



Feeding and Managing Dairy Cattle Genetics for Beef

Pedro Carvalho

Golden State Dairy
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CONTRIBUTION OF Dairy Cattle to U.S. Beef Production



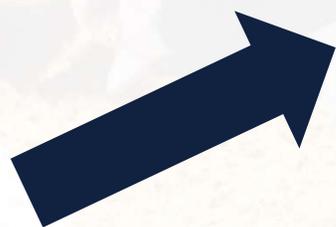
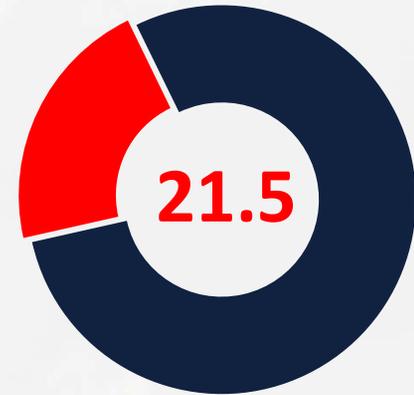
Fed-cattle

+



Cull cows

=





**How we have been
feeding dairy
genetics for beef!**

Feeding and Managing Dairy Cattle Genetics for Beef



Pre-weaning

Colostrum and Milk



Castration



Dehorn



Grain since day ~1



Post-weaning

Growth target is to double BW every 56 d

Provide an energy and protein dense diet



Feedlot

Previously “adapted” to grain-based diet

Consistency in growth performance as a group

Very predictable

Extended days on feed (>300 days)

Small daily changes may become big at the end

Technologies



Feedlot

Requirements

- **Energy**

(Zinn and Borquez, 1993)

- **Protein**

(Zinn et al., 2007)

First 112 d – 280 kg

Greater capacity for DMI

(Fox et al., 1988)

Increased potential for overconsumption (poor converter syndrome)

Increased potential for digestive upset

Water

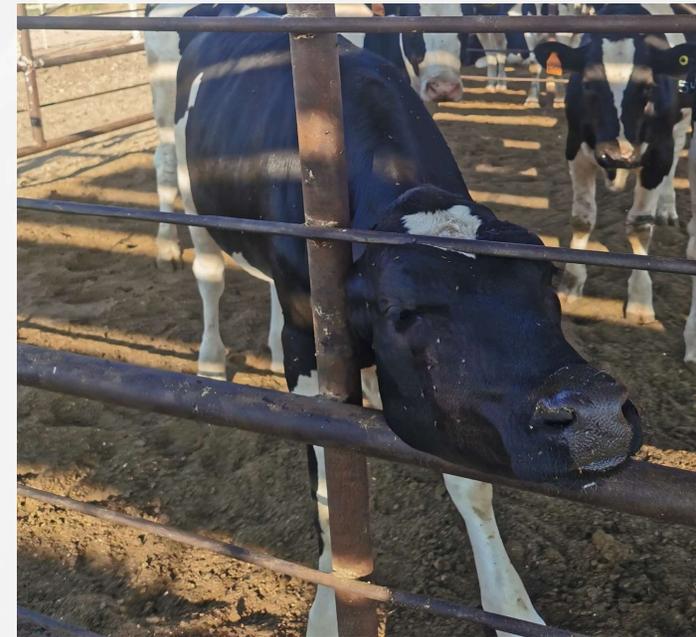
(Zinn et al., 2016)



Feedlot

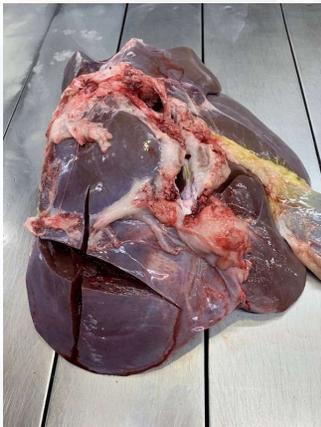
Unique characteristics

- **Pen maintenance (cables, drinkers, gates, etc)**
Pen (>9 m²) and shade (2.5 m²) space requirements
- **Suicide?!**
- **Incidence of mechanical injury**



Packer

- **Decrease in dressing percent**
Greater visceral organ mass
- **Carcass size**
- **Ribeye shape**
- **Liver abscess**



Beef on Dairy



Beef on dairy

Drivers of Crossbreeding

Drivers from dairy side:

- Steady cow numbers
- Increasing milk production-fewer replacements needed
- Milk prices decline
- Enhance reproductive techniques
- Lots of heifers
 - e.g.: California cost to raise is >50% than buy

Drivers from beef side:

- Continued demand for beef
- Premium
- Packers restrictions on Holstein



Beef on dairy

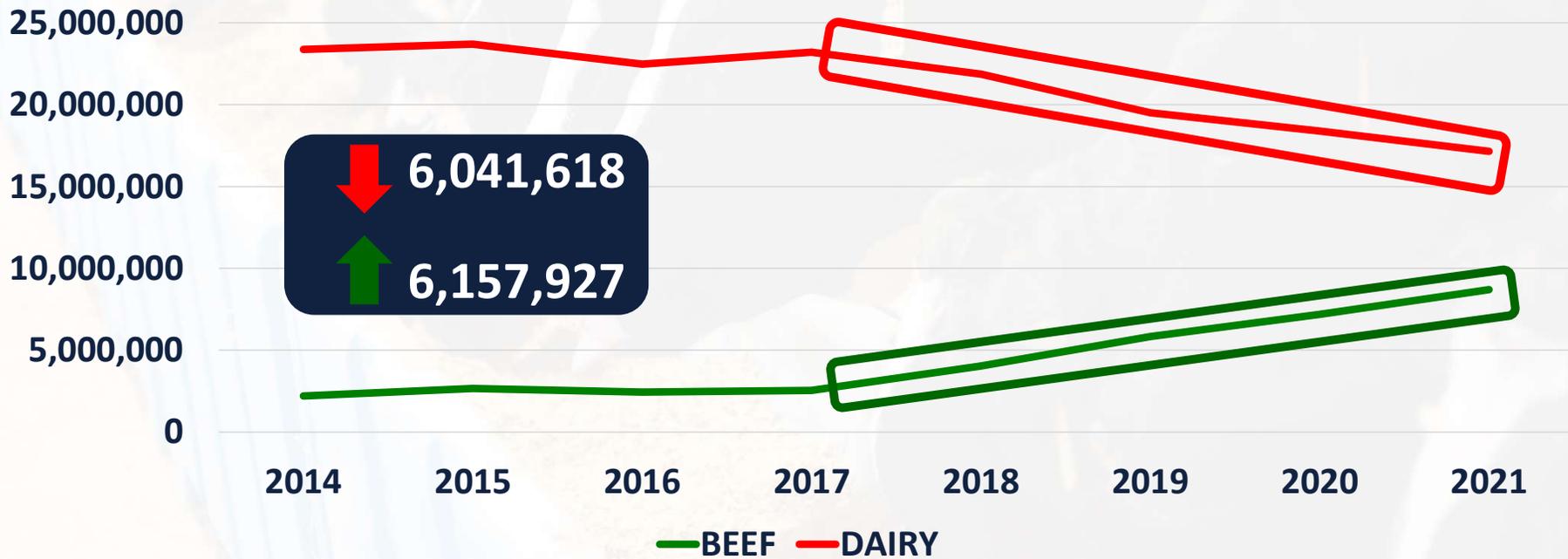
Semen Sales Trends



Domestic beef semen sales

- 2017: 2.5 million total units
- 2021: 8.7 million units

Domestic Semen Sales



Beef on dairy

Domestic Beef Semen Sales

	2017	2018	2019	2020	2021	% Increase
ANGUS	1,648,789	2,400,214	3,171,338	3,696,283	4,601,465	179%
LIMOUSIN	316,896	501,706	783,344	1,150,684	1,178,912	272%
SIMMENTAL	203,881	570,054	773,200	664,944	653,508	221%
CHAROLAIS	23,167	78,353	222,077	381,103	597,673	2480%
WAGYU	22,635	27,788	33,939	69,640	112,068	395%
OTHER	324,705	458,411	845,368	1,237,758	1,554,374	379%
BEEF	2,540,073	4,036,526	5,829,266	7,200,412	8,698,000	242%

**Beef on
dairy**

Breed?



How should we manage Beef on dairy cross animals?



**Beef on
dairy**

Feeding management

Limitation on the data available

Decades old data

Genetic selection has change over the years

Continental vs. British

Zimmermann et al. (2021)

International data - most from Europe

Different systems

Carcass evaluation

Genetics



**Beef on
dairy**

Feeding management – Calf-ranch

Greater value at the dairy

Greater bull calf management?

Shipping young calves

e.g.: West coast cattle going to High Plains

Longer time at the calf-ranch

130 kg vs 180 kg



**Beef on
dairy**

Feedlot management – Imperial Valley

Growing phase:

Up to ~340 kg

More forage in the diet

Finishing phase:

Similar diet to calf-fed Holsteins

Technologies:

Aggressive implant program (increase frame size)



**Beef on
dairy**

Packer

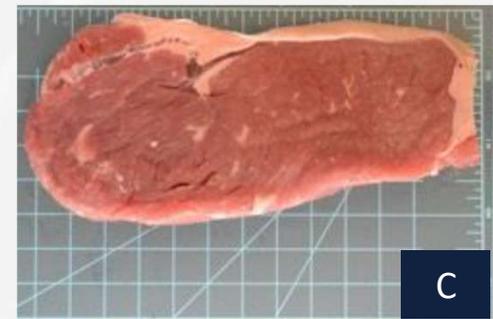
**Steaks from 13th rib region of strip loins from
different cattle types**



Conventional beef



Beef × dairy



Dairy

**Beef on
dairy**

Feeding management – Challenges

Breed?

Sire?

More variation?

Handle the heat – Desert southwest

Heifers

Technologies

Implants and beta-agonists



**Beef on
dairy**

Feeding management – Opportunities

Traceability

Early management

Quality program

Angus, Wagyu...

Background? – Growing phase?

Midwest and Northeast

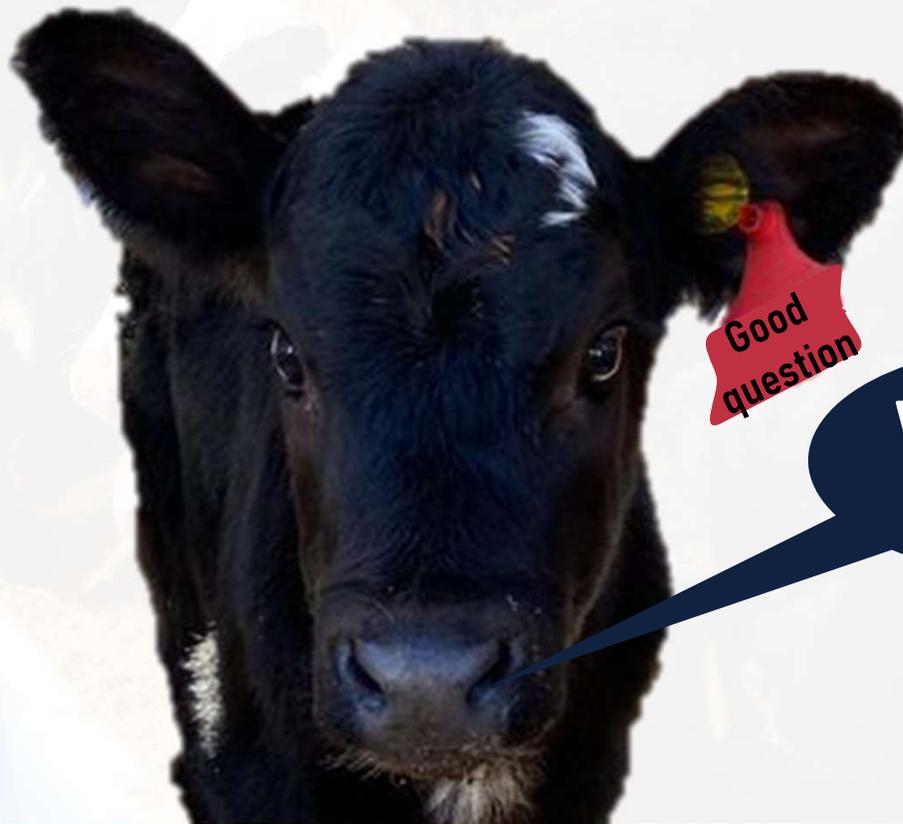
Technologies?

Implants and beta-agonists



Take home message!

What “we know”?

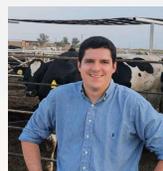


We need
data!

Thank you!!



Applied research
and extension



Richard Zinn Pedro Carvalho Brooke Latack

UCDAVIS
UNIVERSITY OF CALIFORNIA

 pcarvalho@ucdavis.edu

Dr. Pedro Carvalho, Assistant Professor in Cooperative Extension – UC Davis Feedlot Management Specialist

Questions?

