



Sustainable Livestock Practices: Hawaii Beef Cattle Industry

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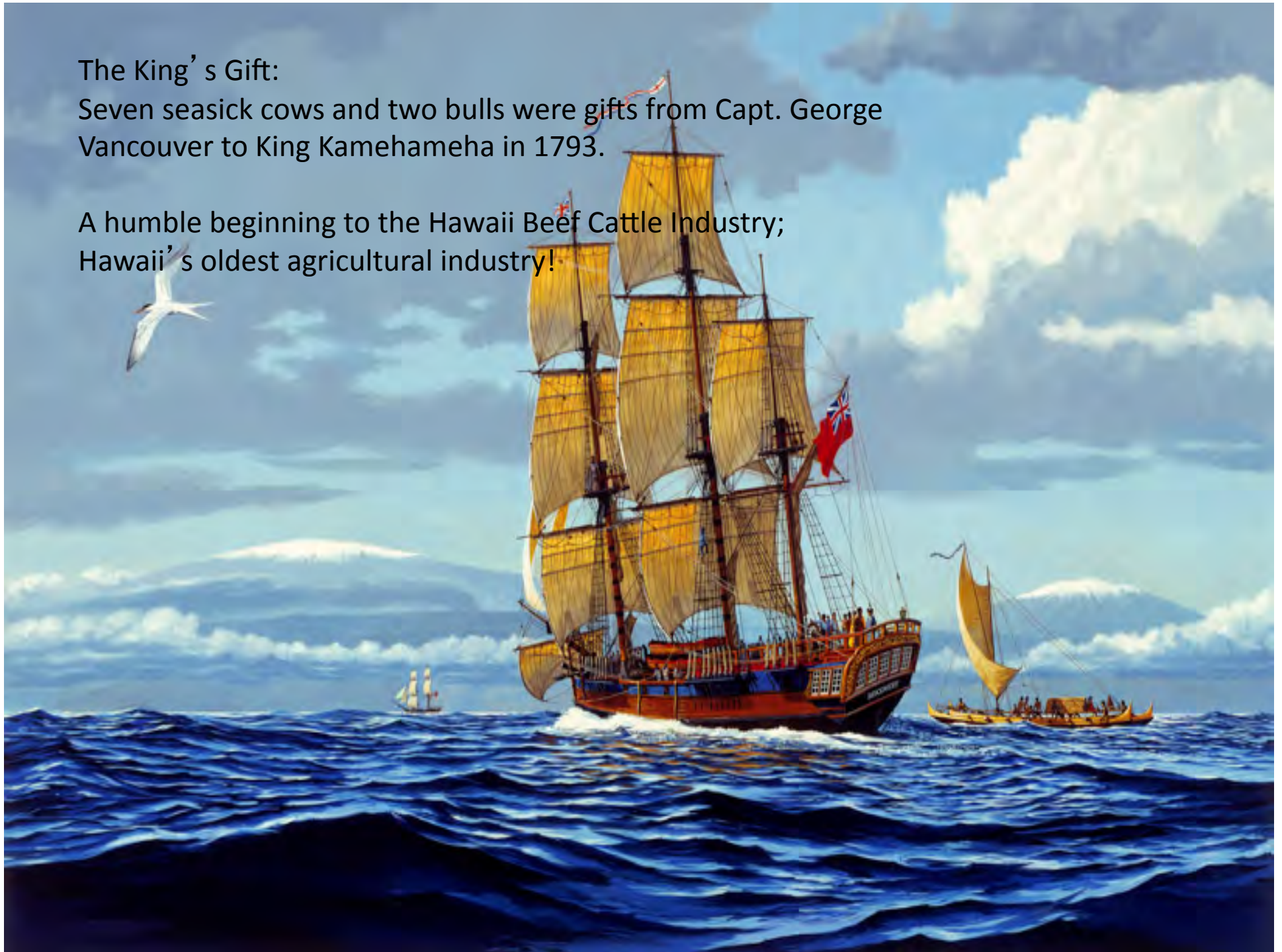
Sustainable & Organic Agriculture Program Extension & Research Update

Hale Tuahine, Manoa, September 25, 2013

The King's Gift:

Seven seasick cows and two bulls were gifts from Capt. George Vancouver to King Kamehameha in 1793.

A humble beginning to the Hawaii Beef Cattle Industry;
Hawaii's oldest agricultural industry!



Today, as a means to expand it's business,
Hawaiian cattle ventured back to the high seas, to
enter into specialized markets on the mainland.

It's cheaper to ship livestock to feed, than ship
feed to livestock.



Livestock Industries in Hawaii



Dairy (\$9.5 M)

\$67.3 Million *
Farm-Gate Value



Pork (\$2.6M)

Generating
\$202 Million
in Hawaii's Economy



Poultry (\$8.8M)



Beef (\$46.4M)

* Hawaii Agricultural Statistics Service, 2011

Our challenges are many ...

- State Constitution (call for food self-sufficiency)
- Land (HRS 205) and Water
- Oil (transportation, feed, utilities, etc.)
- Weather (tied to the landscape/environment)
- Labor
- Regulations
- Urbanization
- Mature industry (knowledge base)
- Lack of understanding of agriculture in the state
- Highest per capita tax burden

So Who will survive?



Survey of Confined Operations 1999 to 2008

1999

- Broiler 5
- Dairy 10
- Layer 11
- Swine 30
- Processors 11

2008

- 0 100%
 - 2 80%
 - 5 55%
 - 21 ('04) 30%
 - 9 18%
-
- Beef Cows 82,000 ('04) 82,700 ('08)

So Who will survive?



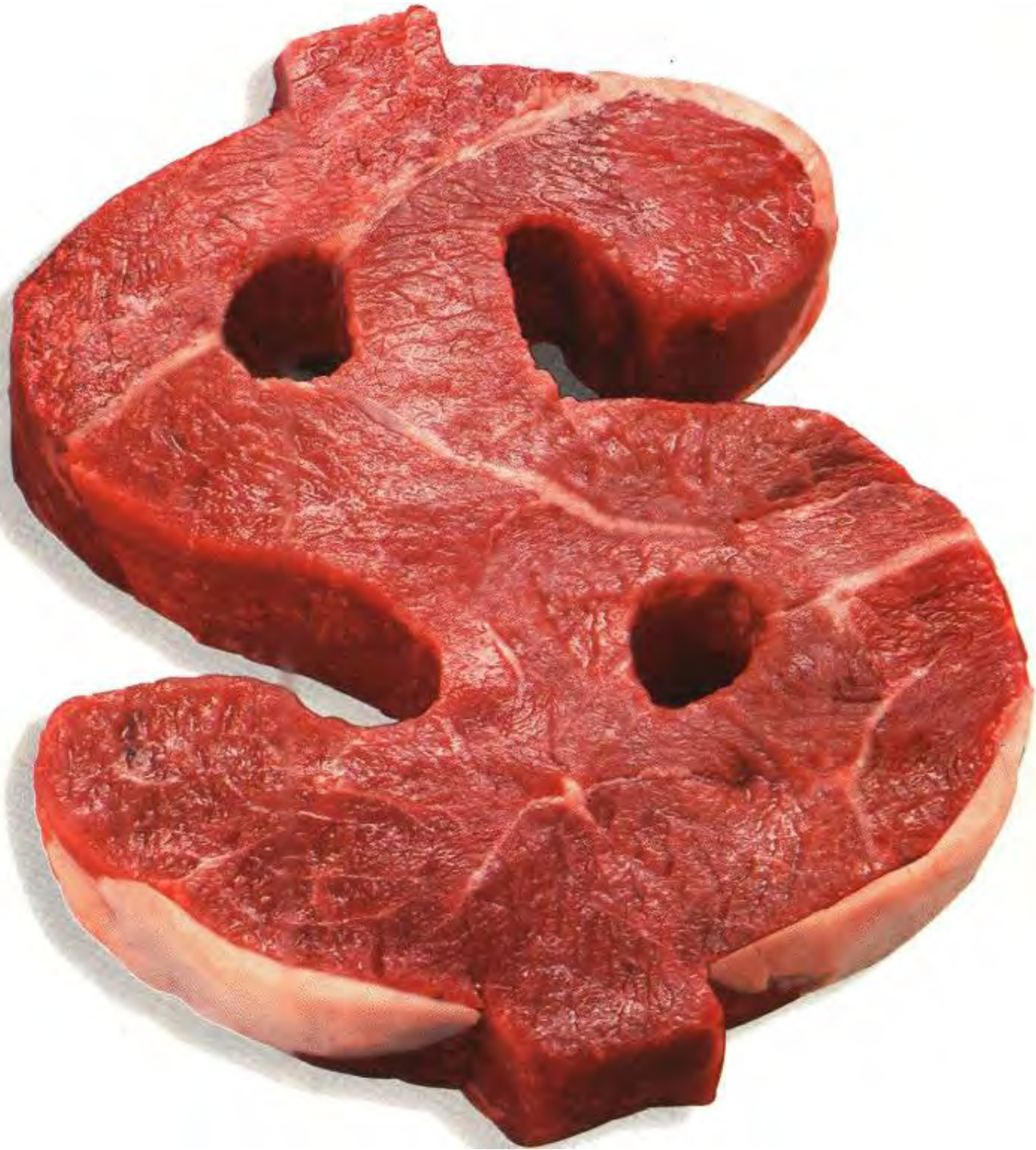
Solar Dollar Concept:

SUN → PLANT → ANIMAL → SOLAR DOLLAR

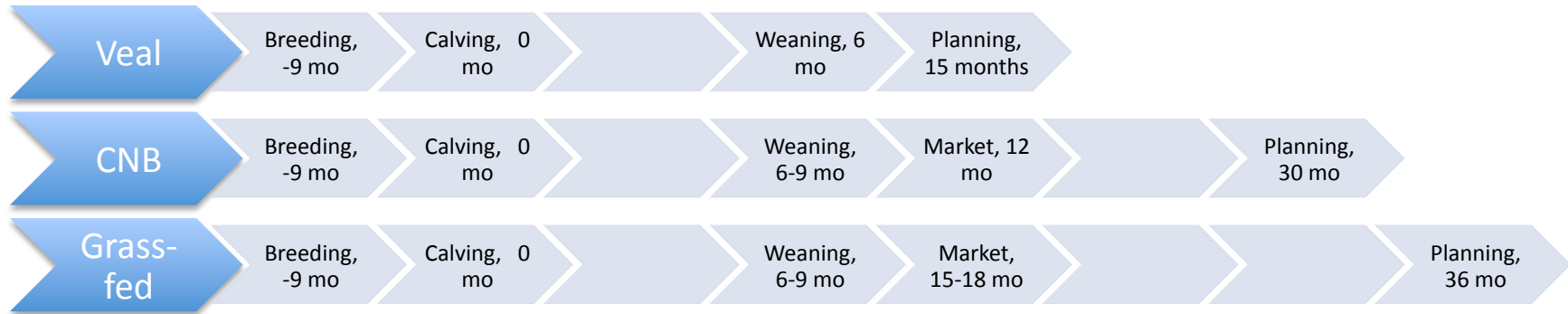


Keys to Sustainability

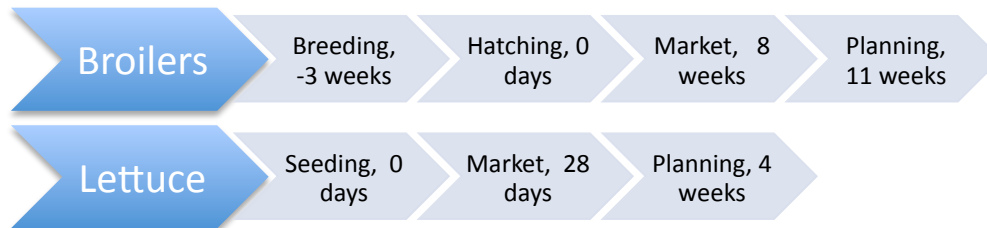




Production Timeline Comparison



Beef production is a long term commitment by the rancher, with greater risk and longer production exposure to the many challenges we face.



Resource/Environmental Adaptability

- Match cow to resource & environment
- Cow need to live within their means
- We are highly influenced by the environment





© 2013 Google
Image © 2013 TerraMetrics
Data SOEST/UHM

Google earth

Imagery Date: 1/18/2013 20°08'25.32" N 155°48'53.09" W elev 2387 ft eye alt 13.74 mi

Grazing Management System

- Rotational grazing systems
- Basic principle ... plant rest.



Technology Adoption

- Technology to enhance forage production
 - Forage Research (Leucaena, sugarcane, other)
 - Irrigation
- Technology to enhance animal production
 - Herd health
 - Nutrition (protein, energy, minerals)



Sugarcane forage selection

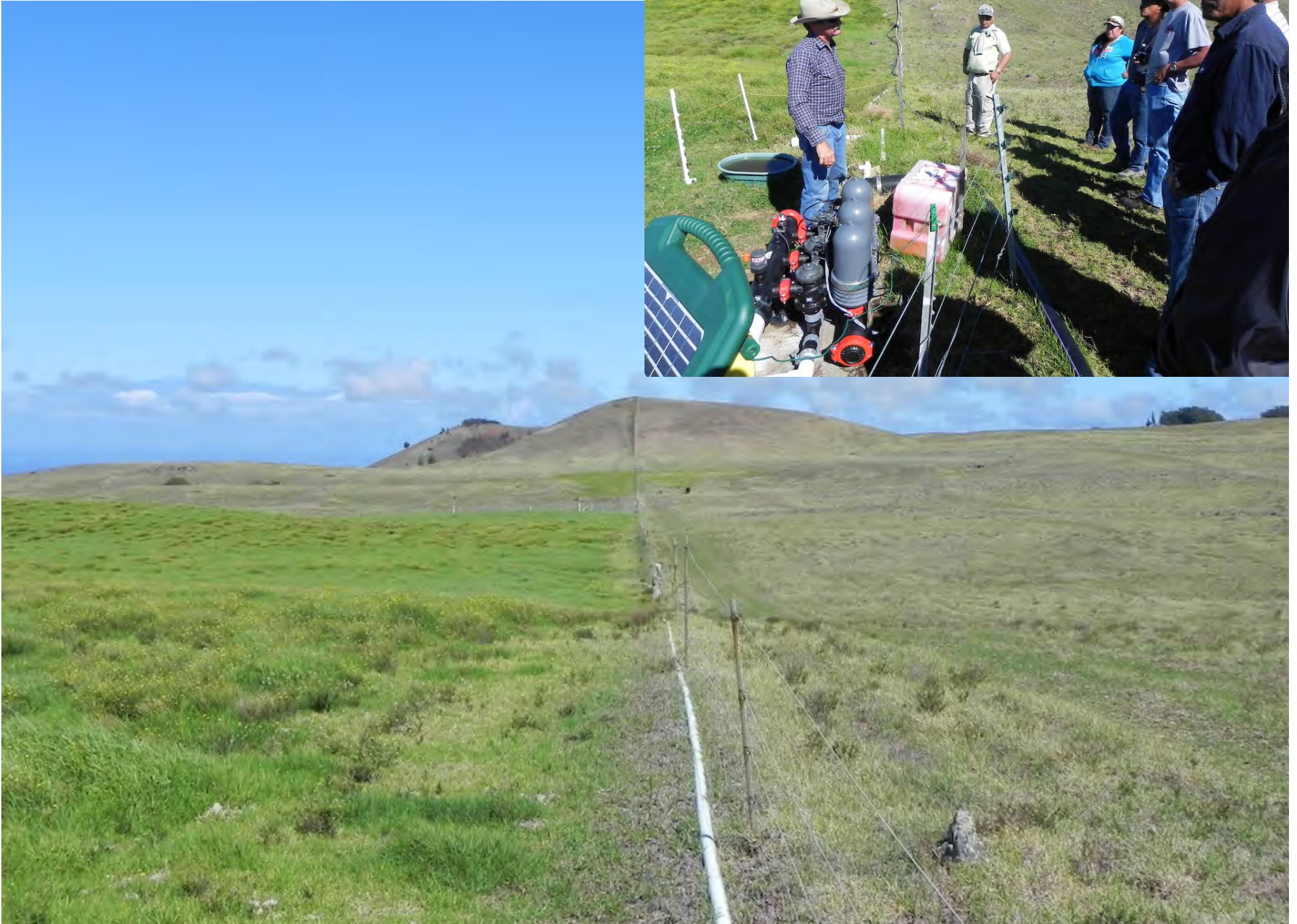


Leucaena Technology
Dr. James Brewbaker & University of Queensland





Irrigation Technology





Market and Consumerism



- Beef Research
 - Carcass characteristics
 - Shear Force/Tenderness
 - Lean Yield
 - Red Veal
- Consumer
 - TOTHR



Moderately Abundant (MdA)

1002

Slightly Abundant (Sl)

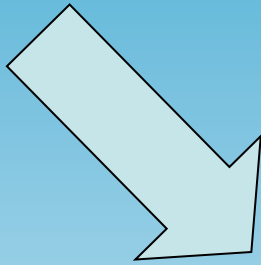
Grass-finished Beef

Beef with Benefits !

- Food Safety Benefits
- Human Health Benefits
- Environmental Benefits

Benefits of Forage-based Meats

Food Safety Human Health Environmental



Low risk of BSE

Low risk of E. coli (Cornell study)

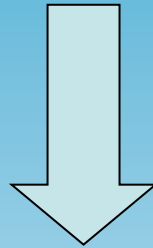
No added hormones

No antibiotics in feed

Less crowding in pastures

Benefits of Forage-based Meats

Food Safety Human Health Environmental



Lower in total fat (3.5% vs. 5.5%, CTAHR research)

Higher in Omega-3 fatty acid

(heart-friendly, brain function)

Higher in Conjugated Linoleic Acid (CLA)

(anti-cancer)

Higher in Vitamin E

(anti-oxidant)

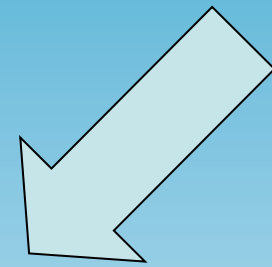
www.ucsusa.org

Benefits of Forage-based Meats

Food Safety

Human Health

Environmental



No waste management concerns

flies, odors, dust

Vegetative cover reduce erosion, runoff

Preserve and enhance watersheds

Preserves open space

Policy

Agricultural Lands

Section 3. The State shall conserve and protect agricultural lands, promote diversified agriculture, increase agricultural self-sufficiency and assure the availability of agriculturally suitable lands. The legislature shall provide standards and criteria to accomplish the foregoing.

Constitution of the State of Hawaii, as amended 1993

Water Issues

- Availability
- Rates for pastoral use
- Knee-jerk laws



Why it's important

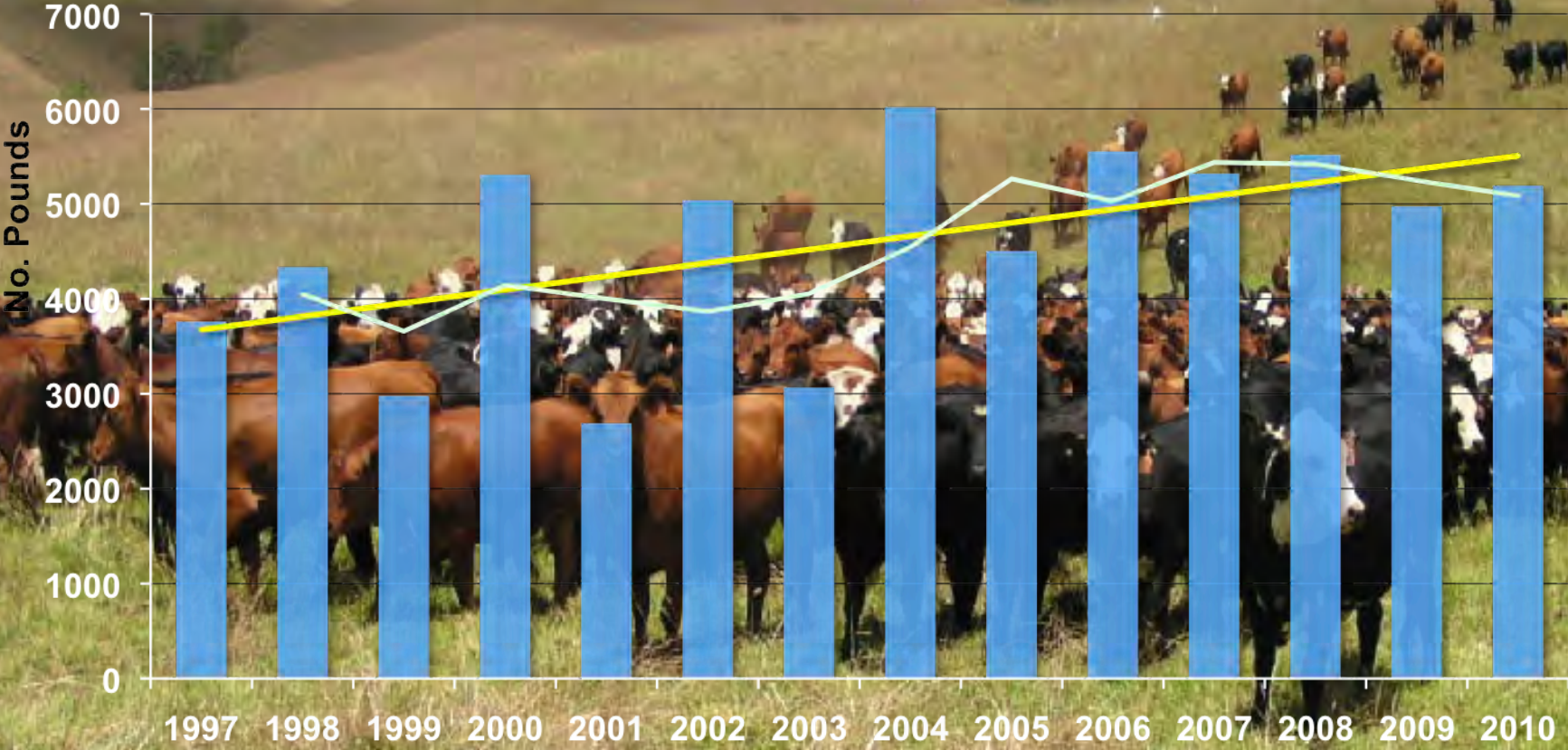
- Food Security (7 days supply on hand)
- Food Safety, higher quality products
- 3-4x Economic Generator
- Job Creation
- Losing farming/ranching expertise
- Pave it, build on it, lose it ...
..... it's gone forever

What can we do ...

- Instill ‘agricultural ethic’ through education
 - Policy makers, Youth K-12, Chefs, Consumers
- Work together in partnerships
 - Rancher-Chef, Rancher organizations
- Value-added cooperatives/partnerships
- Create a “Hawaii Agriculture Authority”
- “Buy Fresh – Buy Local” (x %)
- Buy local, it matters.



Local Marketing of Steers and Heifers* 1997 - 2010



* Hawaii Agricultural Statistics Service, 2010

Accept change and technology.

Break away from the herd (mentality), think for yourself.

“ a profitable rancher will use every drop of rain, every ray of sunshine and reduce fossil fuels.”

Kit Pharo, Pharo Cattle Co., Colorado
CTAHR Stockman's Fall Field Day, August 30, 2013















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Concert Series & Village Stroll
WEDNESDAY 1 - 4 PM
STREET FAIR

KAHUNA PL

KETTLE CO

Kettle Corn
Hawaiian
Lava

A Taste of the Hawaiian Range



'World Class'
quality and presentation



Have become a recognized event
for the Big Island's Agriculture!





Mahalo

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