



Communicating With Farmers

Dr. Jude L. Capper

*Alltech Mini MBA
Dunboyne, Ireland
August 20th 2015*



Source: Created by Dr. Jude L. Capper, 2015

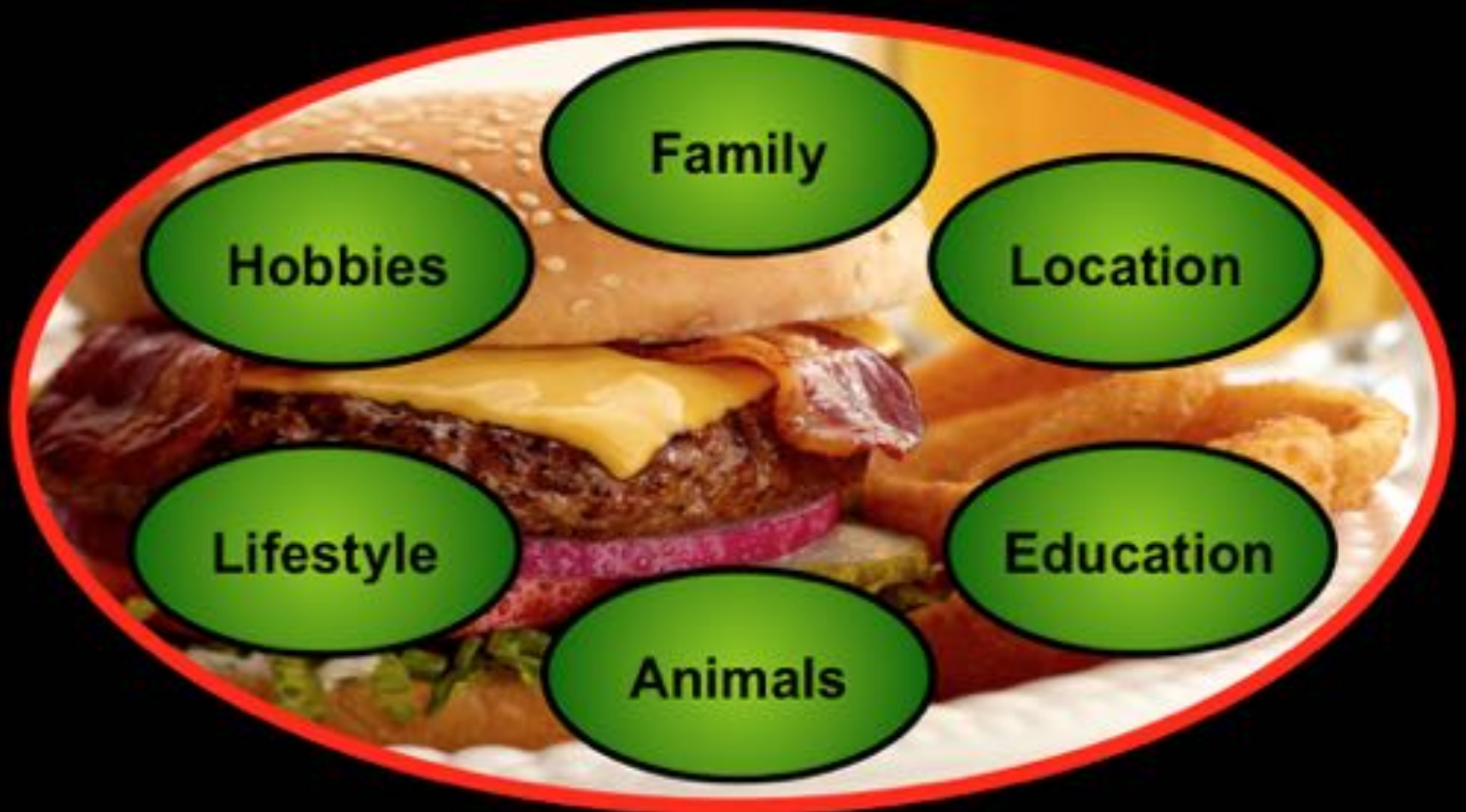
The (U.S.) Farming Population Often Fits the Stereotype

- 86% male
- 99% white
- Average age 58 years
- Average 25 years farming
- 48% list farm as main income



Source: Created by and photo credit: Dr. Jude L. Capper, 2015. Data from the US 2012 Census of Agriculture, available at http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1_Chapter_1_US_Ag22-1_032012.pdf

Essential to Find Common Ground



Source: Created by Dr. Jude L. Capper, 2015. Information from: Capper and Yancey (2015). Communicating Animal Science to the General Public. *Animal Frontiers*.

We Need to Base Discussion on Science, but Start Conversation with Common Ground

“As an animal scientist, sustainability researcher and mother of a highly active toddler... feedlot beef is my choice for my family.”



THE WALL STREET JOURNAL



JOURNAL REPORTS: LEADERSHIP

Is Feedlot Beef Bad for the Environment?

Robert Martin says the pollution spreads for miles; Jude L. Capper says the beef industry keeps things safe



Source: Created by Dr. Jude L. Capper, 2015. Full article available at <http://www.wsj.com/articles/is-feedlot-beef-bad-for-the-environment-143757037>

“We need to...” not “You need to...”



**We are all part
of the same
industry with
a common
goal. It's not
“us” vs.
“them”, it's
“we”.**

Source: Created by and photo credit: Dr. Jude L. Capper, 2015

Consumers and Farmers Respond Positively When Values are Shared

Values relating to animal welfare, social responsibility, environment and economic issues shared across systems



Animal



Environmental

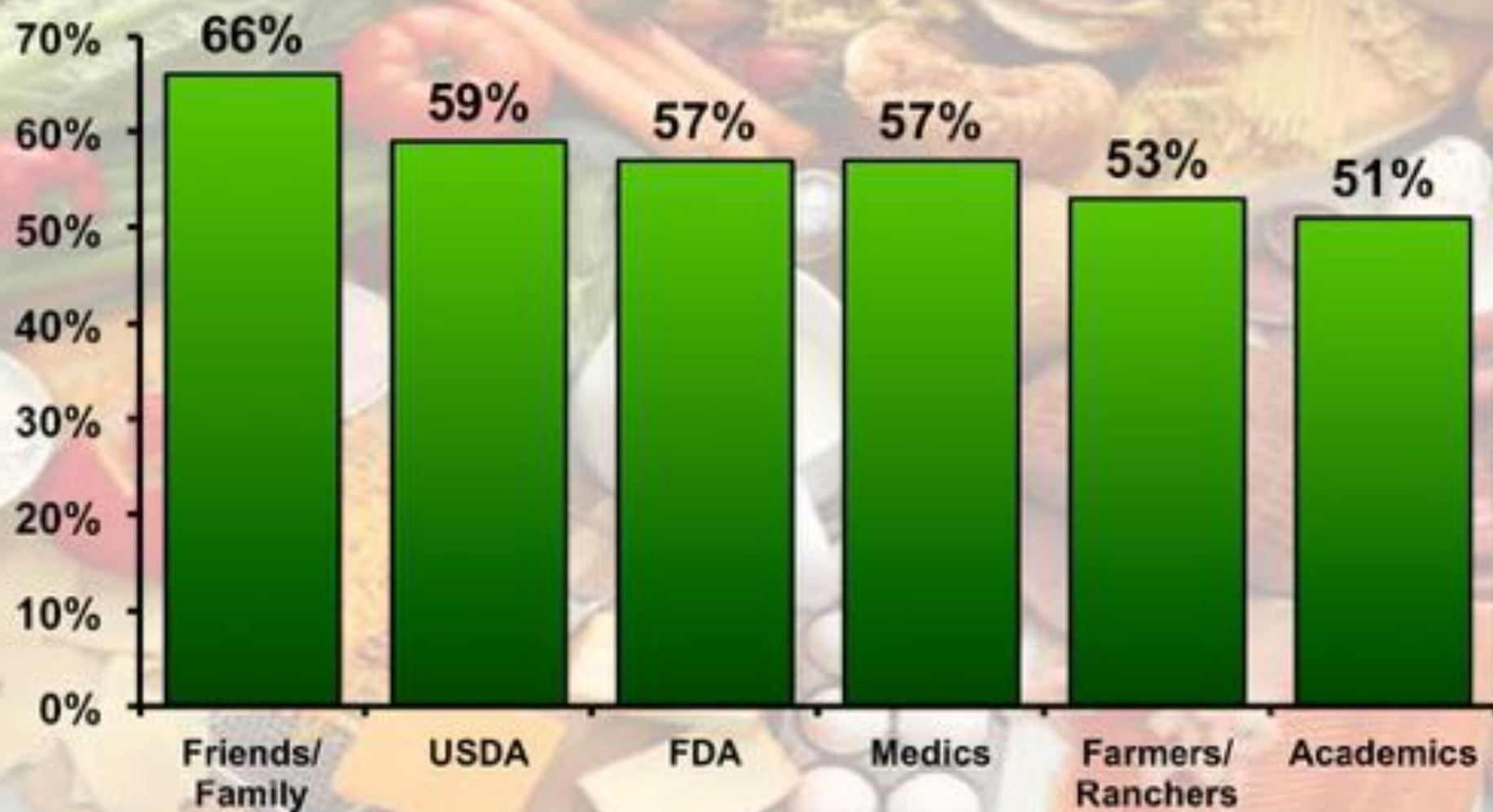


Social



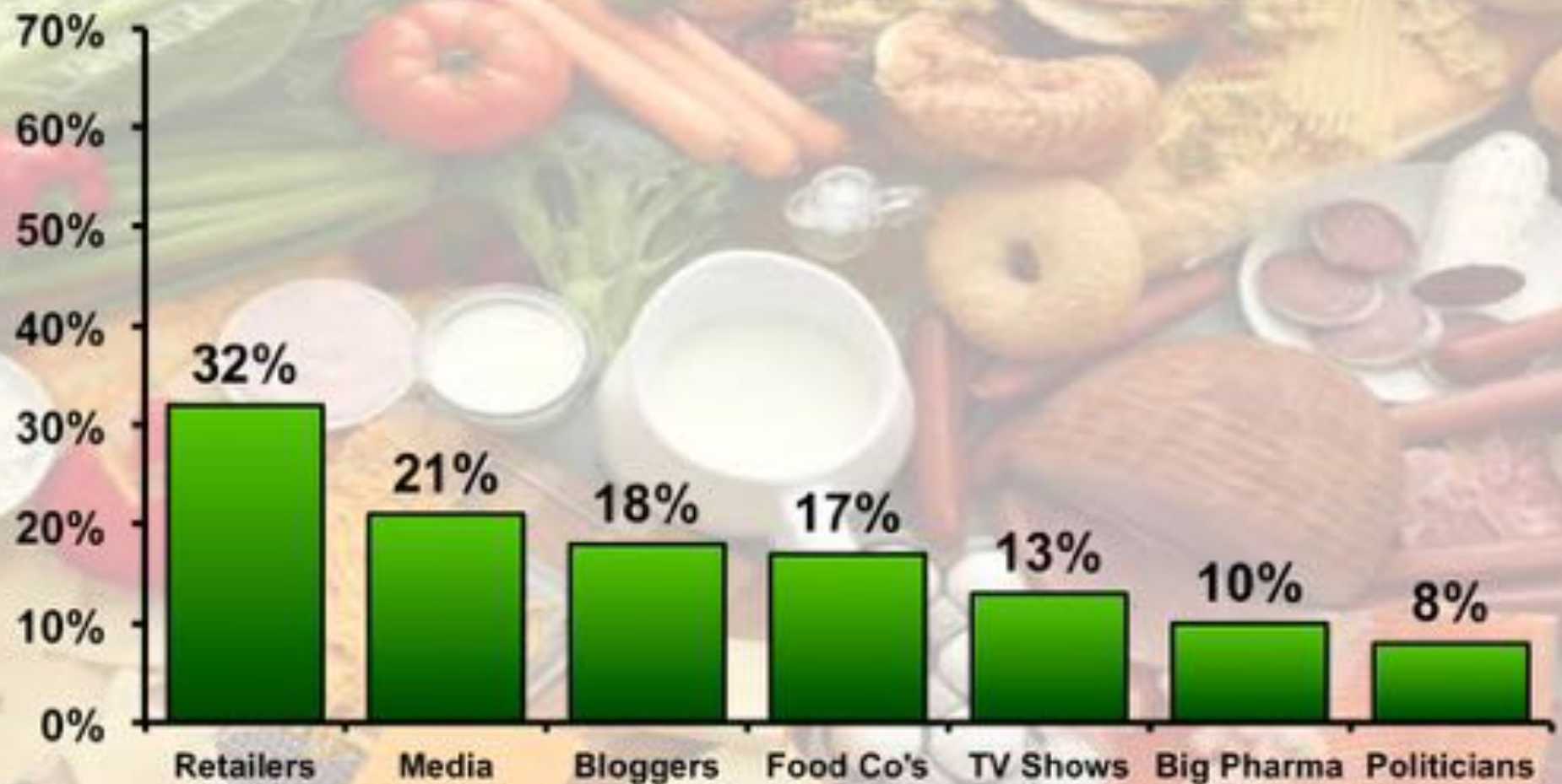
Economic

Consumers Trust Friends/Family, Government and Farmers/Ranchers



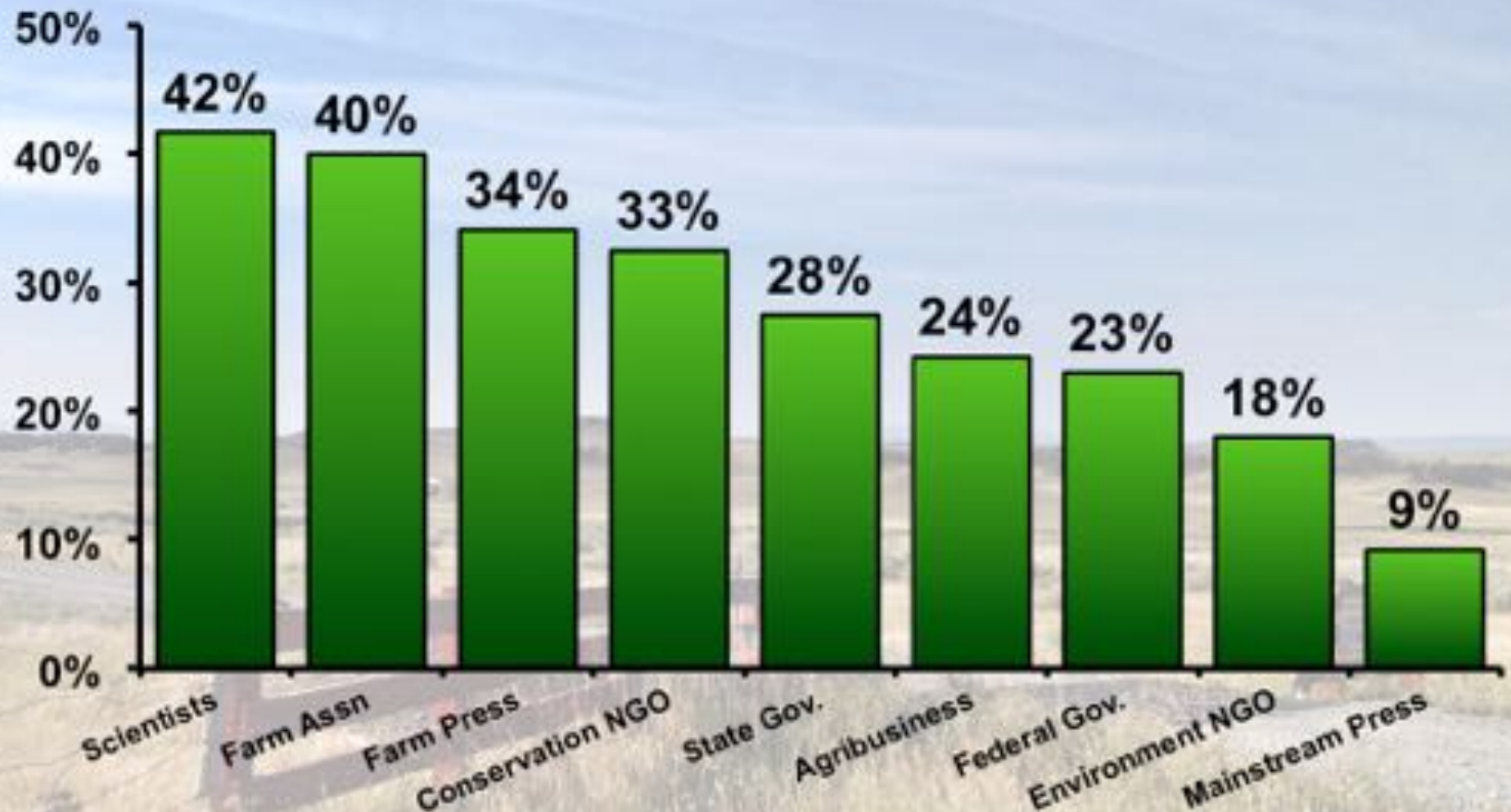
Source: Created by Dr. Jude L. Capper, 2013. Data from Sullivan, Higdon & Sink (2013) "Building Trust in What We Eat."
<http://www.sheafoodthink.com>

Consumers Trust Friends/Family, Government and Farmers/Ranchers



Source: Created by Dr. Jude L. Capper, 2013. Data from Sullivan, Higdon & Sink (2013) "Building Trust in What We Eat."
<http://www.sheafoodthink.com>

Who Do Farmers Trust for Climate Change Information?



Source: Created by Dr. Jude L. Capper, 2013. Trust = somewhat or strongly trust, according to information from: Arbuckle et al. (2013) Understanding farmer perspectives on climate change adaptation and mitigation: The roles of trust in sources of climate information, climate change beliefs, and perceived risk. *Environment and Behavior*.

What are the Farmer's Concerns?



Source: Created by and photo credit: Dr. Jude L. Capper, 2015

Jude Capper, 2012

Farmer Concerns

Economic Viability

Market Access

Government Regulation

Resource Availability

Animal/Crop Productivity

Taxes

NGO/Activist Campaigns

Processor/Retail Demands



Farmers are Consumers Too: May Have Same Concerns

10 FOODS AMERICANS EAT THAT ARE BANNED IN OTHER COUNTRIES



**FLAME
RETARDENT
DRINKS**



**ARSENIC
LACED
CHICKEN**



**FARM
RAISED
SALMON**



**BREAD WITH
POTASSIUM
BROMATE**



**GMO
PAPAYAS**



**OLESTRA
OR OLEAN**



**RACTOPAMINE
TAINTED
MEAT**



**PRESERVATIVES
BHA AND
BHT**



**ARTIFICIAL
COLORS
AND DYES**



**MILK AND
DAIRY WITH
RBGH**

**Internet sites
are main
source of food
information,
followed by TV
shows, and
friends/family**

We are All Entitled to our Beliefs, but...

“...they may be irrational, based on invalid or selective information, be self-serving, or otherwise fail to correspond to reality.”

A CONSPIRACY THEORY FOUND ON YOUTUBE?
PLEASE, DO TELL ME MORE...



Source: Created by Dr. Jude L. Capper, 2015. Information from: Arbuckle et al. (2013) Understanding farmer perspectives on climate change adaptation and mitigation: The roles of trust in sources of climate information, climate change beliefs, and perceived risk. *Environment and Behavior*.

Decision Making: Cultural Cognition

“Everybody knows that...”



**Beliefs about
controversial
issues
dependent on
culture and
opinions of
people with
shared values**

Source: Created by Dr. Jude L. Capper, 2015. Information from: Capper and Yancey (2015). Communicating Animal Science to the General Public, *Animal Frontiers*. Photo from: http://media2.fdn.com/pique/imager/apple-a-day-okanagan-specialty-fruit/zoom/2640755/food_epicurious1-1.jpg

Anti-GMO Campaigns Focus on Fear and “Big Ag/Big Food” Claims



Source: Created by Dr. Jude L. Capper, 2013. Picture from: <https://i1.wp.com/www.anti-gmo.org/uploads/images/91873d7927efb5d6e9a.png>

Decision Making: Bounded Rationality

“As far as I understand it...”

**We don't have
time to fully
research or
understand
complex
issues, so
make decisions
with limited
information**

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Wednesday, Aug 5th 2015

MailOnline

Spectre of Britain's first cattle factory: £50m plan for megafarm that houses 8,000 cows in sheds the size of 22 football pitches

By DAVID DERBYSHIRE FOR MAILONLINE

UPDATED: 11:07, 6 August 2015



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Plans for Britain's first cattle factory where 8,100 'battery cows' will be milked around the clock were unveiled yesterday.

The industrial-scale farm will house the UK's largest dairy herd in Western Europe inside giant metal sheds with little access to green grass or sunshine.

The farm will produce a staggering 420,000 pints of milk every day, while waste from the cattle will be used to generate electricity for the national grid.



Source: Created by Dr. Jude L. Capper, 2015. Information from: Capper and Yancey (2015). Communicating Animal Science to the General Public. *Animal Frontiers*. Screenshot from: <http://www.dailymail.co.uk/news/>

Decision Making: Bad News Bias

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Wednesday, Aug 12th 2015 10PM

MailOnline

100 clone cows on UK farms: Shocking evidence of how 'super calves' have secretly spread into our food system

By SEAN POULTER FOR THE DAILY MAIL

UPDATED: 09:54, 3 August 2010



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View comments

More than 100 cows descended from cloned cattle have been born on British farms, sparking alarm about their secret spread into the food system.

An investigation has been launched after a farmer claimed milk from a cow born to a clone had gone into high street shops without any special labelling.



**We are
predisposed to
believe
negative
information -
need 5 pieces
of positive info
to outweigh 1
negative**

Source: Created by Dr. Jude L. Capper, 2015. Information from: Capper and Yancey (2015). Communicating Animal Science to the General Public. *Animal Frontiers*. Screenshot from: <http://www.dailymail.co.uk/news/>

Activist Groups Use Powerful Images to Imply that Dairy Welfare is Less than Optimal

'Real Milk' Comes From
Real Sick Cows. Try Soy Milk.

Up to 50% of cows on dairy farms have infected udders.



All animals
have
feelings.
Choose compassion.

PETA.org



Source: Created by Dr. Jude L. Cooper, 2015. Photos from PETA <http://www.peta.org/mediacenter/ads/Outdoor-Ads.aspx>

Activist Groups are Using Consumer-Friendly Metrics to Push Agendas



Source: Created by Dr. Jude L. Capper, 2012; Photo from <http://www.globeandmail.com/archive/2011/03/22/splash-peta-50-baths-1-steak.aspx>

Data Adds Credibility – National Geographic Example

How Much H₂O is Embedded in Everyday Life?

You might be surprised at how much water it takes to bring that hamburger to your plate or to make your favorite t-shirt. Compare apples to oranges, beer to wine, wind power to coal—and see how your choices add up.

Product Details



Compare Products



VS



1 pound (0.4 kilograms) of beef requires:

1,799

gallons (6,810 liters) of water

- 3 pounds (3 kilograms) of grain for feed, plus irrigation water
- 55.4 pounds (16.4 kilograms) of roughage or grasses for feed, plus irrigation water
- 18.6 gallons (70.5 liters) of additional water for drinking and processing

1 pound (0.4 kilograms) of chicken requires:

468

gallons (1,773 liters) of water

- 9.9 pounds (9.9 kilograms) of grain for feed, plus irrigation water
- 2.4 gallons (9.1 liters) of additional water for drinking and processing

Source: Water Footprint Network

Illustrations by Tami Kawanishi

**“How much H₂O is
Embedded in
Everyday Life?”**

**...Compare apples to
oranges, beer to wine,
wind power to coal –
and see how your
choices add up.”**

Incorrect Data Mislead the Reader and May Bias Food Choices

Water Footprint

Product Gallery

Product Water Footprints

Your Water Footprint

National Water Footprints

Corporate Water Footprints

Global Water Footprint

Training Materials

Publications

Glossary

FAQ

Links

Contact



Apple

Barley

Beef

Beer

Bread

Cheese

Chicken meat

Coconuts

Productgallery

Beef

Water footprint: 15300 litres of water per kg of beef.

In an industrial beef production system, it takes in average three years before the animal is slaughtered to produce about 200 kg of boneless beef.

The animal consumes nearly 3200 kg of grains (wheat, oats, barley, corn, dry peas, soybean meal and other small grains), 7200 kg of roughages (pasture, dry hay, silage and other roughages), 24 cubic meter of water for drinking and 7 cubic meter of water for servicing.

This means that to produce one kilogram of boneless beef, we use about 6.5 kg of grain, 36 kg of roughages, and 153 litres of water (only for drinking and servicing). Producing the volume of feed requires about 15300 litres of water in average.

Source: Created by Dr. Jude L. Capner, 2015; Picture from: <http://www.waterfootprint.org/Assets/EN/Products/Beef/Beef.jpg>

“Meat Free Mondays” are Heavily Promoted



Source: Created by Dr. Jude L. Capper, 2014. Photos from:
http://www.thisisthecity.co.uk/sto/multimedia/archive/00274/Meat_Free_Monday_Pa_274156a.jpg and
https://hgaifmedo.files.wordpress.com/2015/06/1136309_1291981375143_53raa_500_307.jpg

Meat Production is Not the Only Contributor to UK Carbon Emissions

According to data from the Dept. of Energy and Climate Change (2011), meat production accounts for 3.9% of total UK greenhouse gas emissions.



Source: Created by Dr. Jude L. Capper, 2012; Information from: Department of Energy and Climate Change (2011) "UK climate change sustainable development indicator: 2009 Greenhouse gas emissions, final figures" NE - CH₄ and N₂O only.

IF EVERYBODY IN THE UK WENT **MEATLESS**
EVERY **MONDAY** FOR AN ENTIRE YEAR...



...THE NATIONAL
CARBON FOOTPRINT
WOULD DECREASE BY
LESS THAN
ONE PERCENT

Source: Design, wording and data copyright held by Dr. Jude L. Copper, 2012.
Photo from: http://www.laverstokepark.co.uk/@content/pub/image_3813/200g_Pie_20498.jpg

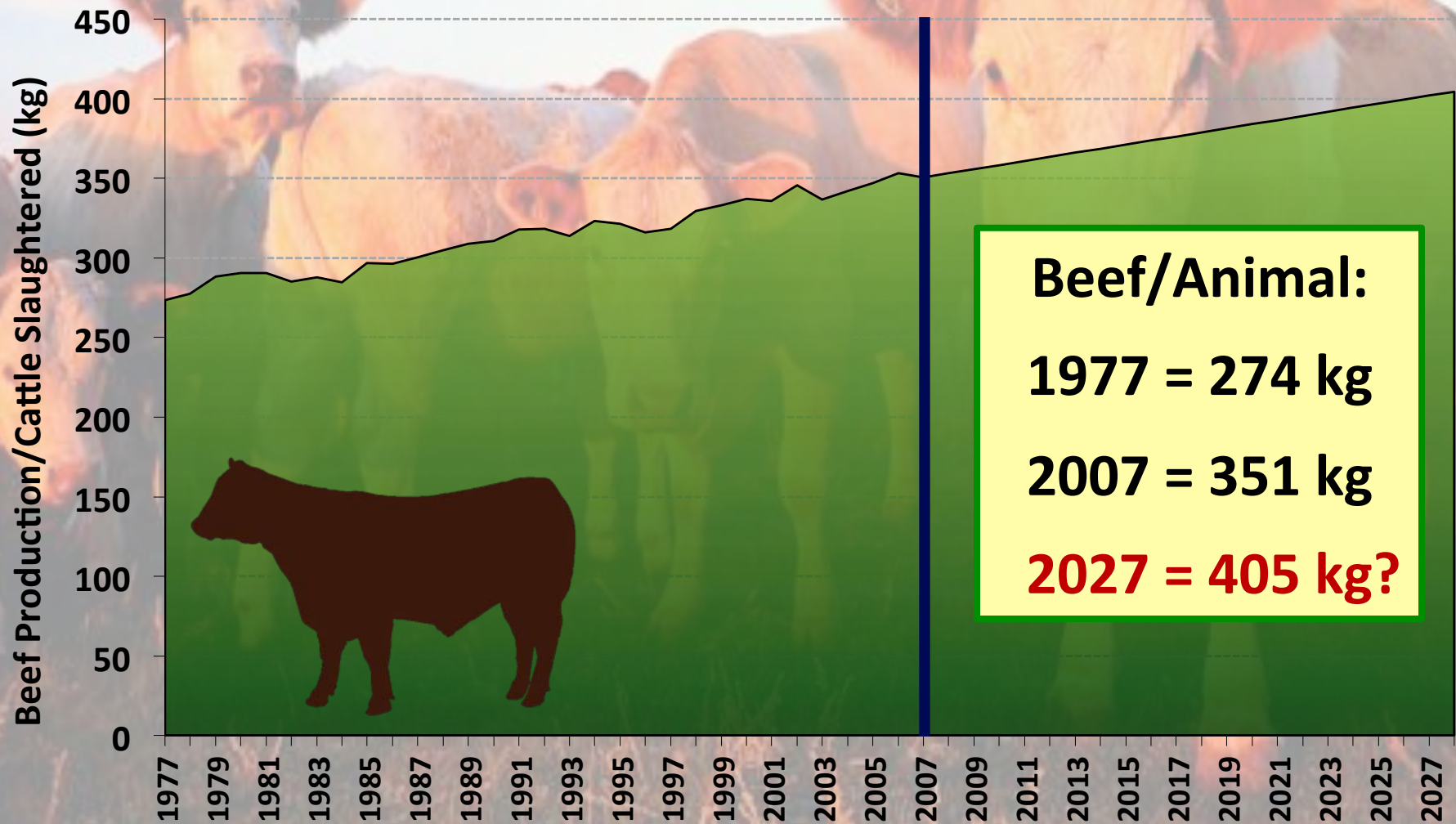
Hormones in Food are Undesirable, Yet Lifestyle-Related Hormones are Acceptable

**One 8 oz steak
from an non-
implanted animal
contains 3.5 ng of
estrogen, one
from an implanted
animal contains
5.1 ng estrogen**

**One birth control
pill = 35,000 ng**

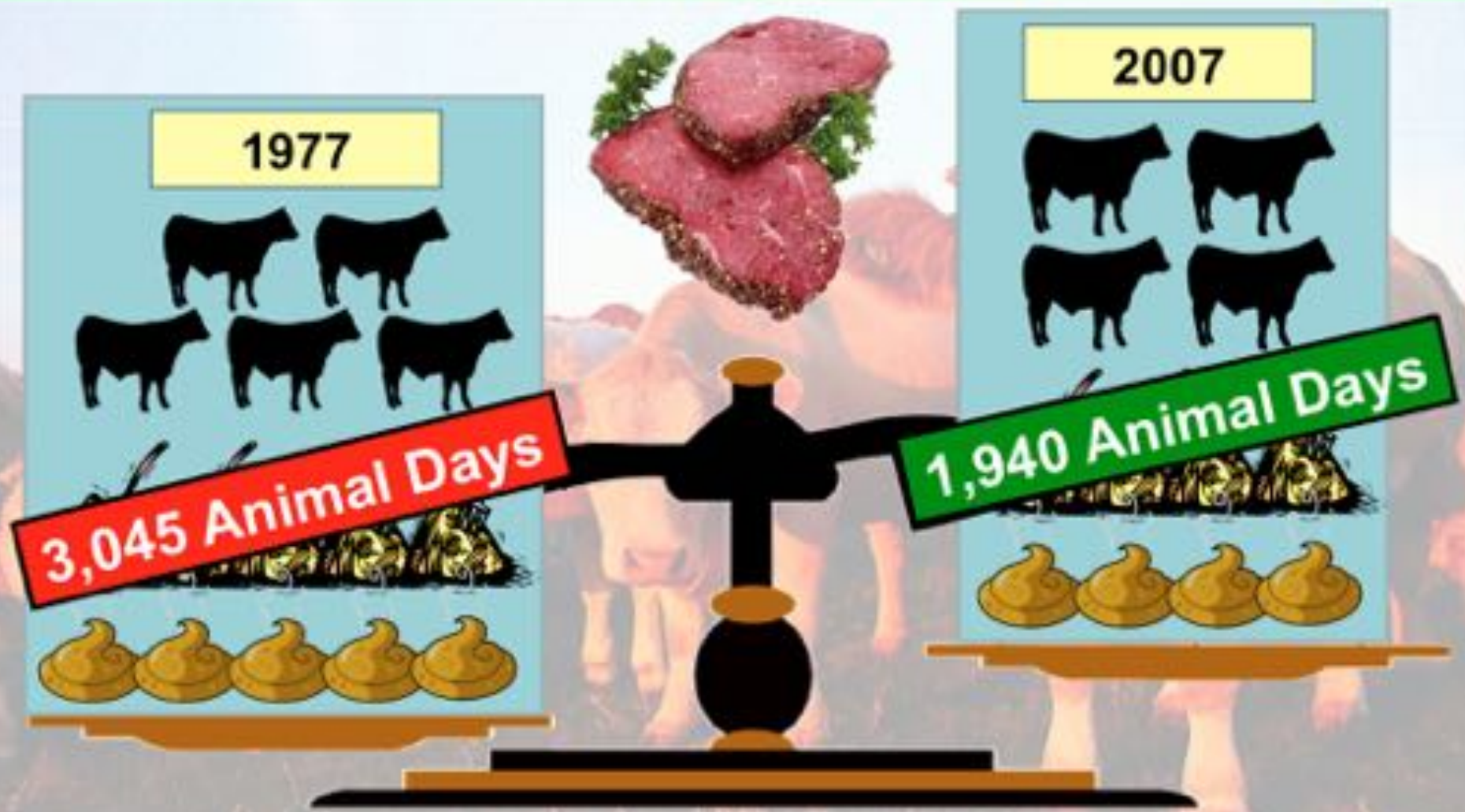


If We Can't Measure, We Can't Improve



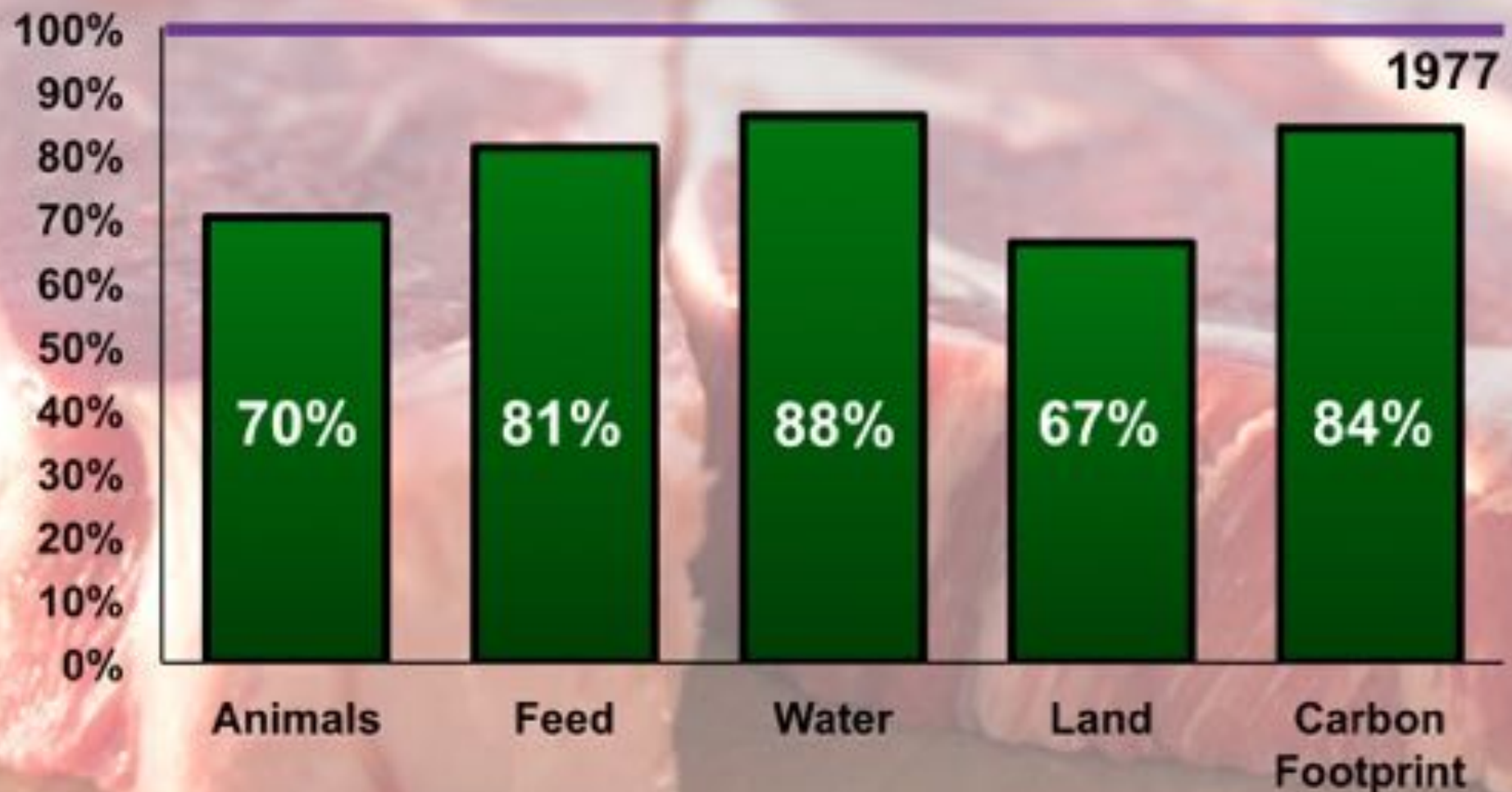
Source: Created by Dr. Jude L. Capper, 2015; Data from USDA-NASS (2009) http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats/

If We Can't Measure, We Can't Improve



Source: Created by Dr. Jude L. Capper, 2012; Data from: Capper, J. L. (2011). The environmental impact of U.S. beef production: 1977 compared with 2007. *J. Anim. Sci.*

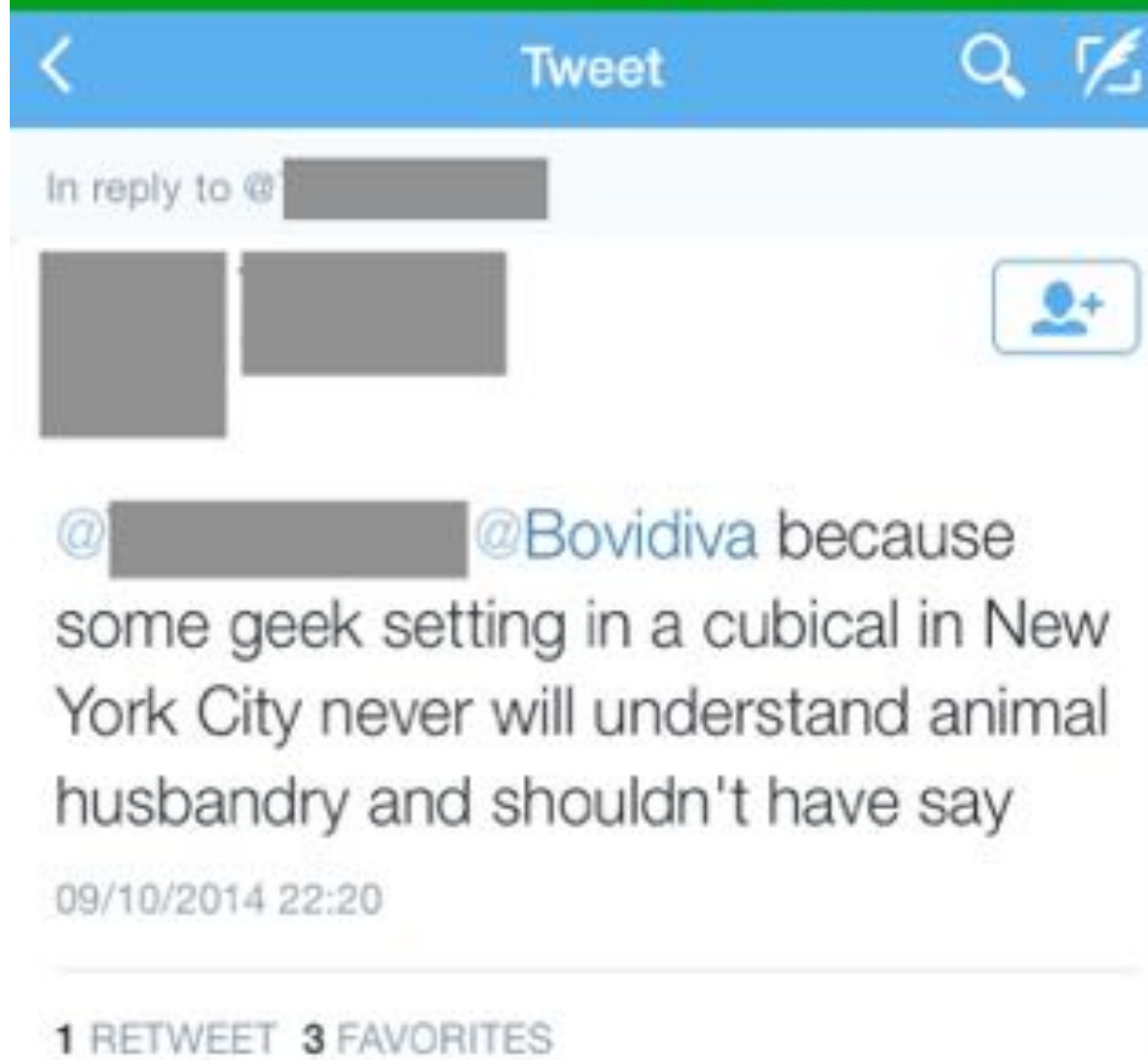
If We Can't Measure, We Can't Improve



*All values expressed per lb of beef produced

Source: Created by Dr. Jude L. Capper, 2015; Data from: Capper, J. L. (2011). The environmental impact of U.S. beef production: 1977 compared with 2007. *J. Anim Sci*

What Difference Does it Make to My Bottom Line?



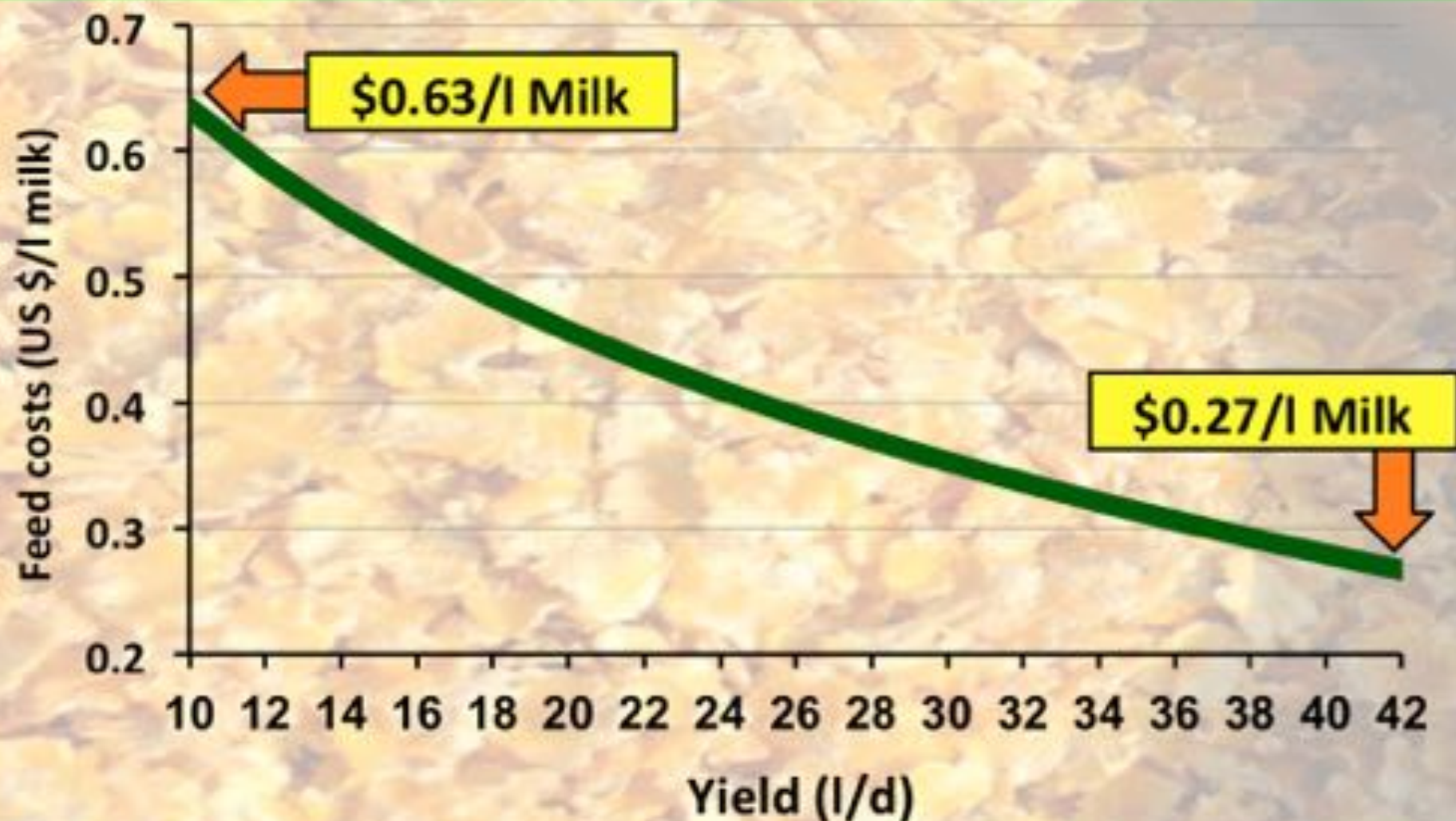
Tangible impacts (e.g. improved growth) are easy to accept. Intangible (e.g. consumer perception) are less easy.

Improving Milk Yield Reduces Feed Use per Unit of Milk



Source: Created as an example by Dr. Jude L. Capper, 2010; Based on nutrient requirements for a 681 kg Holstein dairy cow (3.8% fat, 3.1% protein) fed a characteristic total mixed ration balanced for nutrient requirements

Improving Milk Yield Reduces Feed Costs per Unit of Milk



Source: Created as an example by Dr. Jude L. Capper, 2010; Based on nutrient requirements for a 681 kg Holstein dairy cow (3.8% fat, 3.1% protein) fed a characteristic total mixed ration balanced for nutrient requirements and feed costs of \$0.47/kg dry matter

Population Learning Styles



When faced with new ideas, we tend to have a preferred learning style. Need to use these to communicate effectively.

Farmer's Learning Styles - Kinesthetic

**99% preference
for hands-on
learning or
demonstration
(96%) vs.
discussion
(87%) or one-
on-one (85%)**



Source: Created by Dr. Jude L. Capper, 2015. Photo from: <http://i.pinimg.com/originals/20/14/10/20141010lego.jpg>

Information from: Franz et al. (2010) Farmer, agent, and specialist perspectives on preferences for learning among Iowa's farmers. IA State Extension, available at: http://fb.dr.iastate.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&context=extension_research

There Will Always Be A Proportion of Farmers
Whose Opinions are Fixed



Social Media Offers Significant Opportunities – Europe and USA



Source: Created by Dr. Jude L. Capper, 2015. Information from: Capper and Yancey (2015). Communicating Animal Science to the General Public. *Animal Frontiers*; and <http://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/> based on active users.

Social Media Offers Significant Opportunities – Global



Source: Created by Dr. Jude L. Capper, 2015. Information from: Capper and Yancey (2015). Communicating Animal Science to the General Public. *Animal Frontiers*; and <http://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/> based on active users.

A state with **1.5 beef cows** per person...

...producing enough **BEEF** to feed
13.2 million people each year...

...**Montana.**
It's cattle country.

Communication Summary

Shared values and relationship building are crucial

Farmer concerns more important than fine detail

Science needs to be put into context

Focus on those whose minds we can change

Social media becoming increasingly important

Thank you!



jude@livestocksustainability.com



<http://bovidiva.com/presentationlinks>

Savage Chickens

by Doug Savage



Jude Capper



@bovidiva



www.bovidiva.com