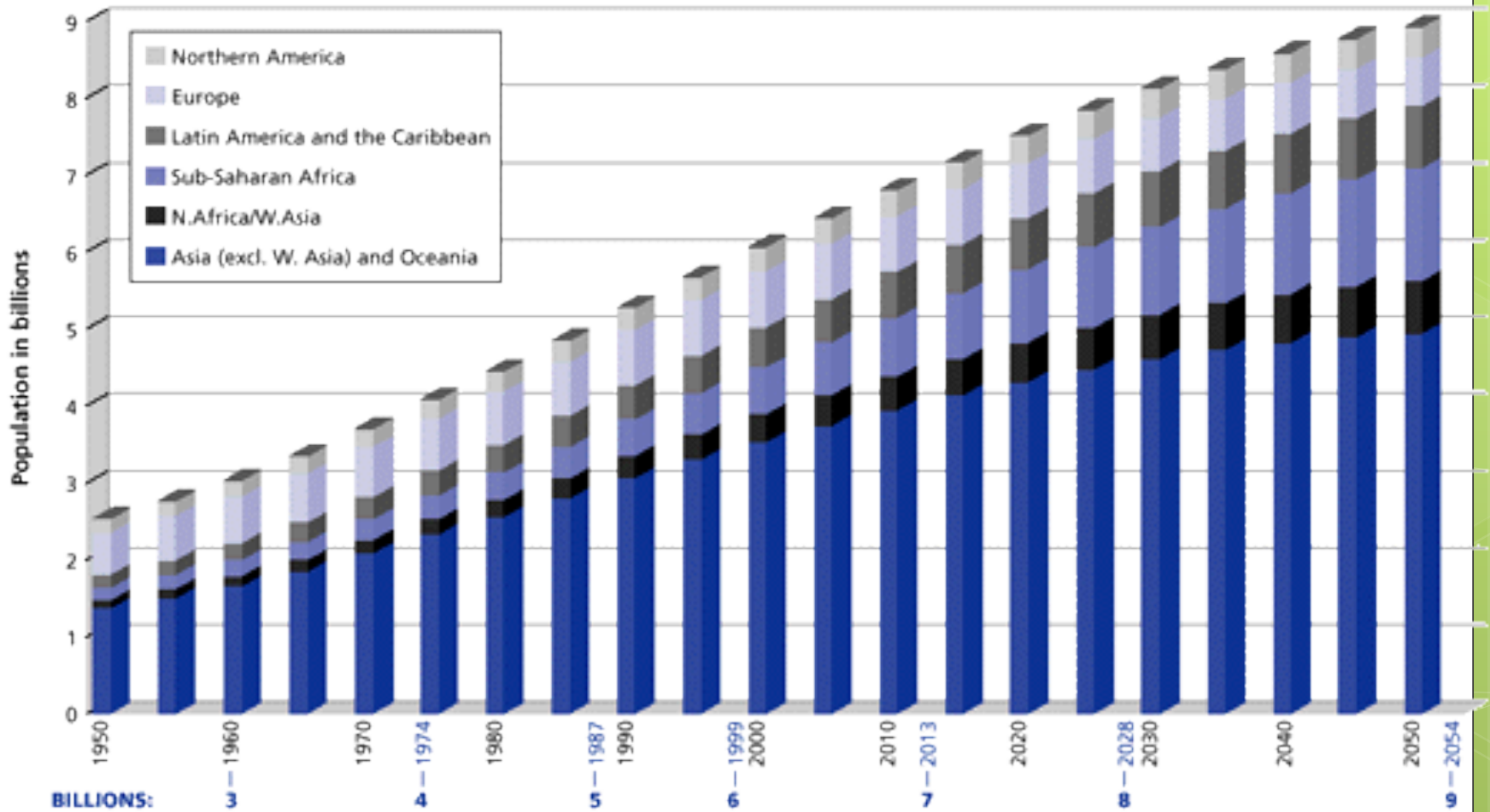




Sustainability in Animal Science

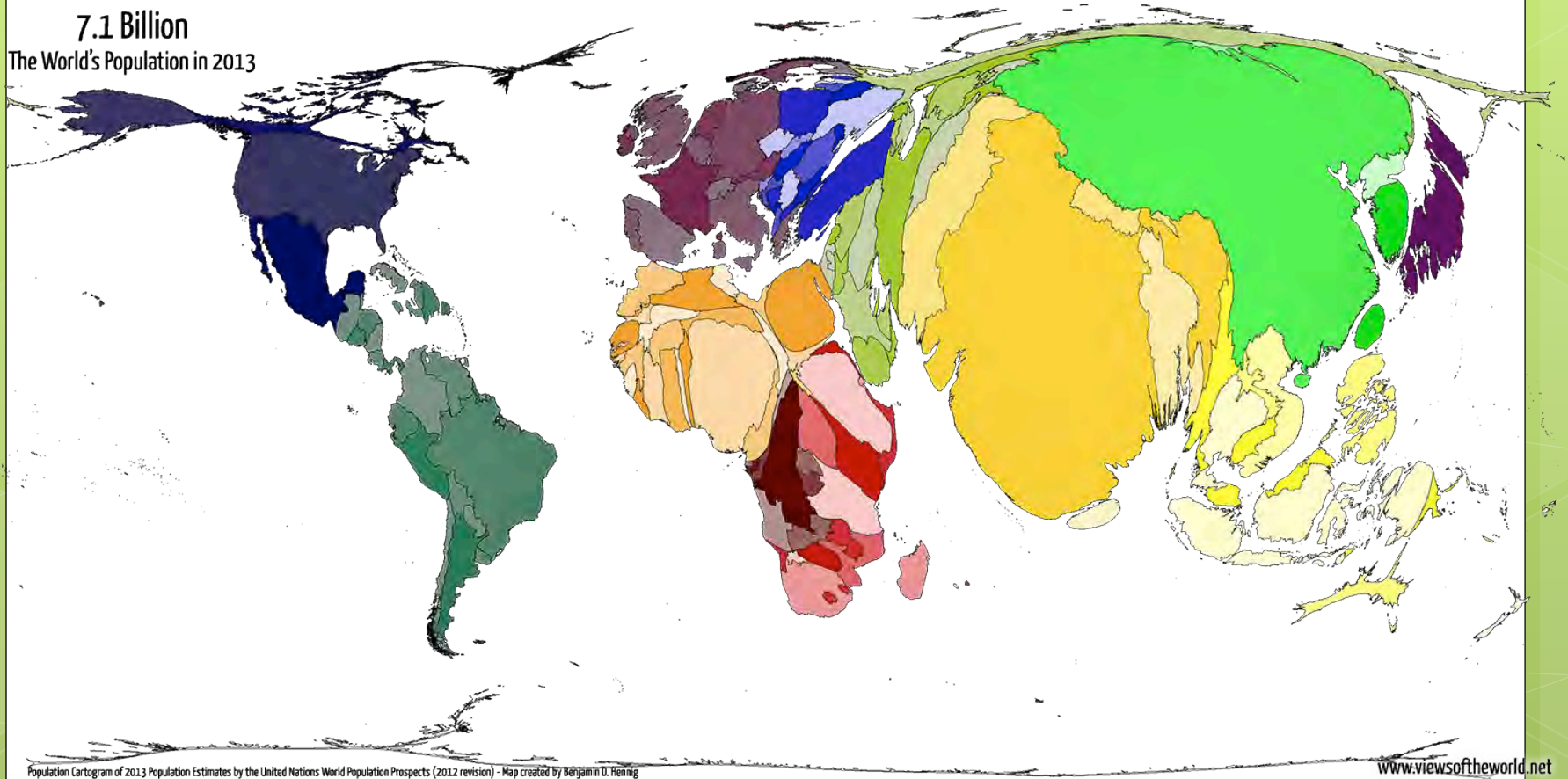
Ashley M. Stokes, DVM, PhD

Population Curve



Population Map

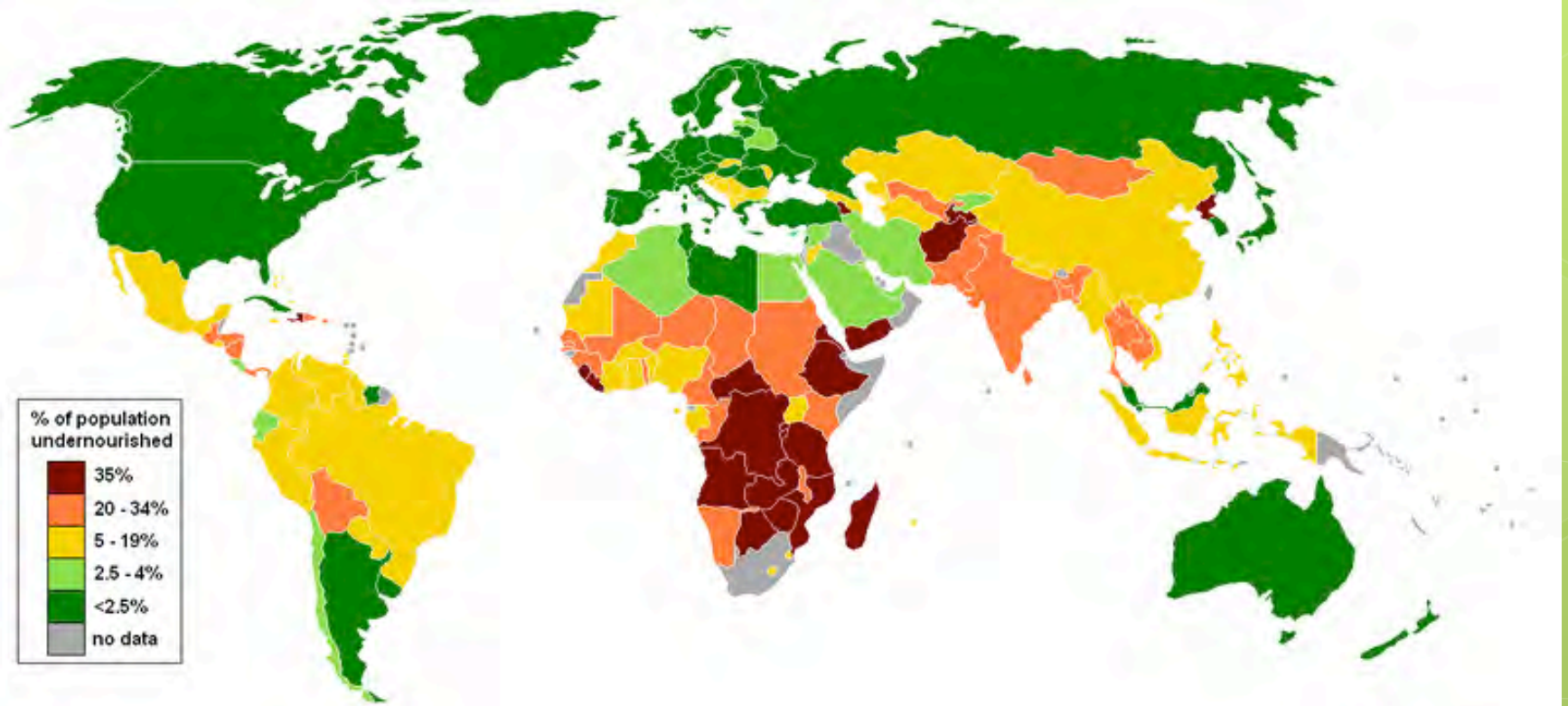
7.1 Billion
The World's Population in 2013



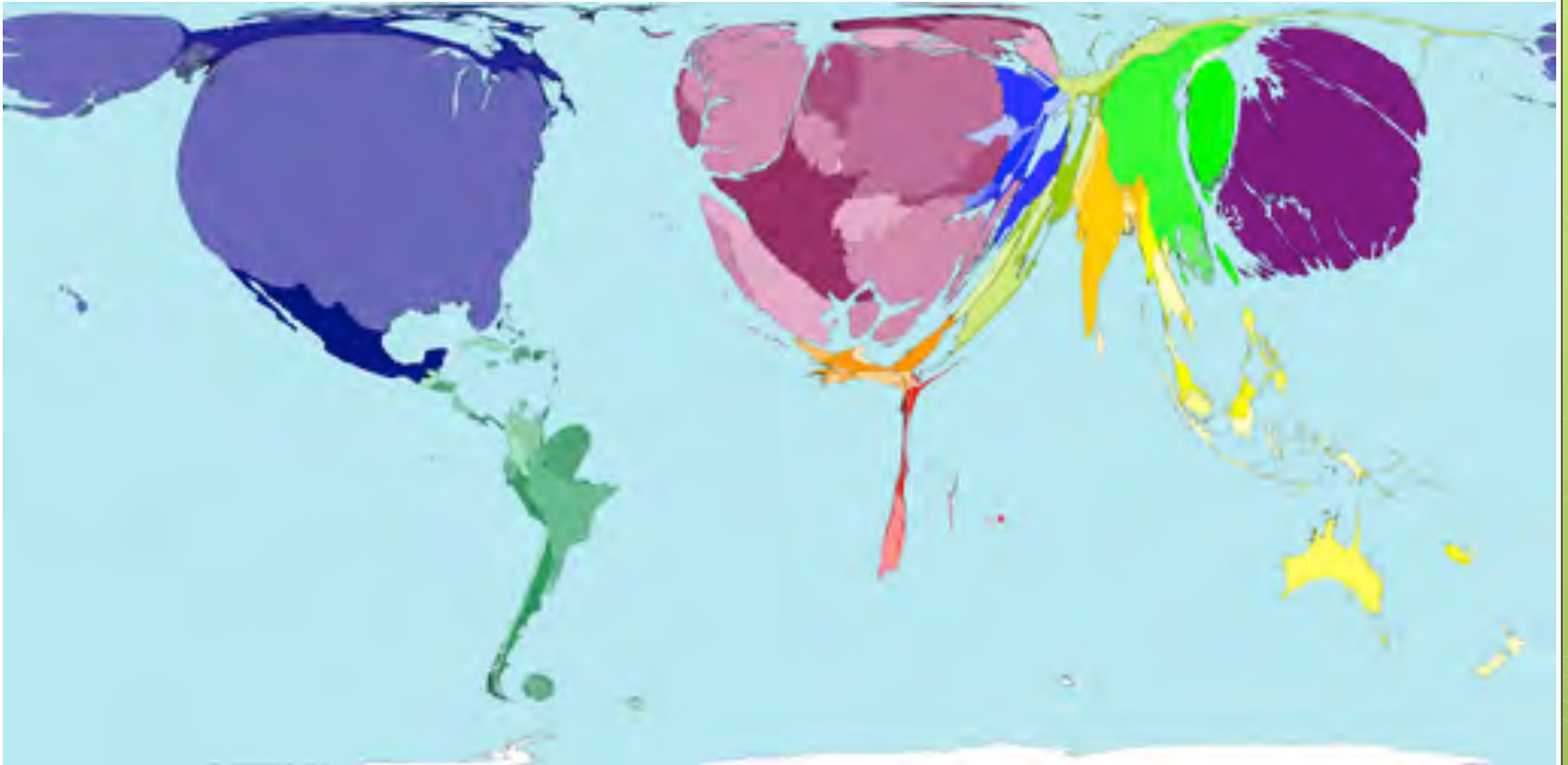
Population Cartogram of 2013 Population Estimates by the United Nations World Population Prospects (2012 revision) - Map created by Benjamin D. Hennig

www.viewsoftheworld.net

% Undernourished Map



Locations of World's Wealth



Animal Sciences & Sustainability

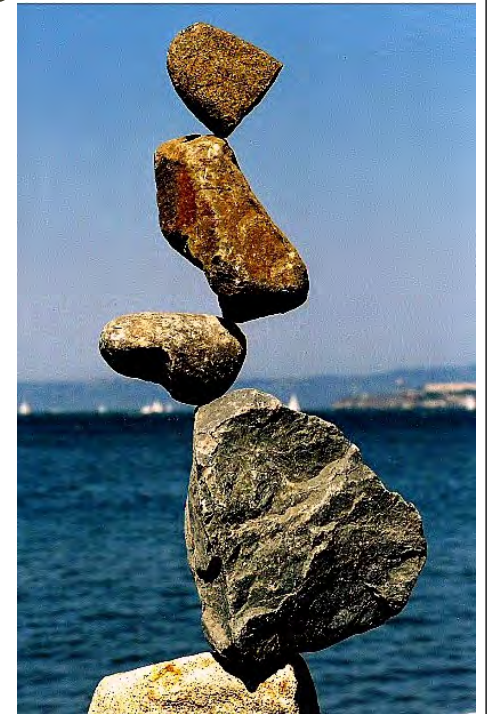
- What does that really mean?
 - Animal Sciences deal with animals in agriculture and animals as companions/entertainment

Animal Sciences & Sustainability

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Animal Sciences & Sustainability

- What does that really mean?
 - Animal Sciences deal with animals in agriculture and animals as companions/entertainment
 - As scientists, teachers, and extension members we must consider the balance of economic, environmental, and resource sustainability.



Animal Production to Meet These Needs

- Small scale producers



Animal Production to Meet These Needs

- Small scale producers AND large scale producers

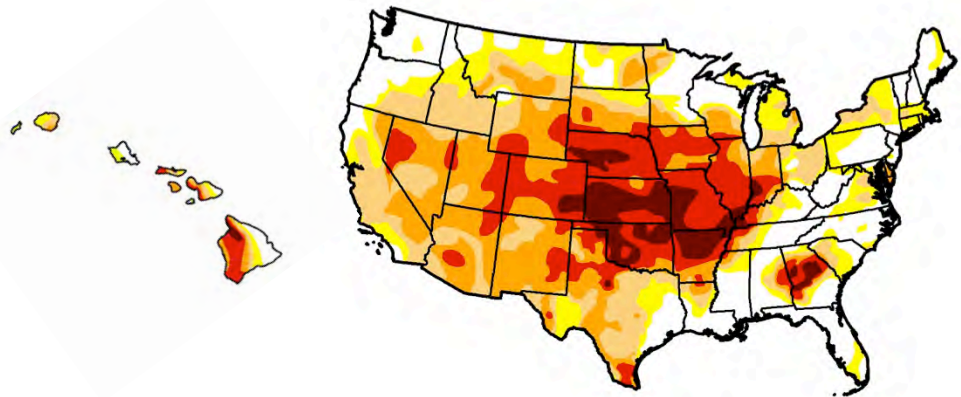


Animal Sciences & Sustainability

- Challenges for production
- Need to increase production
- **BUT** on the same amount of land.....

Animal Sciences & Sustainability

- Challenges for production
- Need to increase production
- **BUT** on the same amount of land.....
- Under changing environmental conditions.....

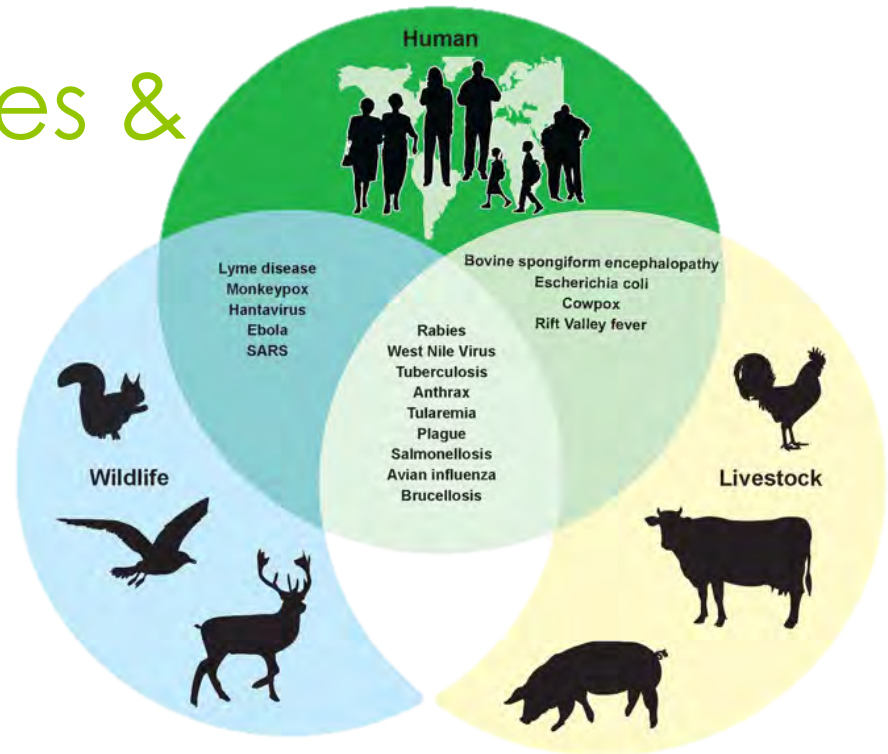


Animal Sciences & Sustainability

- Challenges for production
- Need to increase production
- **BUT** on the same amount of land.....
- Under changing environmental conditions.....
- Under the highest food quality and safety standards.....



Animal Sciences & Sustainability



- Under increasing concerns of zoonotic diseases.....
- And with a decrease in available lands for agriculture due to urbanization!!

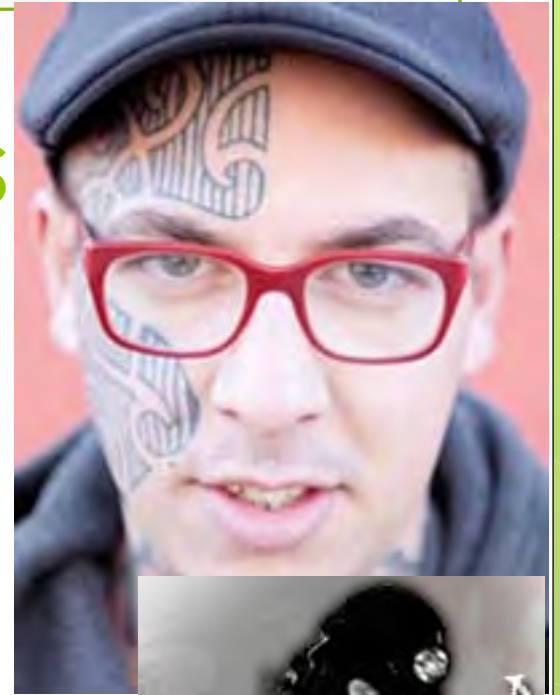




And for Added Fun.....



Politics



Public Perception



Activists







Advances to date

1940s

- 1 farmer can feed 19 people

2013

- 1 farmer can feed 155 people

Advances to date

- Meat and poultry comprise the largest segment of American agriculture
- 92.3 billion lbs in 2011

Advances to date

- Pork is the most widely eaten meat in the world



Advances to date

- One pound of wool can make 10 miles of yarn



How Do We Impact the Future of Animal Production?

- 1 Develop New Technologies and Put into Practice
 - Basic Research
 - Practical Applications
 - Advances in our knowledge base leads to faster response to challenges (i.e. faster disease outbreak response leads to decreased impact on industry)
 - Advances in reproduction/genetics increase suitability of offspring for intended purposes
 - Nutrition research – fine tunes feed resource needs/production, increases economic sustainability of farms

Animal Sciences & Sustainability

- 2 Changes in production paradigms
 - ex. Learning from natural ecosystems (i.e. rotational grazing)
 - ex. Timing of breeding – more in line with natural systems rather than timing of traditional market







Animal Sciences & Sustainability

- On going projects that are progressive.....
- Are there livestock feed additives that can mitigate impacts of waste?
- Linking cutting edge research to management practices to minimize stress on animals from environment (ex. drought)? Disease? Production practices?

Animal Sciences & Sustainability

- Our biggest challenge yet....

Animal Sciences & Sustainability

- Our biggest challenge yet....
 - To be proactive & progressive in our mindset



Thank you

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