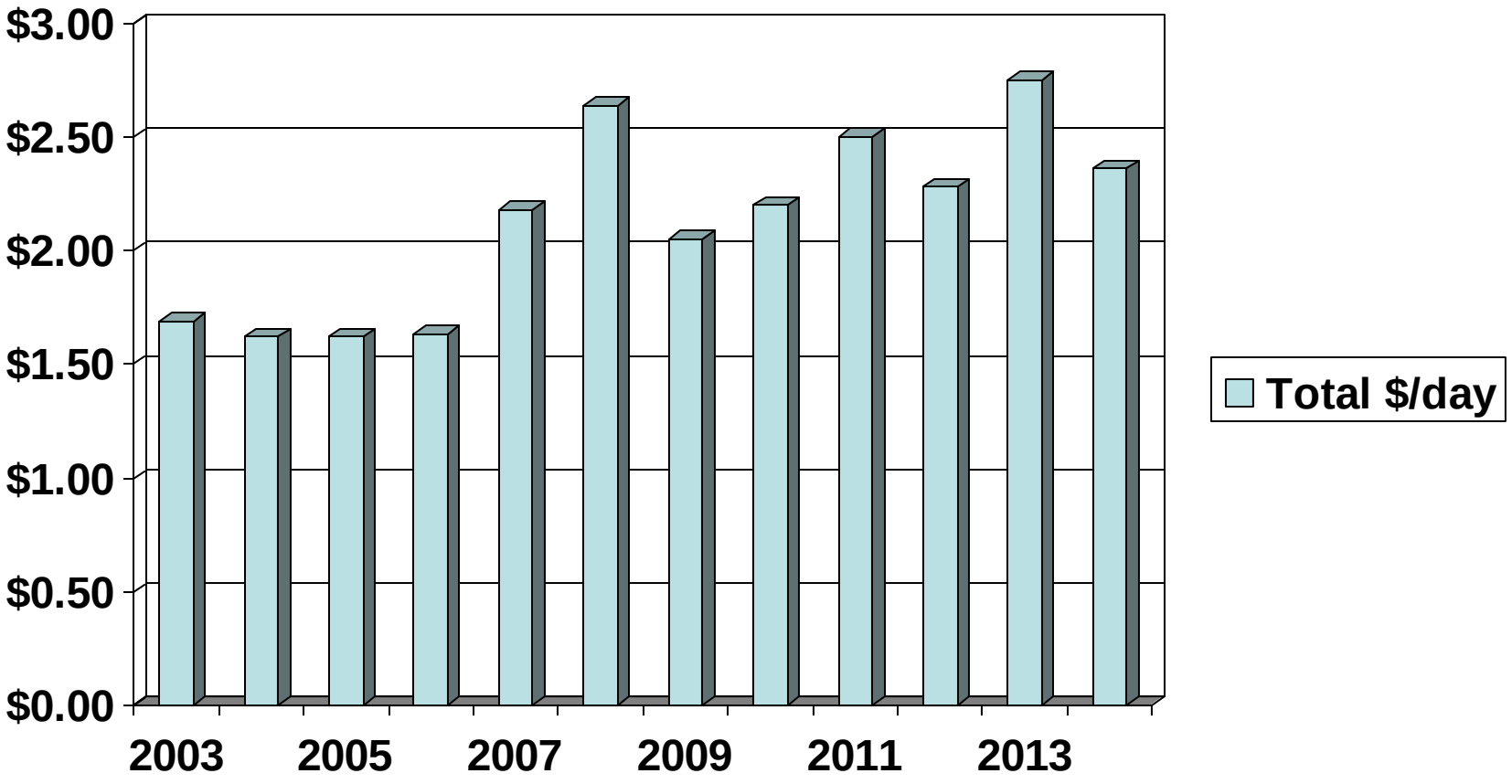
RTS Meaning

- 1=small, toneless uterine horns and small ovaries
- 2=closer to cycling than 1
- 3=verge of cycling, some uterine tone, some follicles
- 4=cycling, good uterine tone and size, with follicular growth
- 5=4 plus corpus luteum

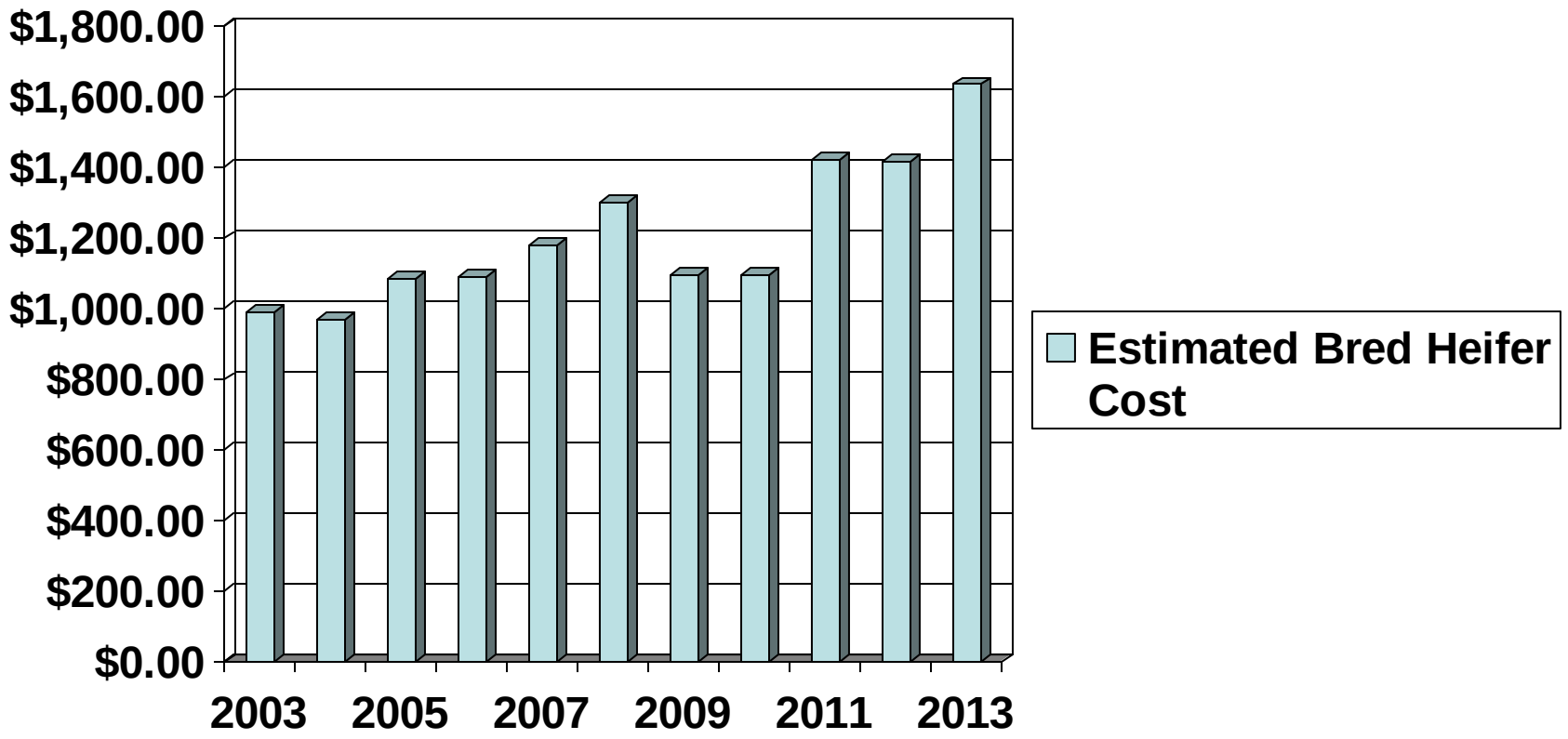
2003-2013 Total Program Cost Per Head (2014 Projected Cost)



2003-2013 Total Cost Per Day(2014 Projected Cost)



Average Estimated Bred Heifer Cost (Accounting for Opens)



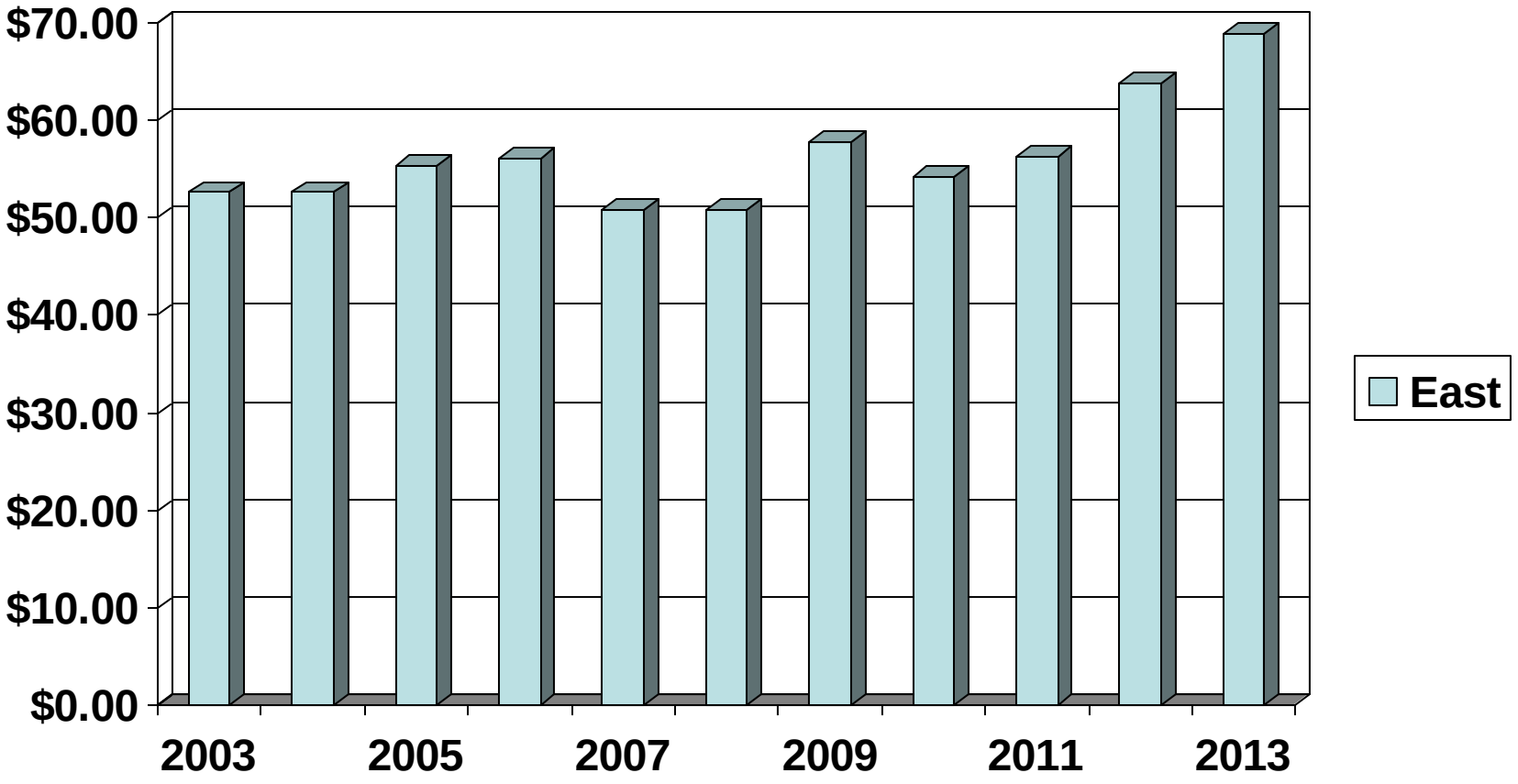
Breeding Cost of Replacement Heifers

- MGA/CIDR
- Prostaglandin/GnRH
- AI cost
- Semen cost
- Clean-up bull cost

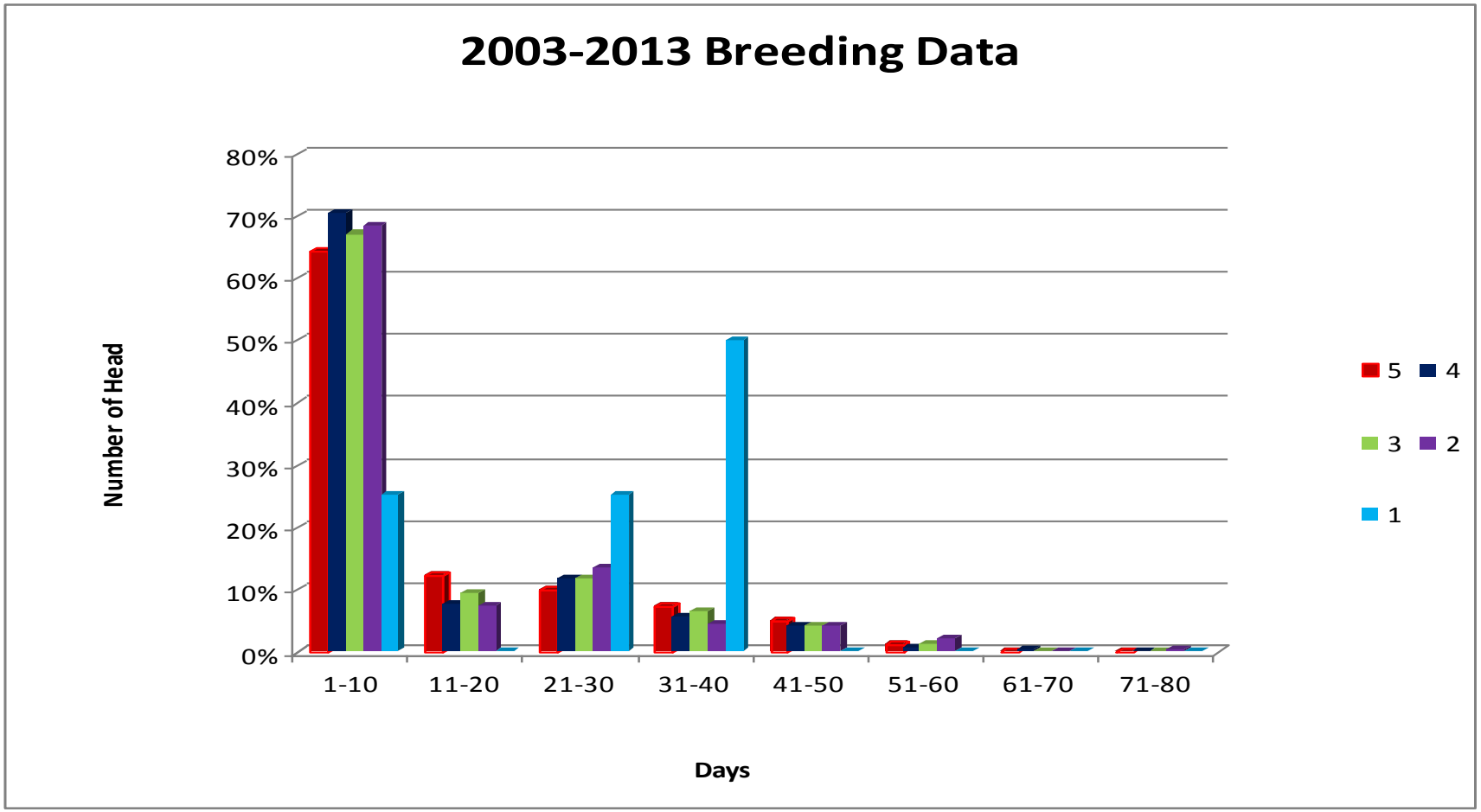
Estimated Individual Breeding Cost

- Bull Price
  - $2000 to $4000
- Carry cost of bull per year
  - $500
- Salvage weight of bull
  - 1650 pounds
  - Price $1/lbs
- Total bull cost

Average Total Breeding Cost



Interval Breeding Window



Individual vs. Program Breeding Cost