

# Factors affecting compact calving in dairy cows

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# Why is 6 week calving rate so important?

**Motivation =**



Increase 6-week calving rate from 58% to 90%

Potential increase in profitability: €264/cow/year

100 Cow Herd

**+€26,400 per year**

Shalloo *et al.* (2014)

# The Fertility Stool



**Nutrition**

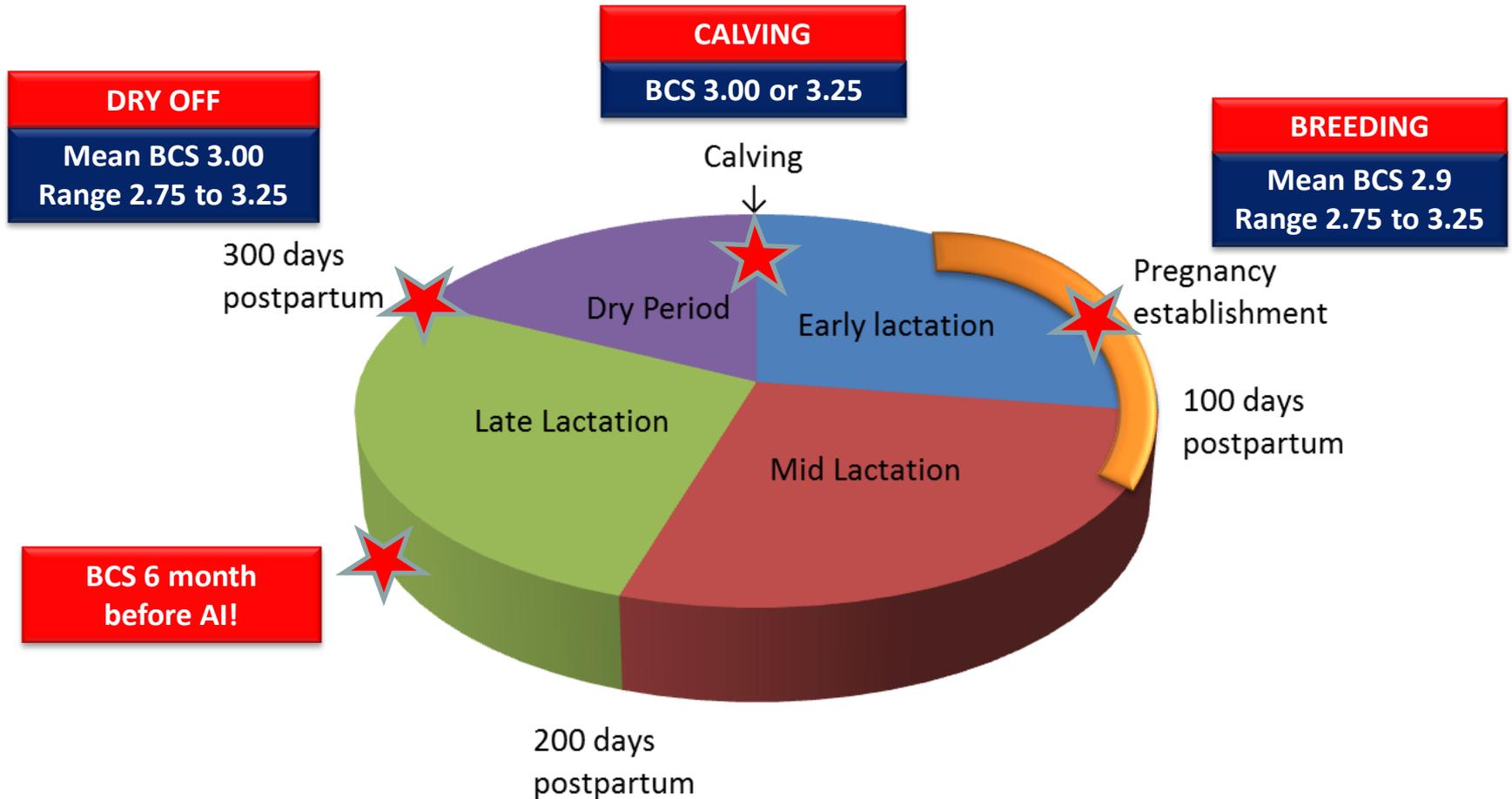
**Genetics**

**Mating Management**

**Disease Control**

# Body Condition Score

(1-5 scale, increments 0.25)



# Body Condition Score 3.00

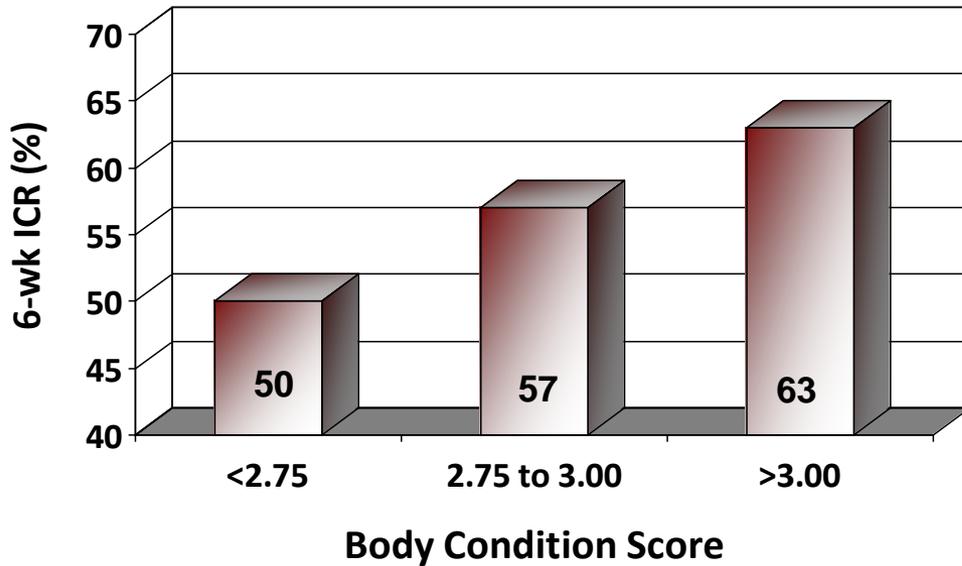


**Long ribs:** Smooth, firm pressure to feel, last two slightly visible

**Loin:** Smooth and well covered, tips felt with slight pressure, tips visible as slight undulations

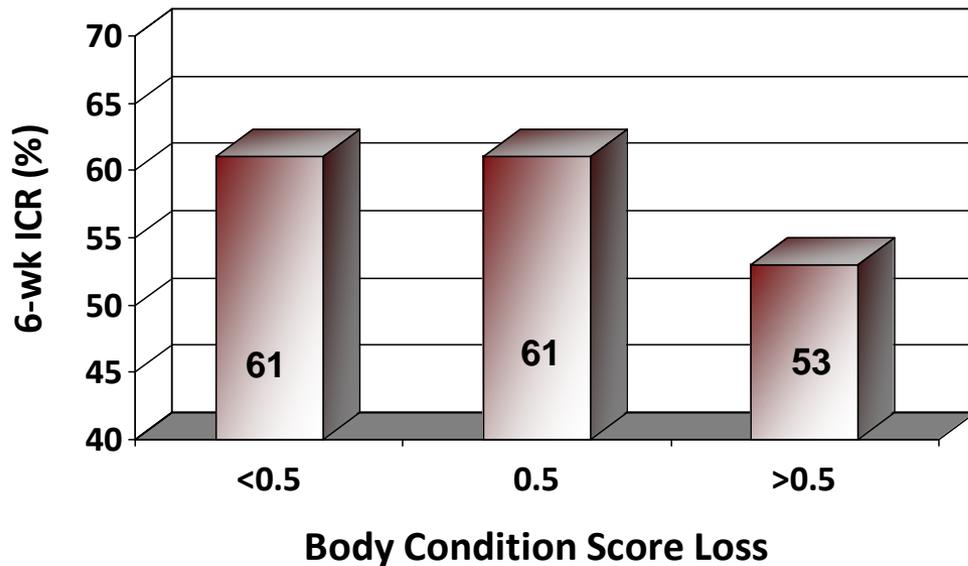
**Pins:** Not prominent, distinct cover, smooth

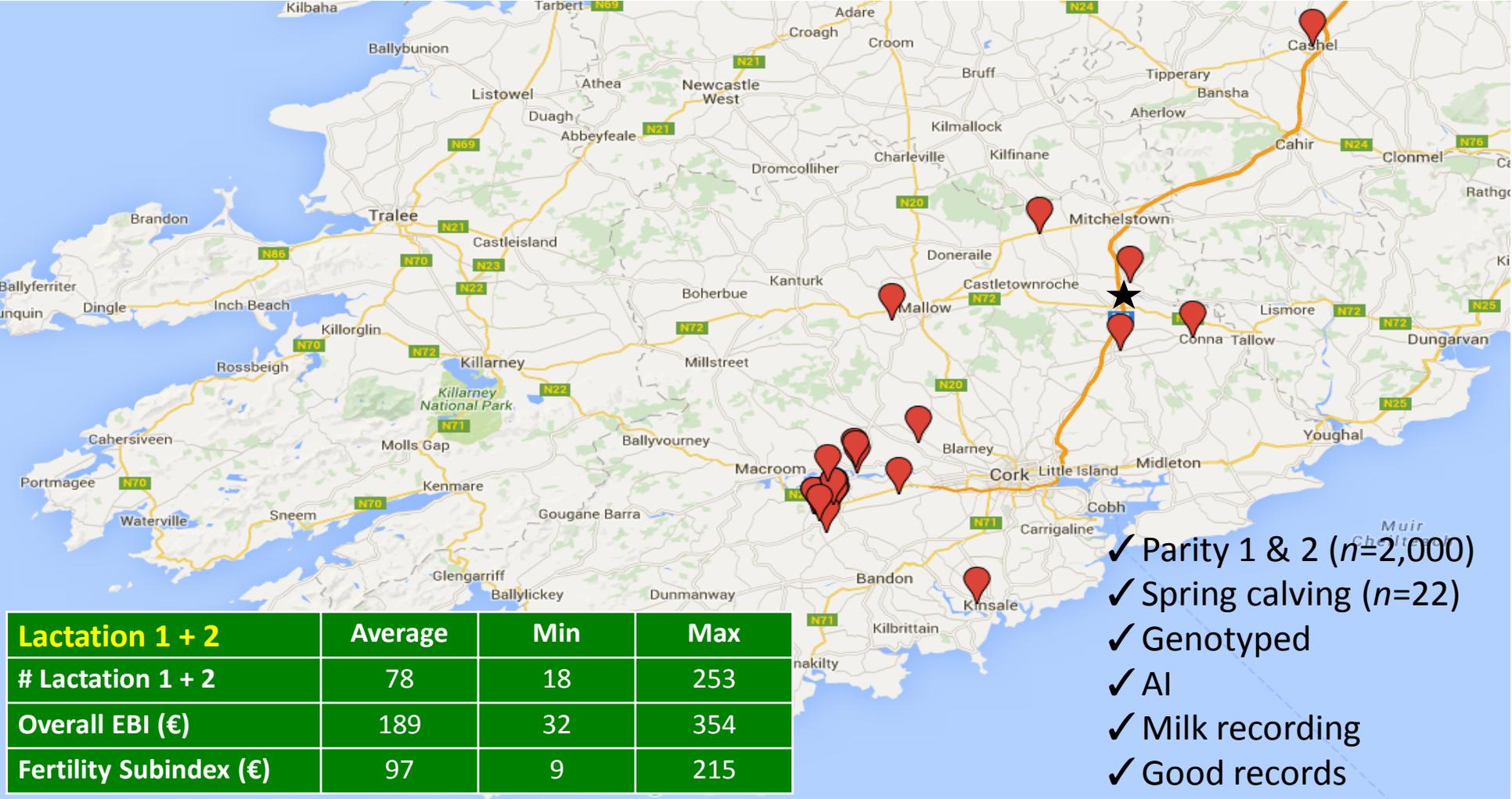
# Implications for Fertility



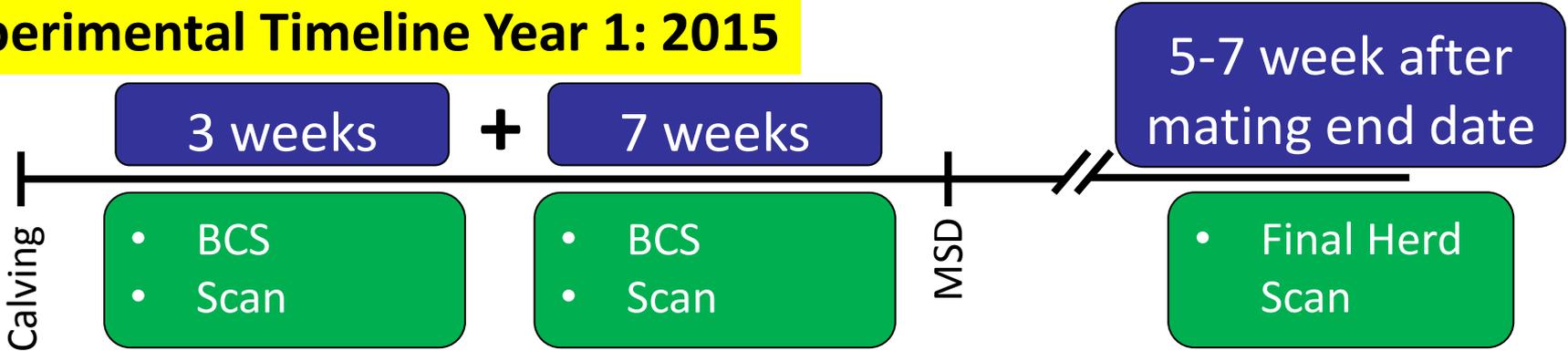
**What's important?**

- 1. BCS at breeding**
- 2. BCS loss (calving – breeding)**





## Experimental Timeline Year 1: 2015



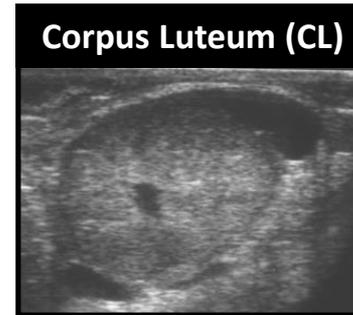
# Preliminary Results

## Year 1: 2015

# Ovarian Status: Resumption of Cyclicity

## Transrectal ultrasound

- Week 3 postpartum
- Week 7 postpartum



Yes = Cycling

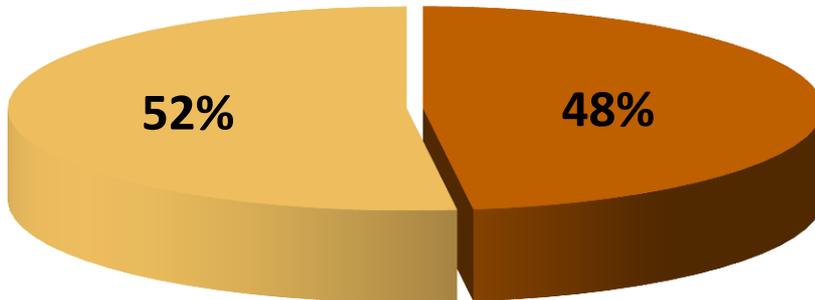
VS.



No = Non-Cycling

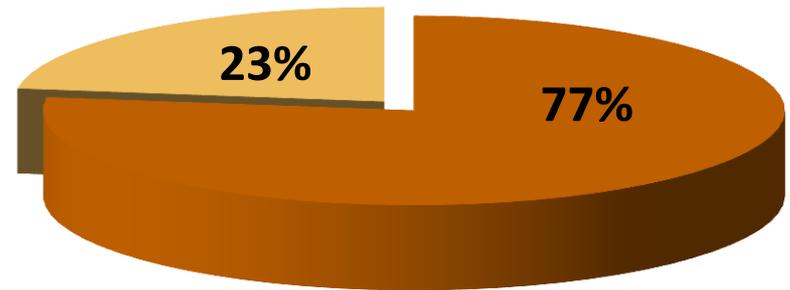
## Cyclicity Status: 3 weeks

■ Cycling    ■ Non-Cycling

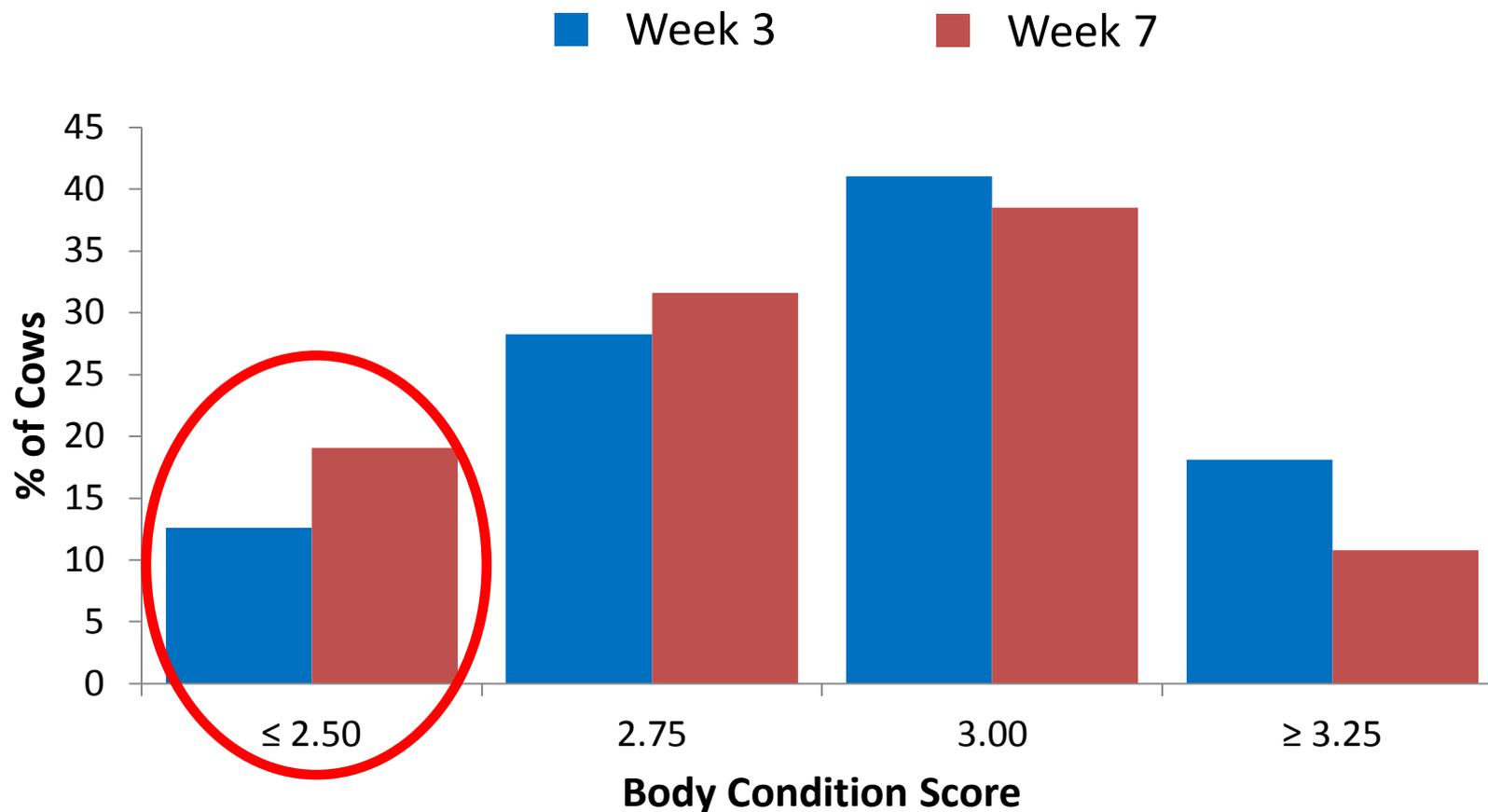


## Cyclicity Status: 7 weeks

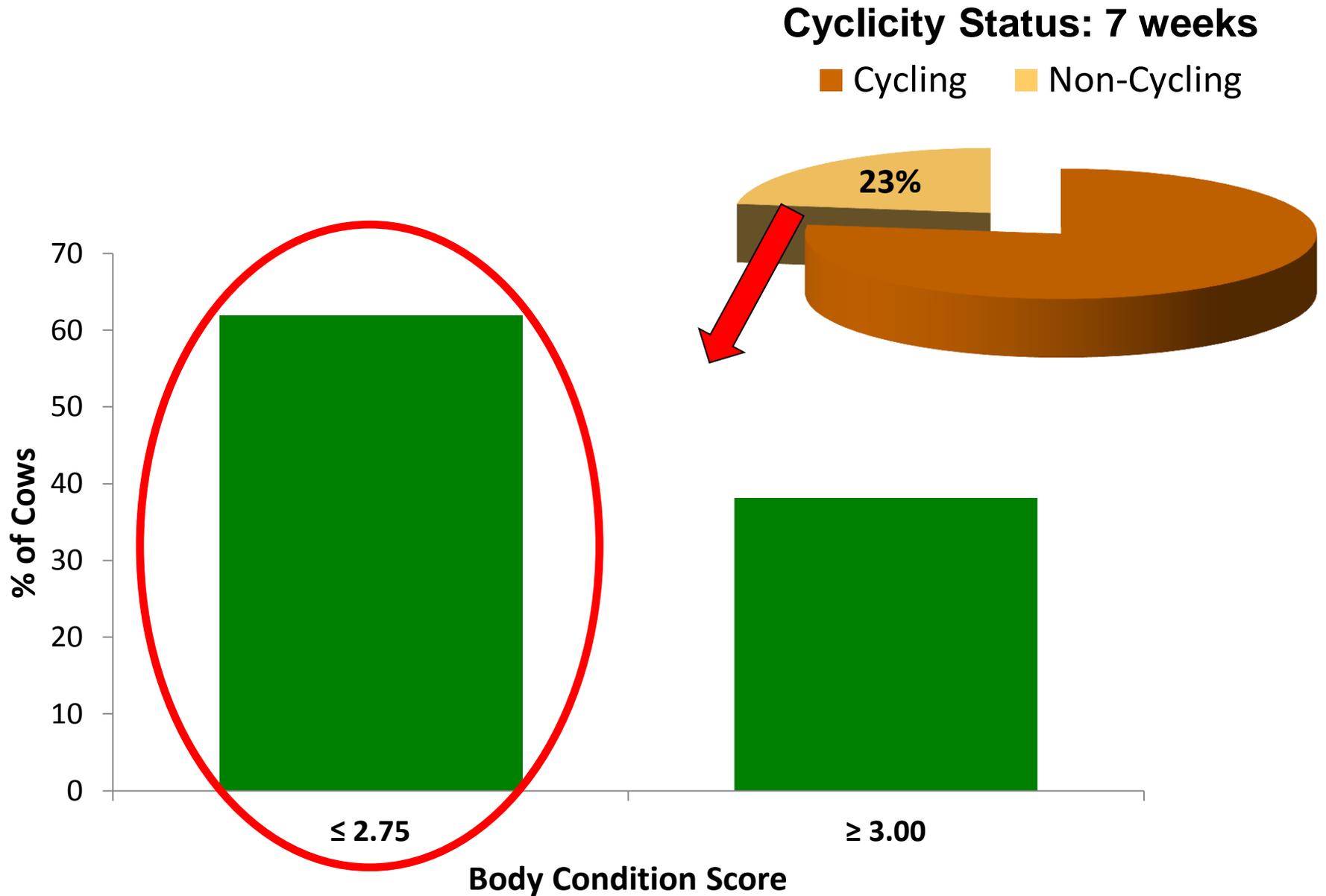
■ Cycling    ■ Non-Cycling



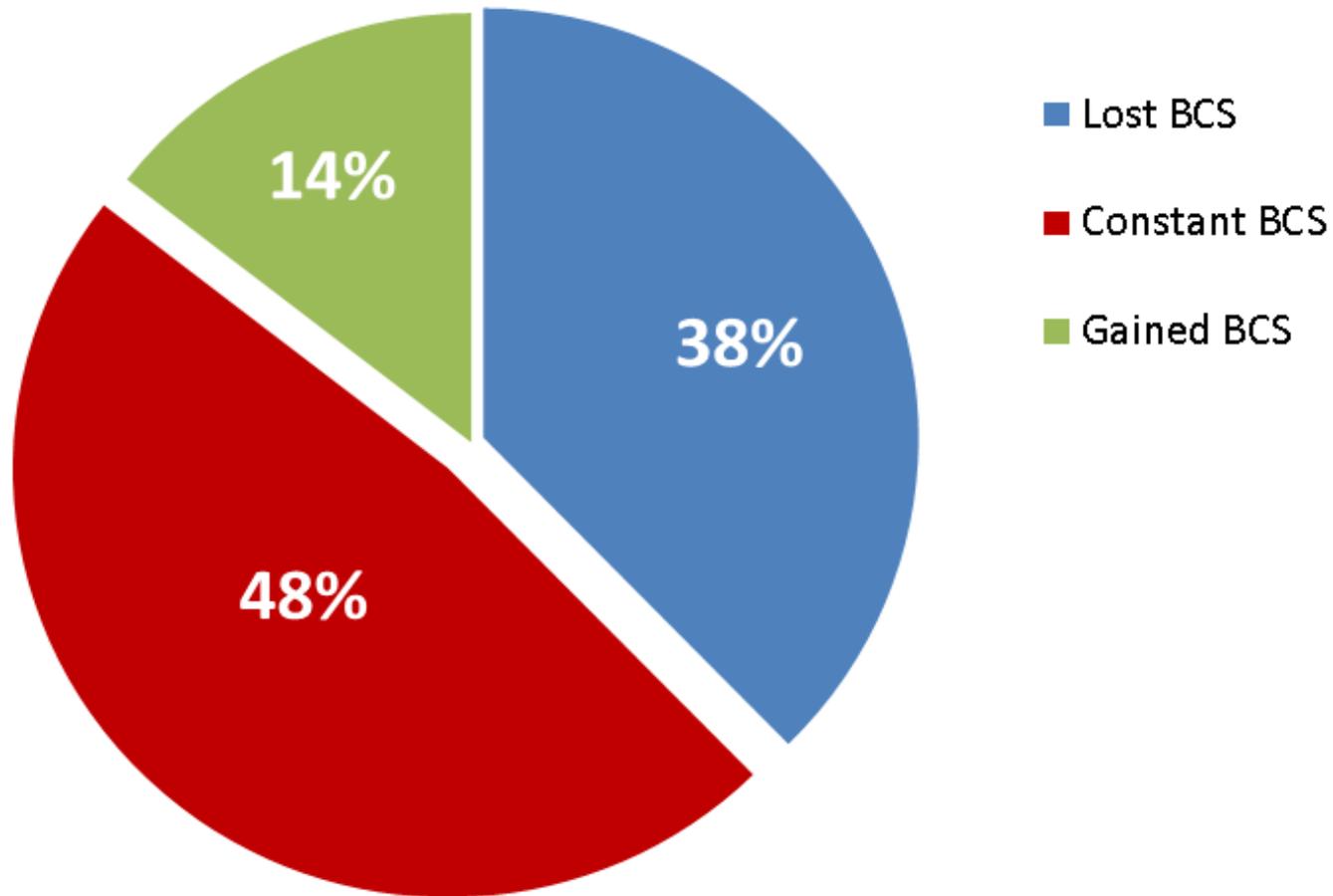
# BCS at 3 and 7 Weeks Postpartum



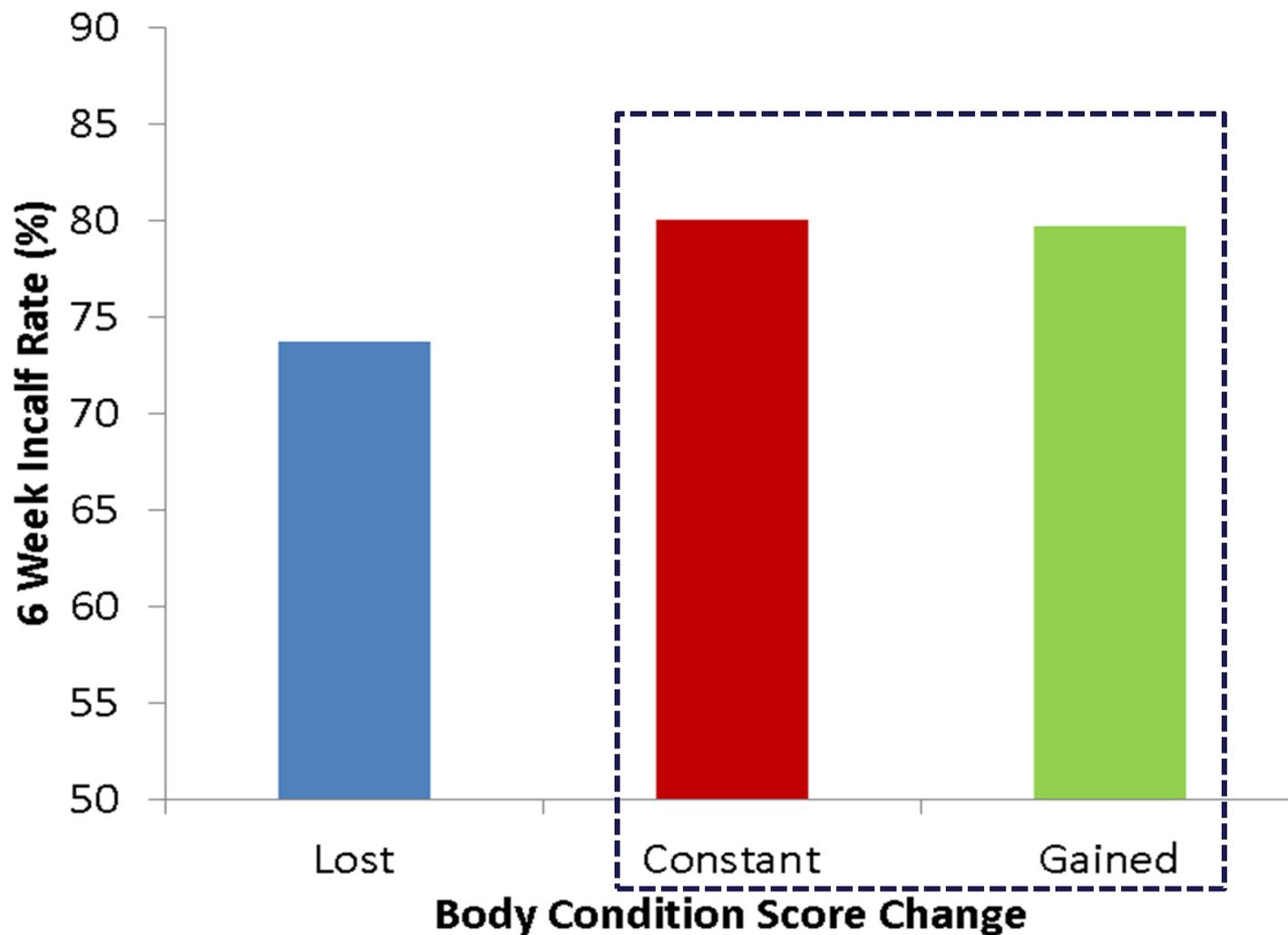
# Effect of BCS on % Non-Cycling: Week 7



# Body Condition Score Change Week 3 to Week 7 Postpartum

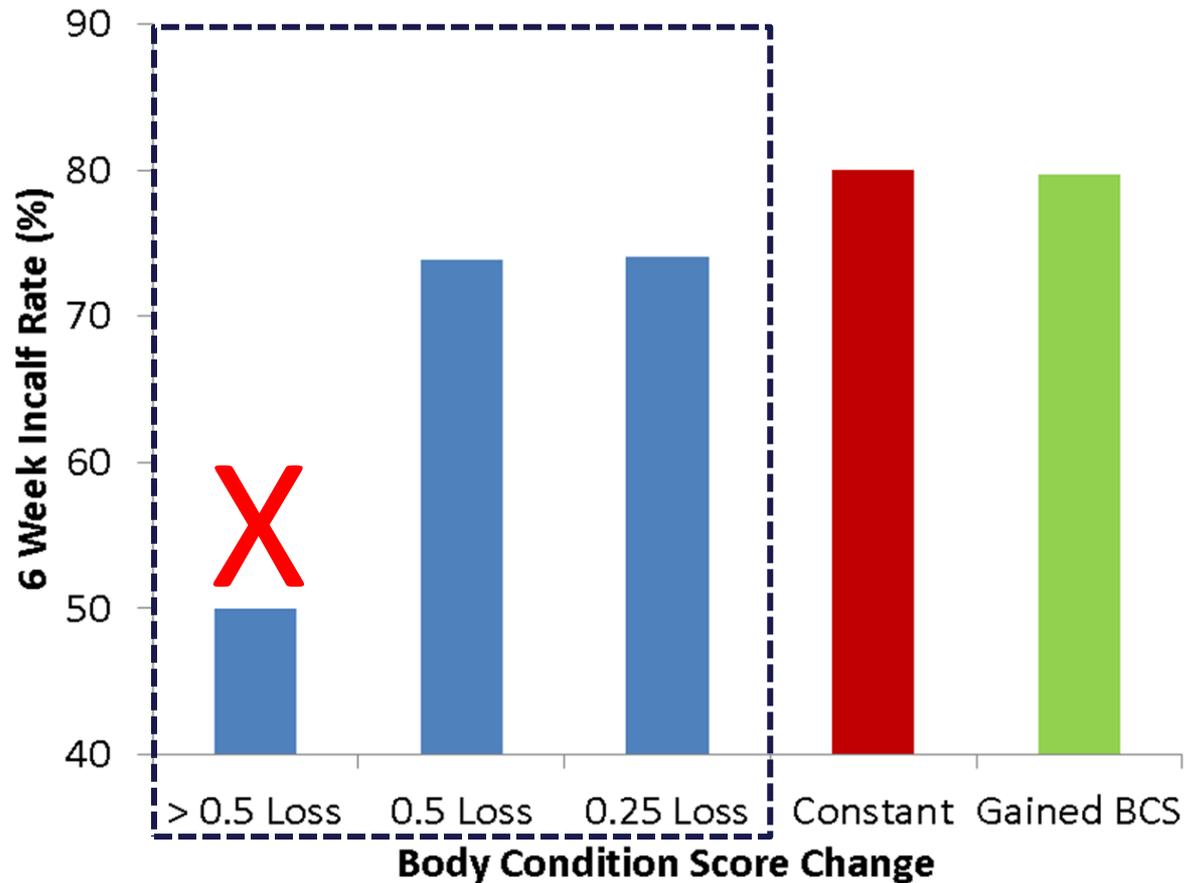


# BCS Change: Week 3 to 7 Postpartum

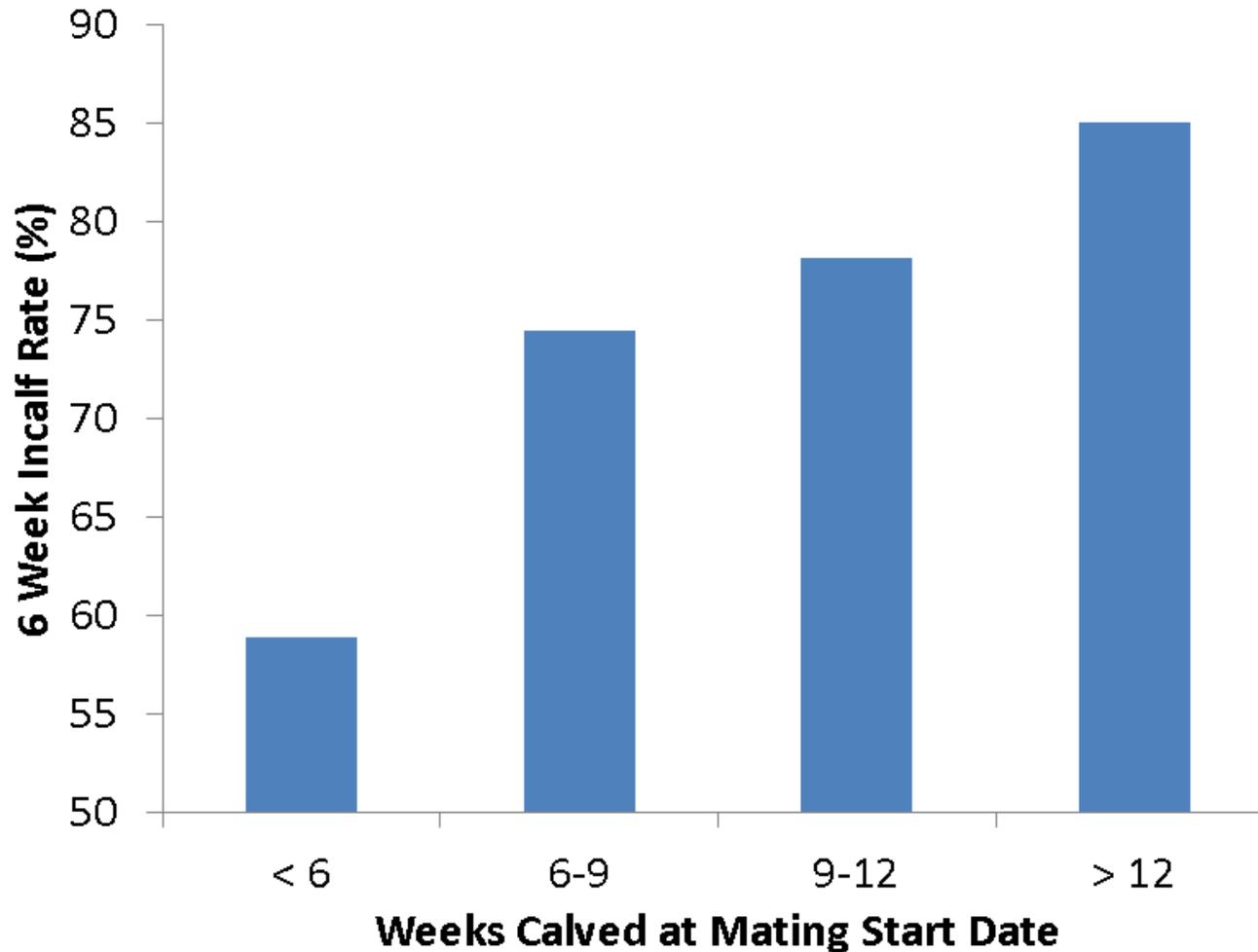


# BCS Change: Week 3 to 7 Postpartum

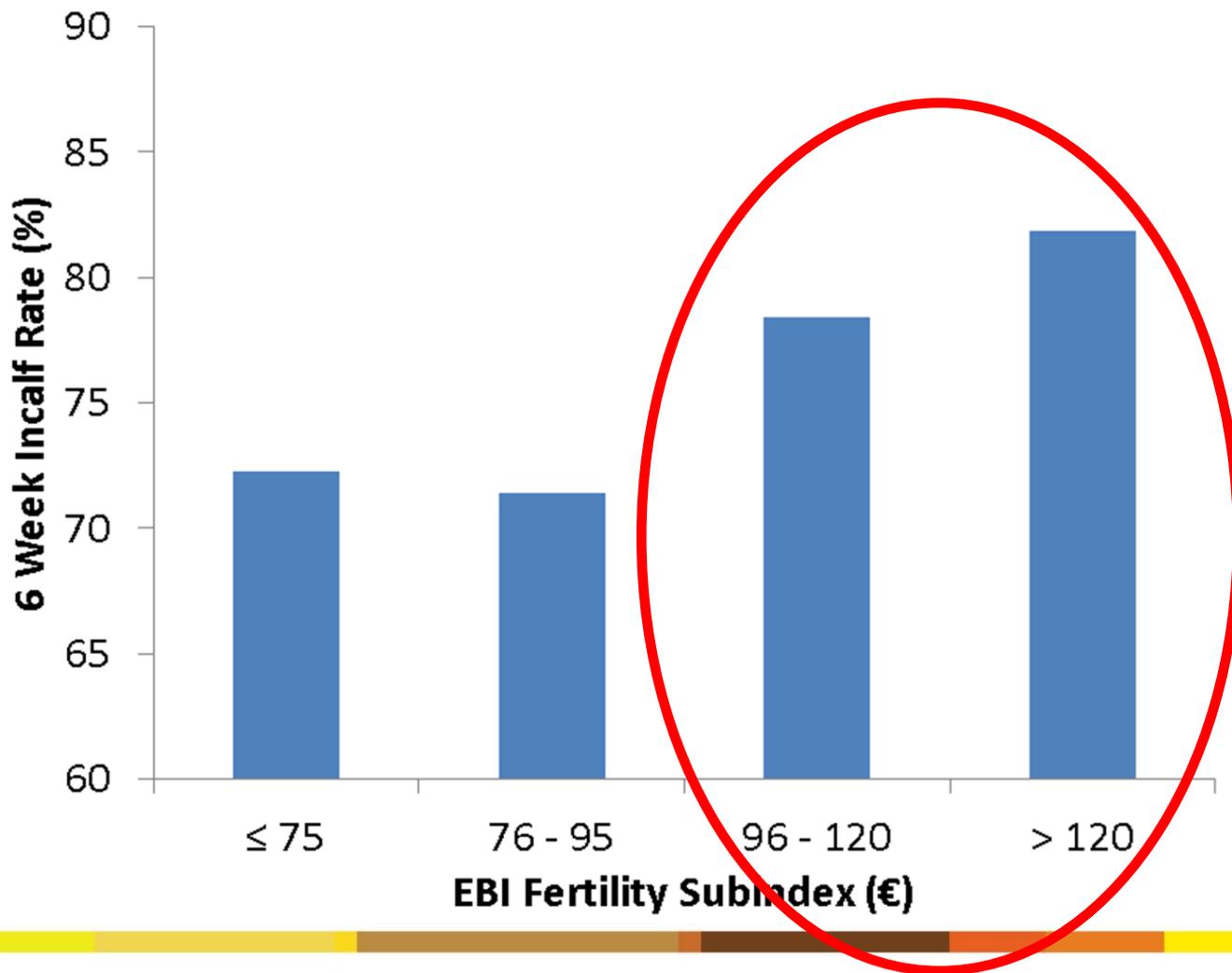
## Main Focus: Cows that lost BCS



# Weeks Calved at Mating Start Date



# EBI Fertility Subindex



# Key Steps to Improve 6-Week Calving Rate

1. Longest calved at MSD = most fertile
  - ✓ Longer period between calving and breeding
2. Achieving BCS targets = vital for good fertility
  - ✓ Herd average BCS 2.90 at start of breeding
  - ✓ No cows < 2.75
3. Minimize body condition loss early postpartum
  - ✓ Excessive loss = delayed resumption of cyclicity
  - ✓ Ensure loss is < 0.5 unit
4. Complete pre-breeding heat detection: 3-4 weeks before MSD
  - ✓ Identify non-cycling cows and treat early
5. Use the EBI to identify genetically elite animals
  - ✓ Fertility subindex > €120

# Acknowledgements

- Participating Herdowners
- ICBF
- DAFM Stimulus Funding

