EXTENSION

Nutritional Programs and Implants for Vac45 Programs

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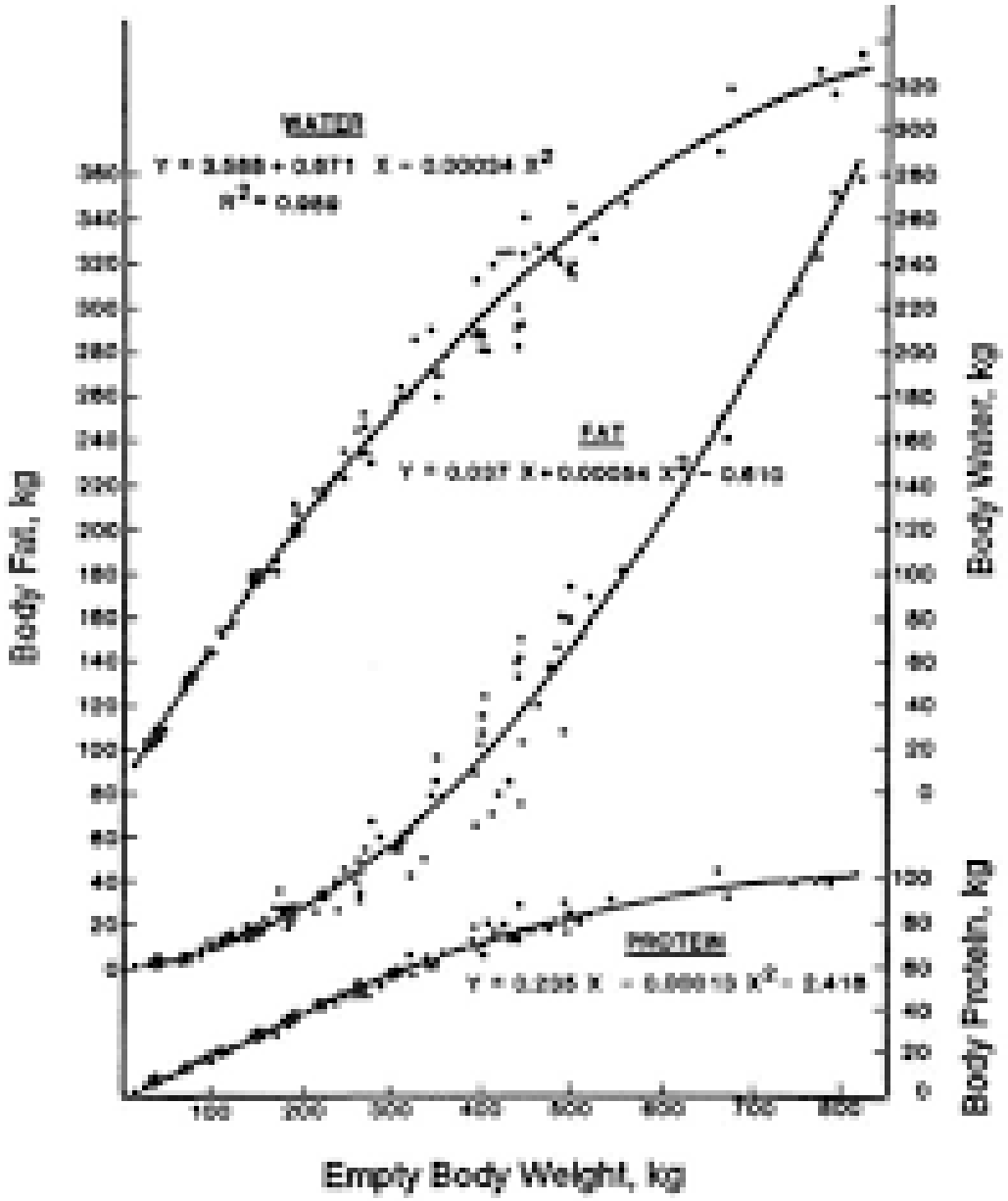
Poll questions

1. Where do you keep calves when preconditioning post-weaning?
2. What is your preferred feeding system?
3. How long do you keep your calves post-weaning?
4. When do you give the first implant to your calves?

When you try something new.

Growth and Development

- As animals grow and mature
  - Protein growth increases at a decreasing rate
  - Fat laydown begins to increase as a percentage of growth rate
- Extended periods of low growth or growth promoting implants
  - Delay “physiological maturity”
    - Shift protein curve to left
    - Increase protein gain
    - Decrease fat gain



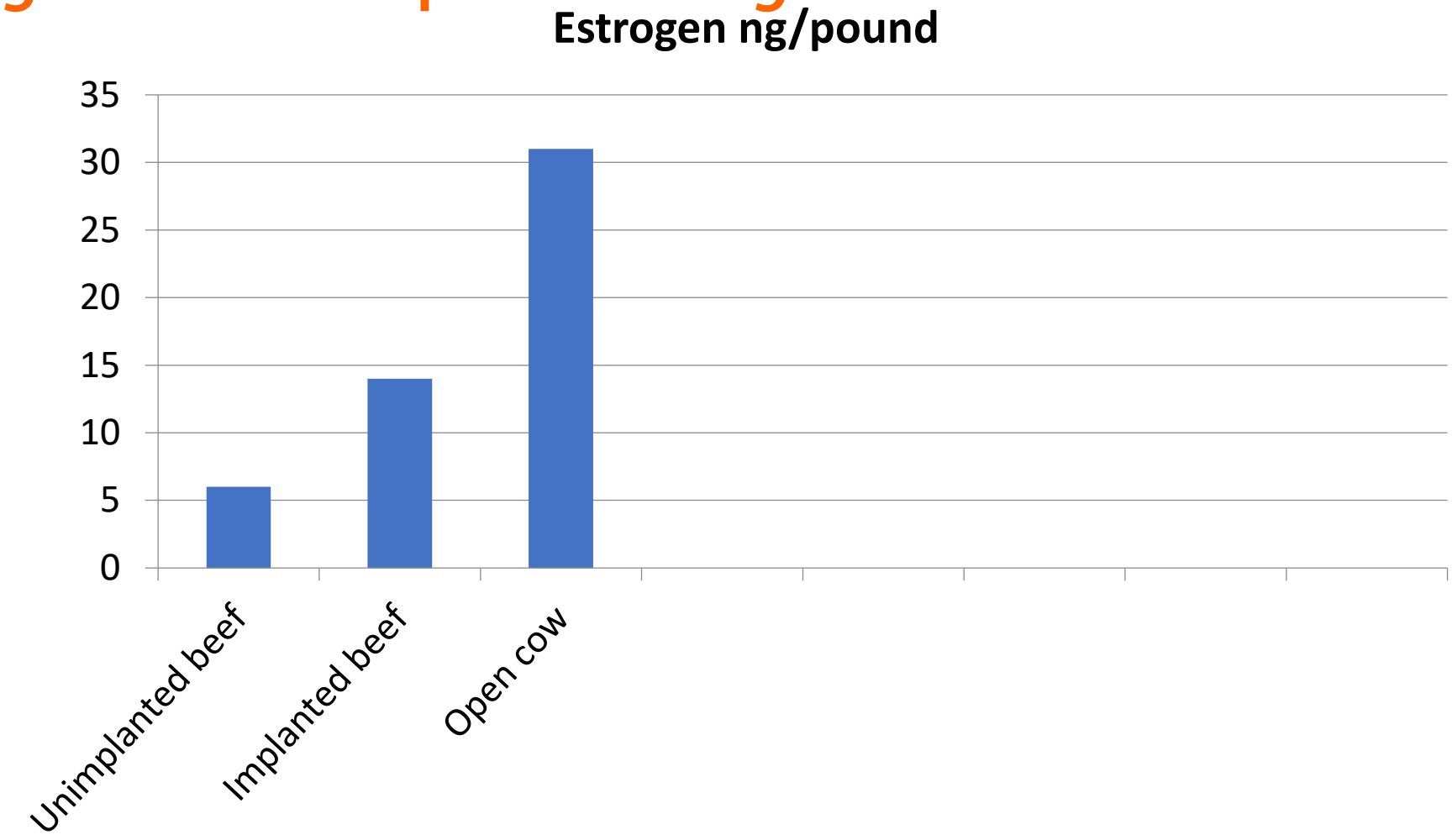
Growth Promoting Technologies

- Ionophores
  - Widely used since 1970's
  - Targeted antibiotic (not medically important to humans) to increase ruminal microbe protein and energetic efficiency.
  - Coccidiostat – important for receiving/weaning steers
  - Increase gains of growing/finishing calves by 0.1 to 0.2 lbs/day

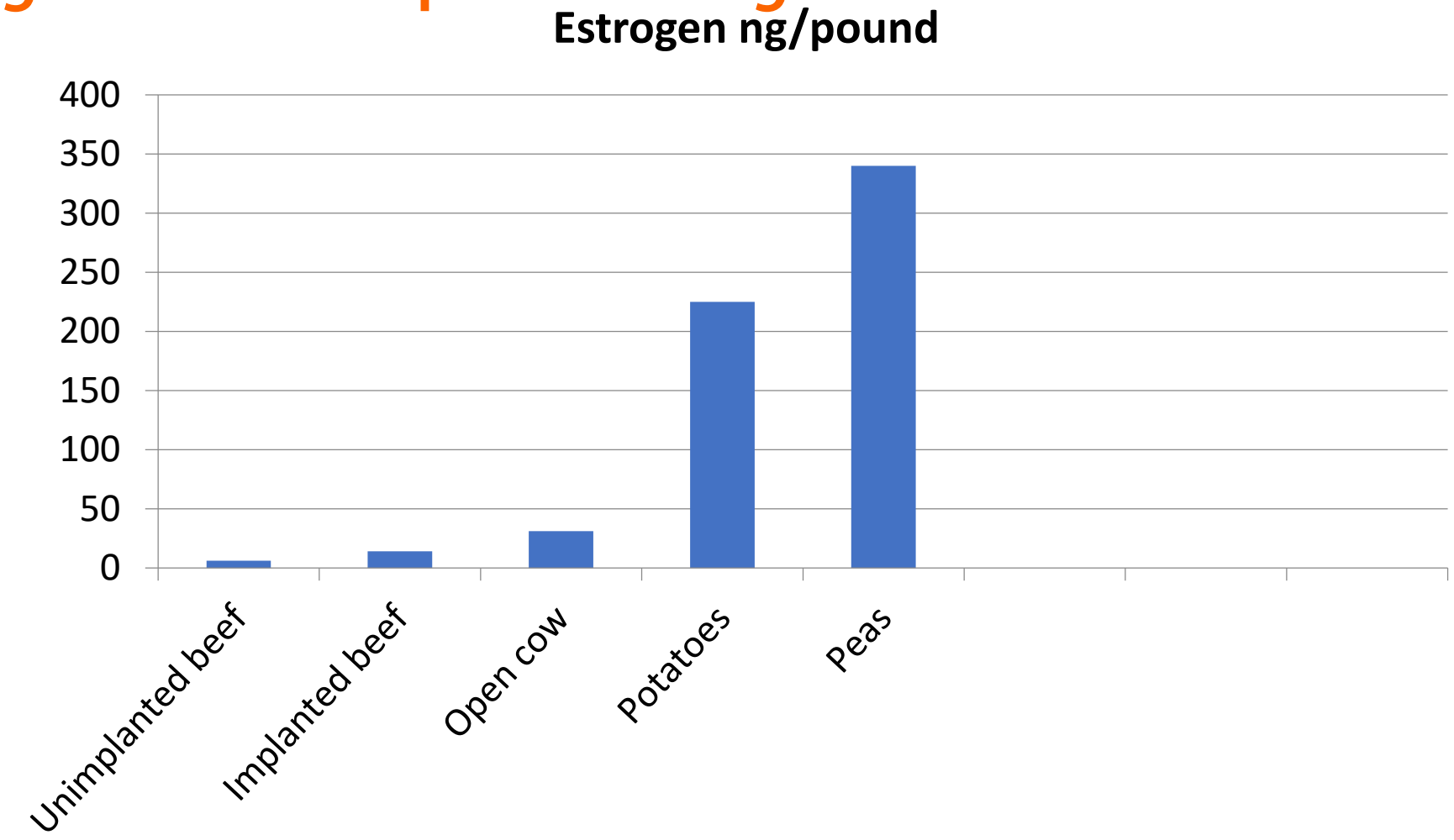
Growth Promoting Technologies

- Anabolic Steroids
  - Widely used since 1950's
  - Safe effective growth promoting agents
    - > 90% of all feedlot cattle receive one or more in lifetime
    - Much lower with stocker operations
      - 78% large operations implant
      - 56% small operations implant
    - Enhance lean tissue and reduce fat deposition
      - Increase growth rate 10 – 30%
      - Increase feed efficiency 5 – 20%
      - Increase carcass weight 5 – 10%

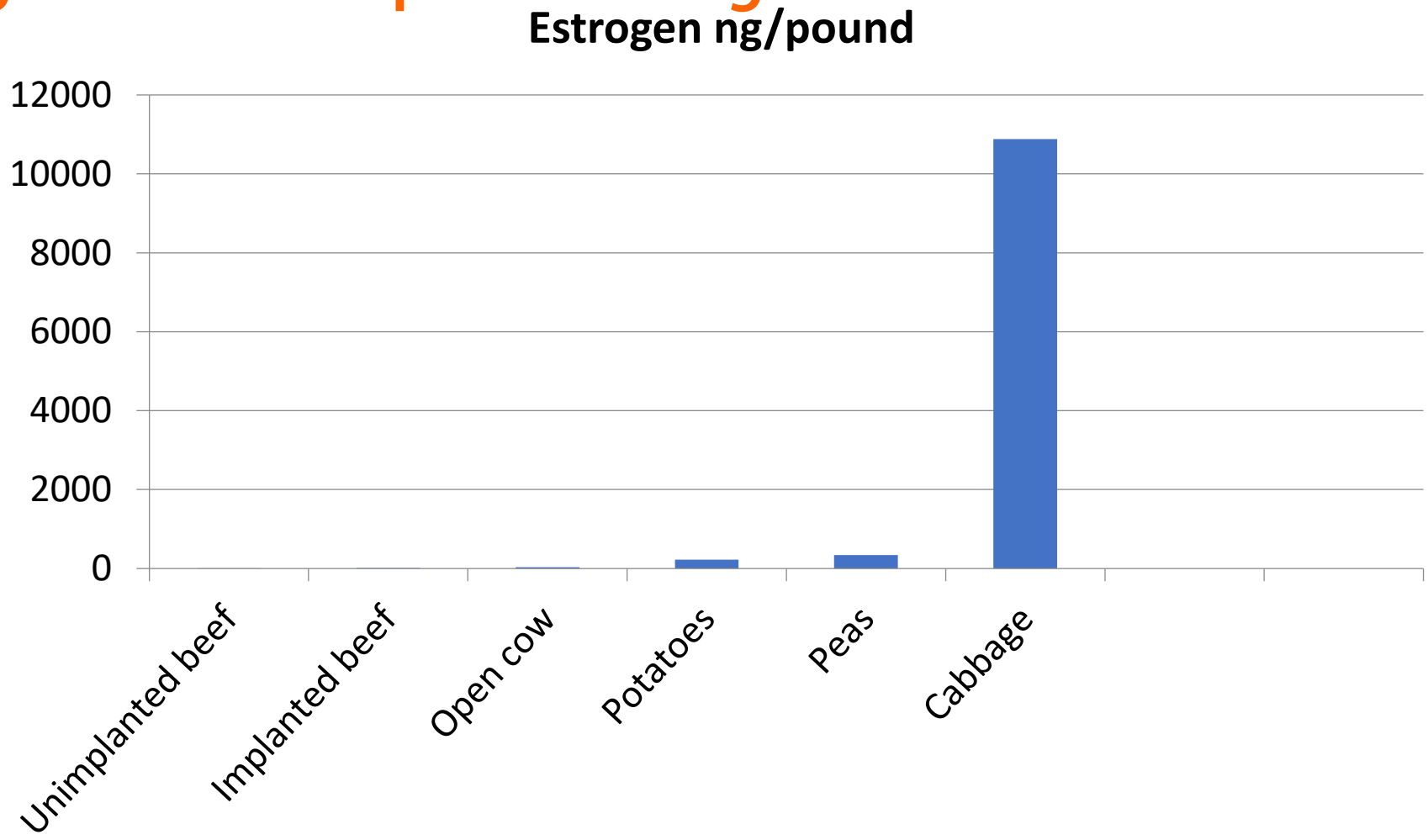
Estrogen Content per Serving



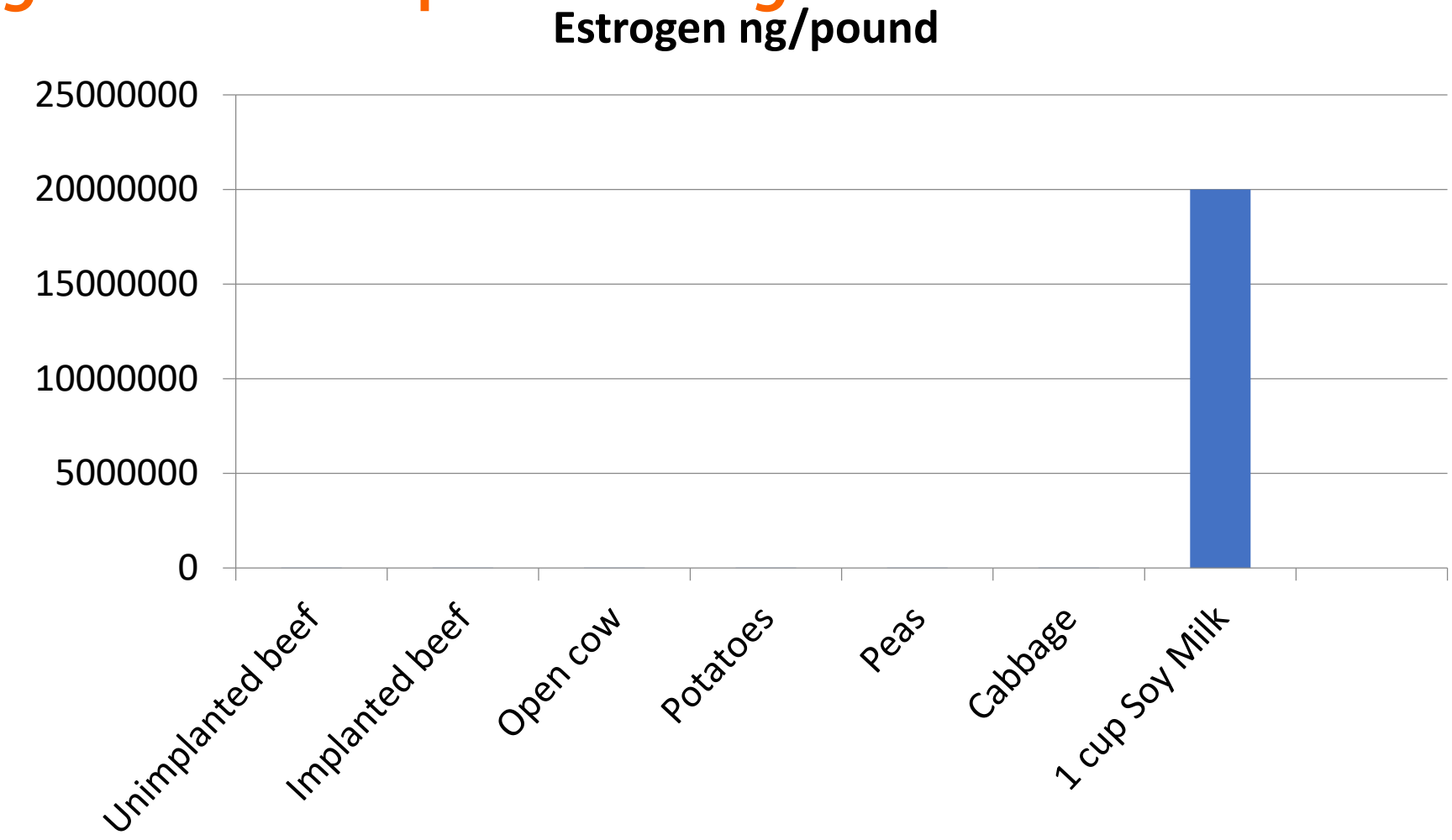
Estrogen Content per Serving



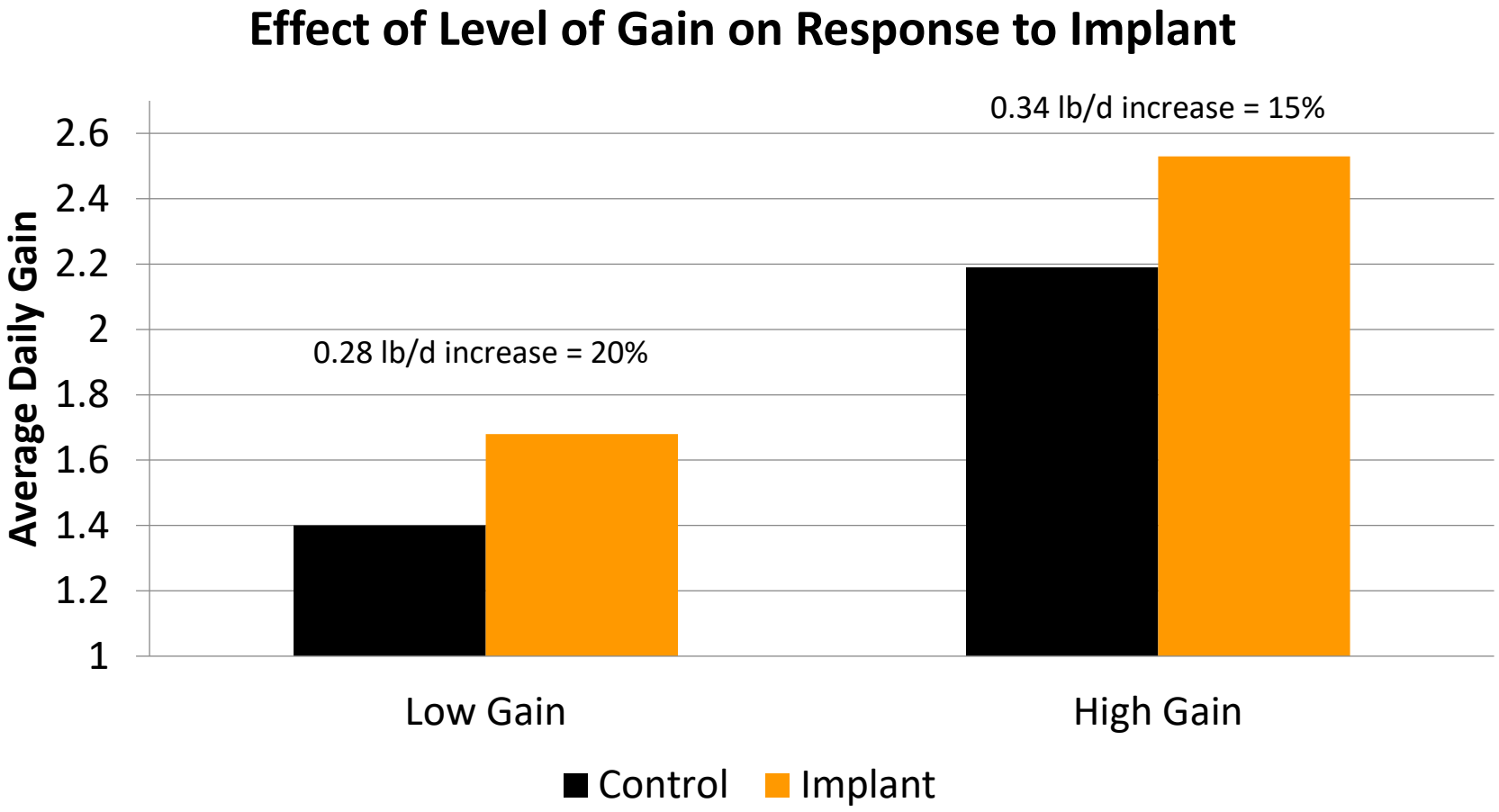
Estrogen Content per Serving



Estrogen Content per Serving



Implanting on Wheat Pasture

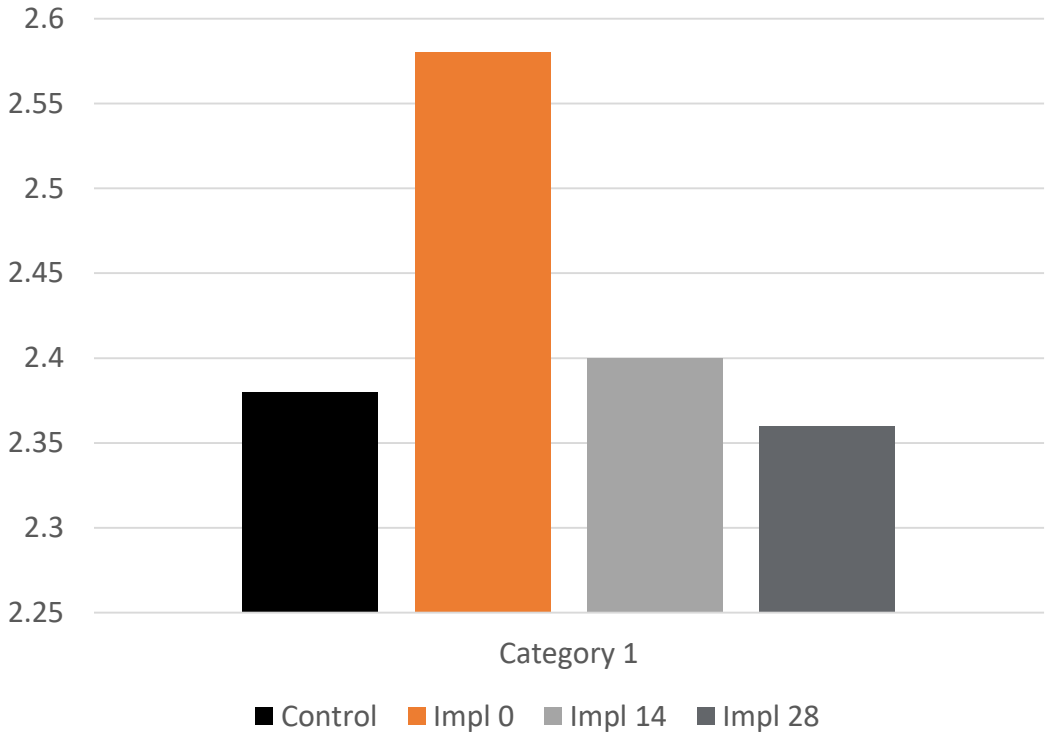


Implant response with weaning calves

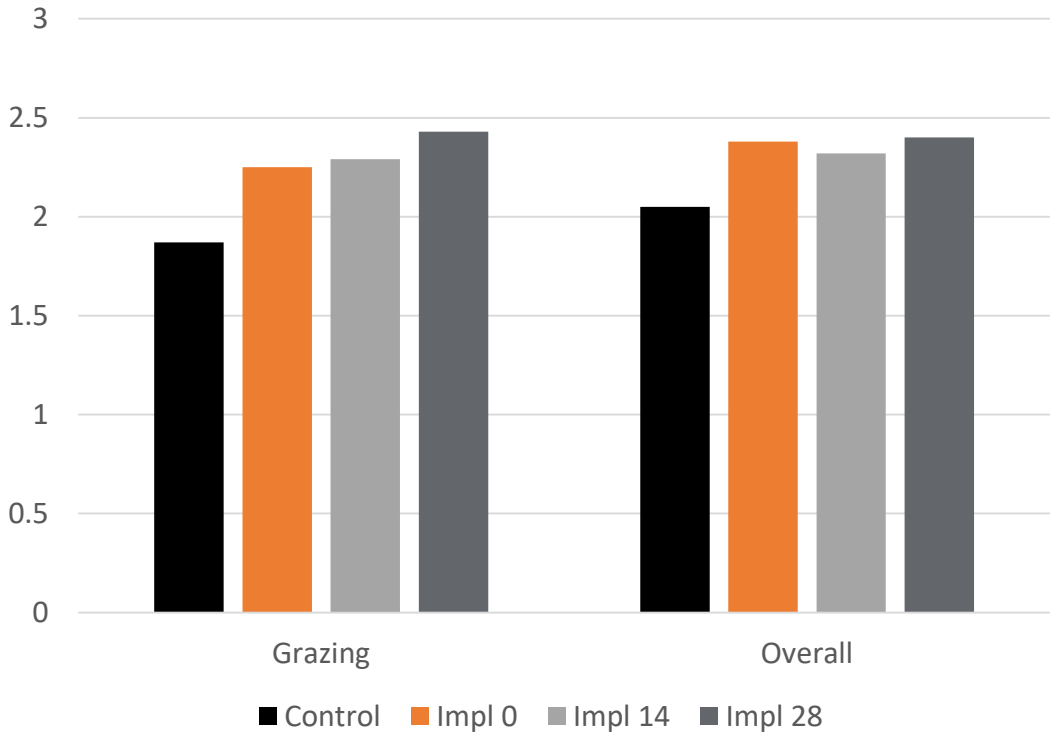
- Implanting during preconditioning or receiving
  - Consistently increases ADG during preconditioning by 0.2 lbs/day
    - Mader et al., 1985; Ralgro = +0.22 lbs/day during precon…no impact later
    - Mader et al., 1994; Ralgro = +0.23 lbs/day during precon…increased gains during finishing
    - Ball et al., 2019; Revalor-G = +0.27 lbs/day during precon/stocker…increase gains during finishing.
    - Poe et al., 2010; Ralgro = +0.04 lbs/day during receiving…80% sickpulls
    - Richeson et al., 2015; Synovex-S = +0.2 lbs/day during receiving…no impact during stocker phase

Implant Timing and Performance during Receiving and Grazing

Receiving



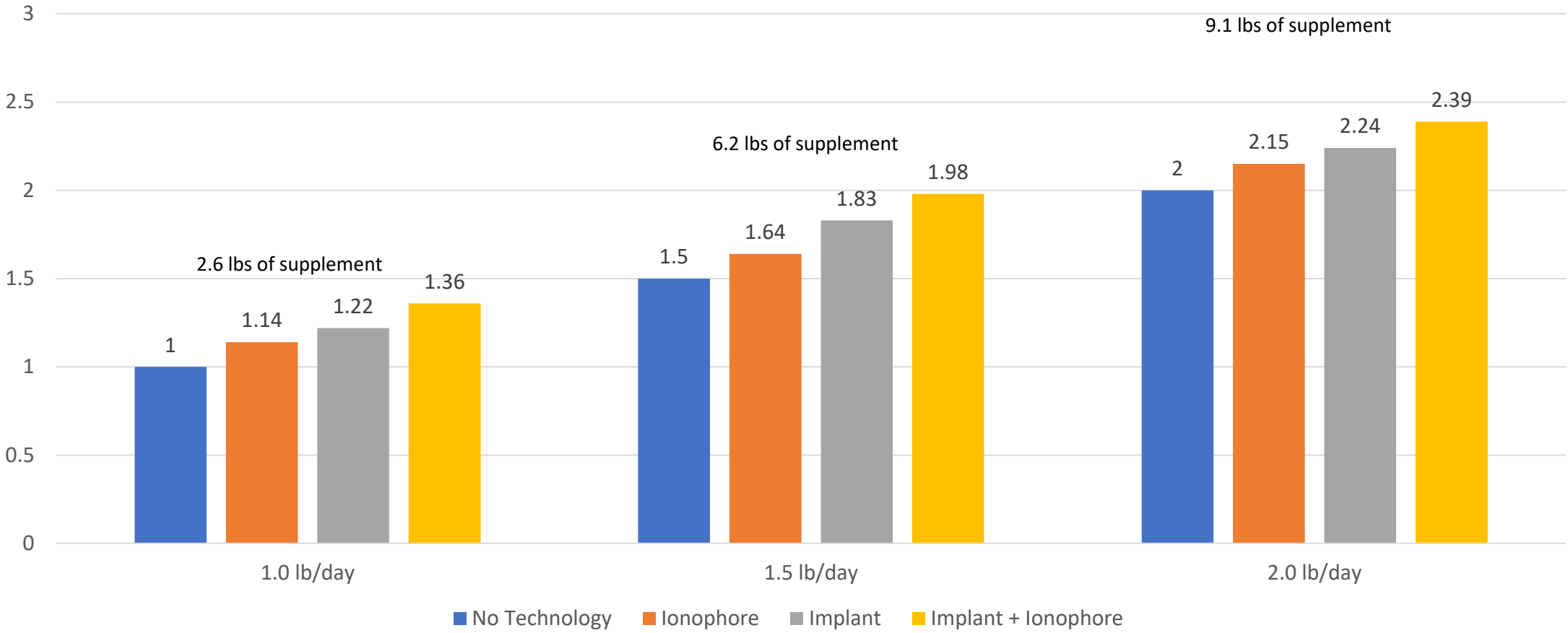
Grazing + Overall



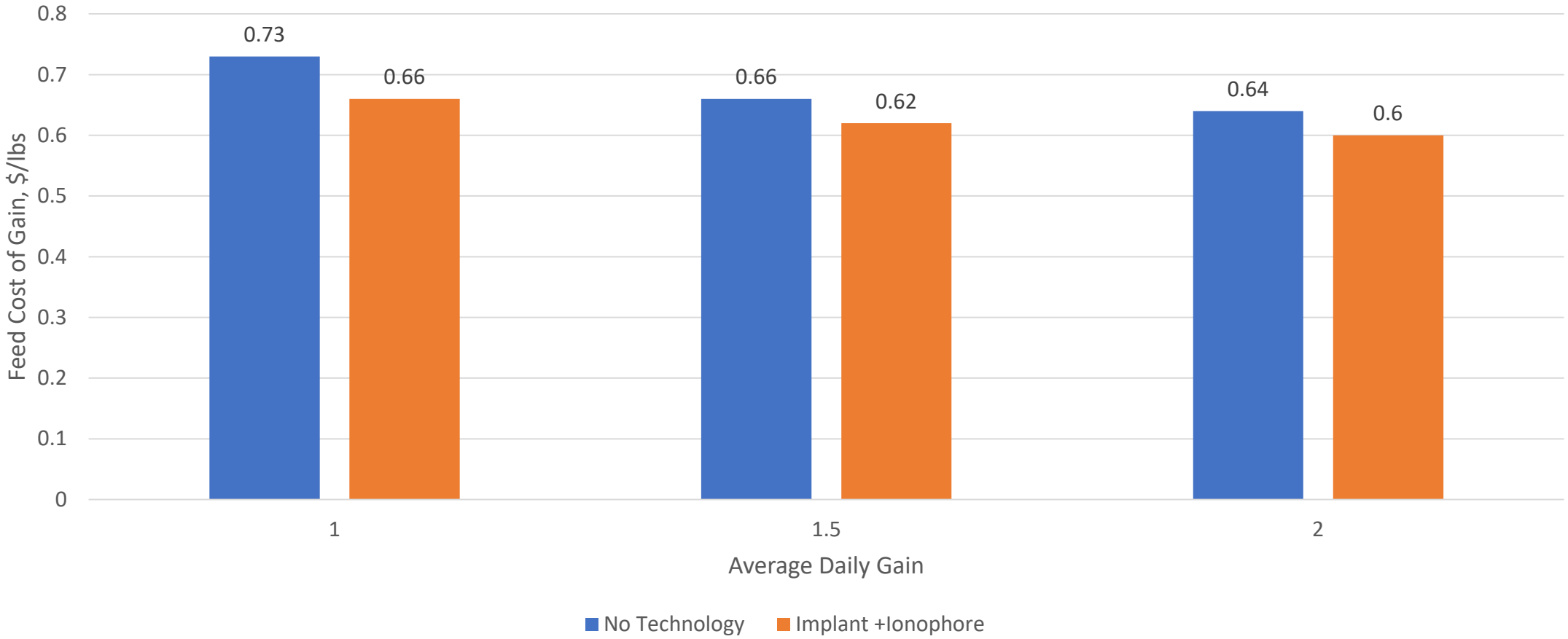
Feeding Programs

- Multiple ways to get to the same result.
  - Drylot vs pasture
    - Supplement vs feeding
  - Hay with supplement vs total mixed rations
- What are the impacts of targeted gain?
  - 500 pound calves 45-day preconditioning
  - Fed vegetative bermudagrass hay (11% CP & 57% TDN) ($90/ton)
  - 14% CP supplement 32.5% SBH/CGF/Corn &2.5% mineral premix ($235/ton)
  - Look at feeding for 1, 1.5 and 2 lbs/day gain
    - With or without ionophores and implants

Feeding for Specified Performance



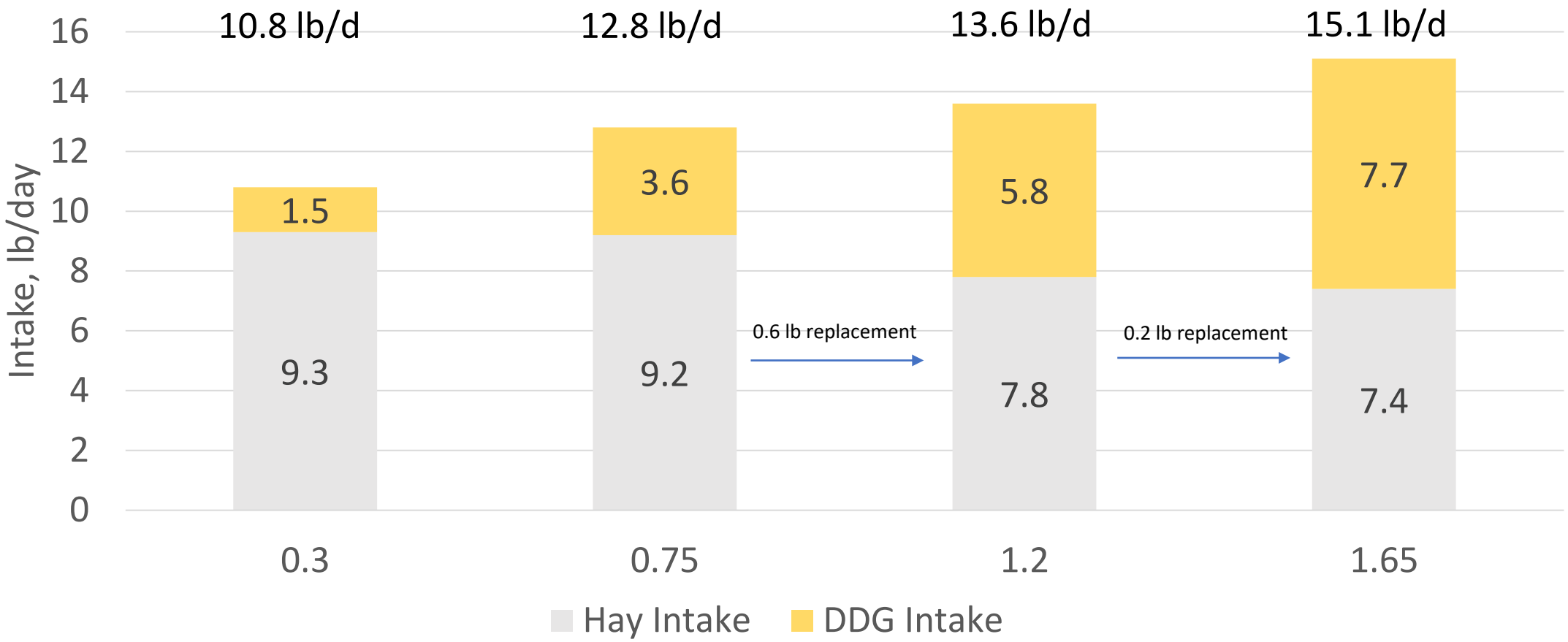
Feed Cost of Gain



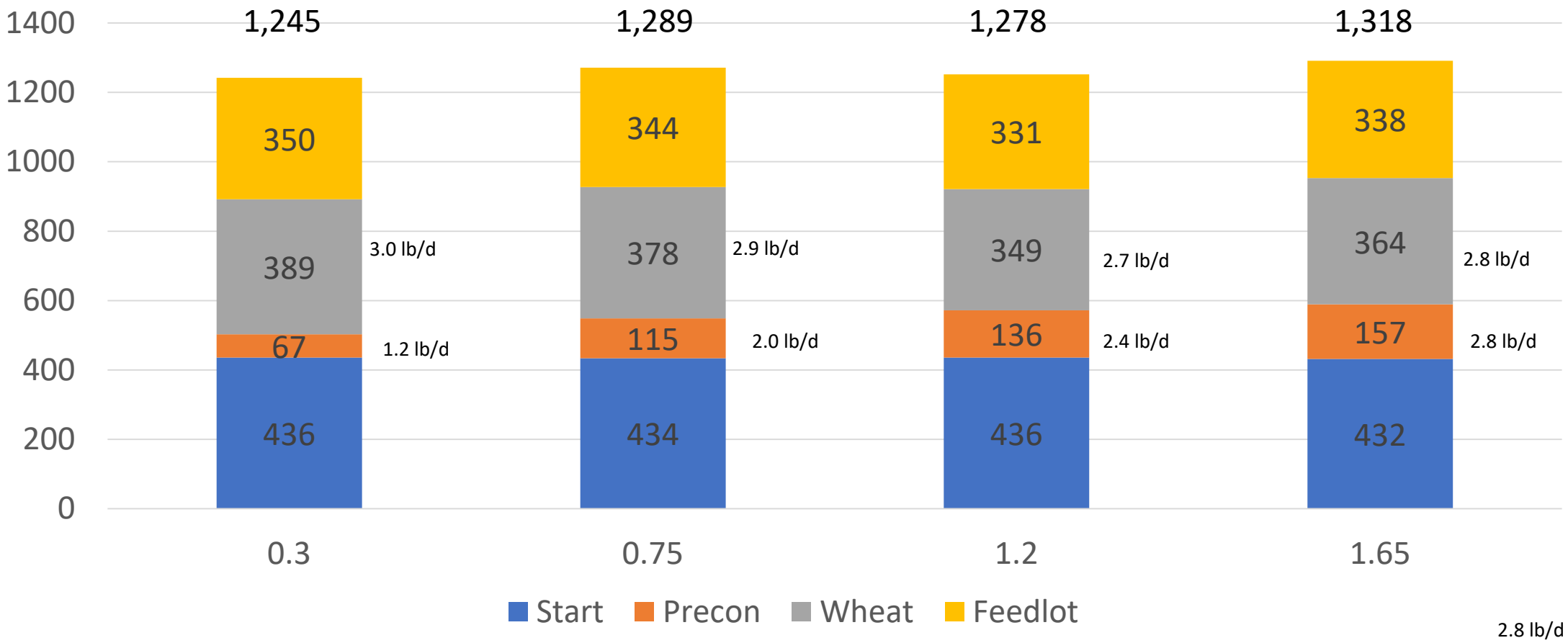
Implications of Preconditioning Gain

- Use of DGS in Preconditioning Programs – Winterholler et al., 2009
- 128 weaned calves
- Fed free choice prairie hay (5.5% CP & 53% TDN) with 0.3, 0.75, 1.2, or 1.65% of BW DDGS
  - 1.5, 3.6, 5.8, 7.7 lbs DDG/day
  - 56-days preconditioning
  - wheat pasture for 128 days
  - Feedlot for 97 days

DDG and Hay Intake



Use of DGS in Preconditioning Programs – Steer Gains



Total compensatory gain 22 to 60% of difference at end of precon

Feeding Level TMR during Preconditioning

- Fed calves post-weaning in drylot 40 days.
- TMR restricted limit-fed or full-feed (14% CP, 50 mcal NEg/lb)
  - 30% grass hay
  - 33% corn
  - 32% soybean hulls
  - 4% protein/mineral premix
  - 1% water
- Placed on small grain pasture for restricted or unrestricted performance.

Restriction during preconditioning

Item	RSTR – No Impl	RSTR - Impl	Unrstr – No Impl	Unrstr - Impl
Precon ADG	1.80	1.70	2.27	2.84
Grazing ADG	1.73	2.10	2.21	2.41
Prefinishing ADG	1.75	1.90	2.25	2.62
Finishing ADG	3.40	3.40	3.42	3.42

Conclusions

- Targeted performance should be based on the cattle type
  - Heifers and small frame steers start fattening earlier than large-frame steers
    - High growth/Large frame or implanted cattle can be fed for higher performance before getting into ‘fleshy’ discounts.
    - 1.75 to 2 lb/day seems to be a good target .
- Supplement type and supplementation rates should match forage resources
  - 0.75 to 1% of bodyweight to get 2 lbs/day average daily gain
- Total mixed rations should be designed to hit targeted performance
  - Adequate fiber levels – gut health
  - Balanced protein and mineral concentrations
  - Feed management is key to success – bunk reading, on-time delivery…

Do you have to do everything right?

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