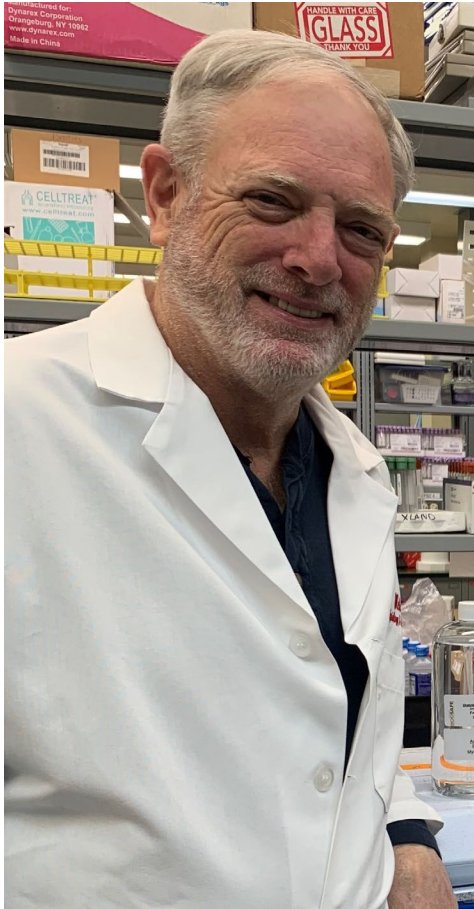


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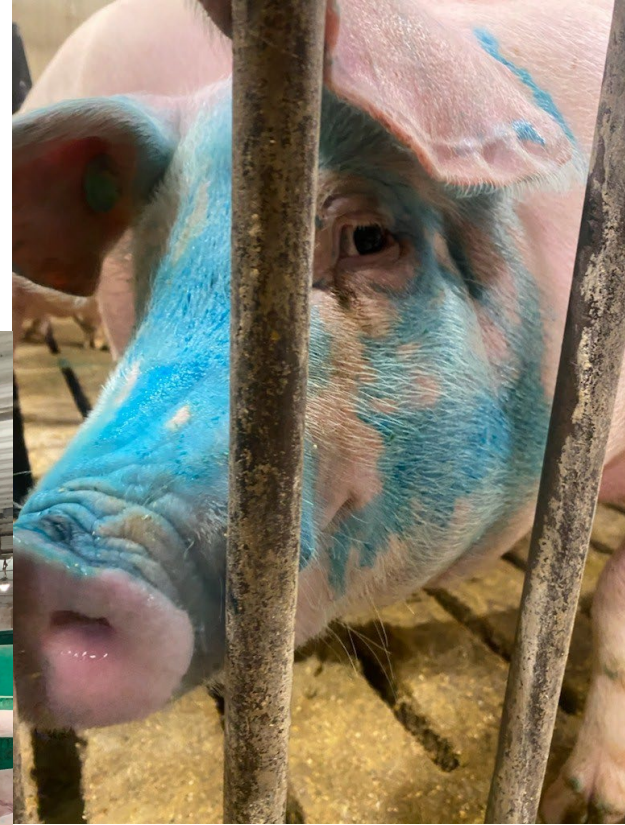
## Animal Welfare in Pork Production

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Professor, Laboratory of Animal Behavior,  
Physiology and Welfare  
Texas Tech University



# Professor McGlone

Professor McGlone has been conducting swine research at Texas Tech University for 39 years. He has made contributions in areas of sow housing, transportation, castration, tail docking, pheromones, and national and international animal welfare policies.



## Outline

- Animal Welfare terms
- Auditing Animal Welfare
- AW issues we face
  - Sow housing
  - Transportation
  - Castration
  - Sick pigs not detected
  - Needle-free systems
- A proposed way forward



# Animal Welfare Terms

- Confusing to producers and consumers, yet people believe they know good and bad welfare when they see it.
- Animal Welfare is impossible to define, yet people do:
  - Five freedoms defined AW first in the UK
  - The EU has many AW rules and regulations
  - The USA has only 1 national commercial pig AW law: the 28 hour law
  - Some companies have AW goals
  - Some USA states have pig welfare laws (usually banning gestation crates; more on that later)



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## Animal welfare

The European Union (EU) has one of the most comprehensive set of rules in the world on animal welfare, covering farm animals at the farm, during transport and at when slaughtered.

These rules reflect the five freedoms contained in the Council of Europe's Convention for the Protection of Animals kept for Farming Purposes:

- freedom from hunger and thirst;
- freedom from discomfort;
- freedom from pain, injury and disease;
- freedom to express normal behaviour;
- freedom from fear and distress.

Article 13 of the Treaty on the Functioning of the EU stipulates that, as sentient beings, full regard should be paid to animals' welfare requirements.

Since 1974, when the first EU legislation on animal welfare was adopted, animal welfare requirements have evolved based on sound scientific knowledge, improving the quality of animals' lives in accordance with citizens' expectations and market demands.

Today, animal welfare is at the heart of sustainability, as a good level of animal welfare is linked

## Freedom from Hunger and Thirst

- Healthy animals are hungry every day
- Feral swine are hungry most of the time (some would argue they have good welfare)
- Hunger is an emotional behavior originating in the limbic system (deep in the brain).
- Hunger is normal and natural.
- Hunger is a part of normal animal life.



## Animal Welfare Auditing and Certification

### General Principles of an Animal Welfare Audit

- Designed to certify minimum standards
- Should be by a third party
- The two parties: Producer and Support people must perform audits, but an independent third-party (independent) is often required for certain markets.
- Auditors should be qualified and professional

### Audits assess the current state of:

- Animals
- People
- Facilities
- Protocols (how things are done)

## Many programs are found around the world

### In the USA:

- National Pork Board PQA & TQA and site certification
- Once per year, the farm must be audited and the report sent to people the farm says they can go to

### In the EU:

- EU has its standards; but individual countries may have more strict rules

### In Brazil:

- “New” animal welfare law

Its not just Animal Welfare; other farm features are audited; especially related to food safety and environmental, and general safety issues. Therefore: **The One Welfare concept was born. One Welfare captures both human and animal health issues along with animal welfare**





# Value

## Offer

CLIENTS 

Improved operational efficiency

Image and reputation (ESG)

Ease of access to credit

Better positioning of the brand in the market

BRDE 

Itaú BBA

FINPEC 

Lar  
AGRO-PASTORIL  
PASCHOAL CAMPANELLI S.A.

master



DANONE



Q I M A W Q S

... WE WANT TO BE REFERENCE ON ANIMAL WELFARE



## Not Animal Welfare, say Animal Behavior

- We manage pig behavior
- Pigs have certain behavioral needs
- Pigs have certain behavioral wants

Producers always meet the pig behavioral needs (food, water, space, temperature)

Activists/ some consumers want pig behavioral wants also provided

EXAMPLE: Sows in a gestation crate have their needs for food, water, space for their body met. Some people want sows to be able to socially interact – a behavioral want.

# Needle-free programs – Intradermal and self-vaccination

Making an injection with a needle has these issues:

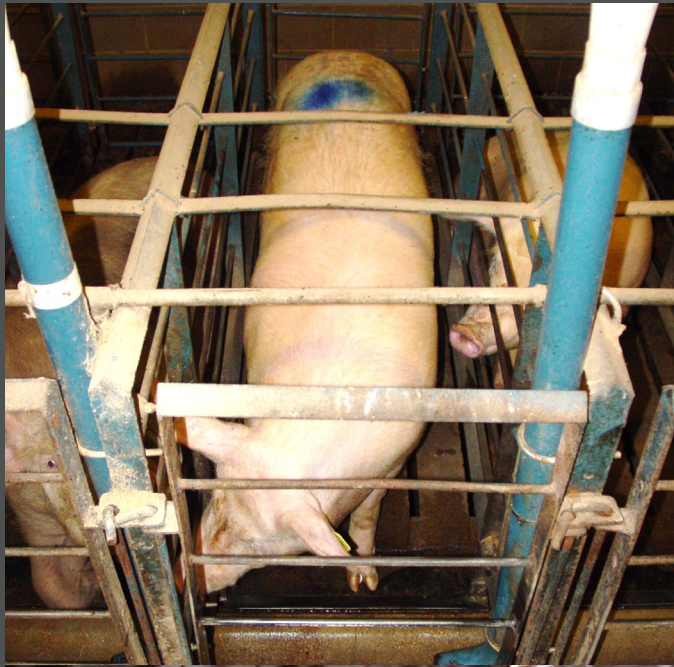
- Needle sticks sometimes leak
- Most go IM, some go IV (if a vessel is hit)
- Needle sticks hurt; pigs become afraid of the person with a needle
- Needle sticks can cause abscesses
- Needles can break off; Pigs can get an infection; consumers will not be happy
  - Even if 1 out of 1 million needle breaks in a pig carcass it is a large problem
- Needle sticks are an animal welfare concern, so....
  - Needle-free vaccines are less aversive than needle injections (Dalmau et al., 2021)
  - Fewer behavioral changes with needle-free (Goller et al., 2020)
  - No chance of a broken needle



Dalmau A, Sánchez-Matamoros A, Dalmau A, Sánchez-Matamoros A, Molina JM, Xercavins A, Varvaró-Porter A, Muñoz I, Moles X, Baulida B, Fàbrega E, Velarde A, Pallisera J, Puigredon A and Contreras-Jodar A (2021) Intramuscular vs. Intradermic Needle-Free Vaccination in Piglets: Relevance for Animal Welfare Based on an Aversion Learning Test and Vocalizations. *Front. Vet. Sci.* 8:715260. doi: 10.3389/fvets.2021.715260

Molina JM, Xercavins A, Varvaró-Porter A, Muñoz I, Moles X, Baulida B, Fàbrega E, Velarde A, Pallisera J, Puigredon A and Contreras-Jodar A (2021) Intramuscular vs. Intradermic Needle-Free Vaccination in Piglets: Relevance for Animal Welfare Based on an Aversion Learning Test and Vocalizations. *Front. Vet. Sci.* 8:715260. doi: 10.3389/fvets.2021.715260

# Sow Housing



- The gestation crate is the most common sow housing system apart from the EU
- Three crate uses:
  - Breeding
  - Gestation
  - Farrowing
- EU
  - Gestation crates are banned; pressure to also ban breeding and farrowing crates
- USA
  - Several states have banned gestation crates
  - California (Prop 12) will band both breeding and gestation crates



# The Science of Sow Housing

Three scientific reviews had similar conclusions based on the body of studies on sow housing:

A well-managed pen and crate support similar behavior (other than social behaviors), physiology, reproduction and health.

McGlone, J. J., E. von Borell, J. Deen, A. K. Johnson, D. G. Levis, M. Meunier-Salaun, J. Morrow, D. Reeves, J. L. Salak-Johnson, and P. L. Sundberg. 2004. Review: Compilation of the scientific literature comparing housing systems for gestating sows and gilts using measures of physiology, behavior, performance and health. *Professional Animal Scientist*. 20:105-117.

Rhodes, Tracey R, Michael C. Appleby, Kathy Chinn, Lawrence Douglas, Lawrence D. Firkins, Katherine A. Houpt, Christa Irwin, John J. McGlone, Paul Sundberg, Lisa Tokach, and Robert W. Wills. 2005 A comprehensive review of housing for pregnant sows. *J. American Vet Medical Assoc (JAVMA)* 227(10):1580-1590.

McGlone, J. J. 2013. Review: Updated scientific evidence on the welfare of gestating sows kept in different housing systems. *Prof. Animal Scientist*. 29:189-198.



# The Science of Sow Housing

A well-managed pen and crate support similar behavior (other than social behaviors), physiology, reproduction and health.  
So why not convert to group pens?

## Economics

Crate: 2 X 7 feet + a 2 X 2 foot aisle = 18 sq feet

Group pen: ~24 sq ft/sow

That is 33% more space – who will pay for this?



Transport



Castration  
and Tail  
Docking



Sick/injured  
animals not  
detect



# Behavioral Management Issues

Which issues do consumers care about?

Issue	Does the consumer care?
Sow Housing	Some
Transport	Not really
Castration	Not really
Sick/injured	Yes



# UK's Largest Supermarket Provides Financial Support to UK Egg Sector



## Ways to cause animal welfare changes

- Government regulations
- Punishing market for conventional products
- Premium for products with added features (natural, cage free, organic, etc.)

- The USA and UK Egg industries show us how to capitalize on consumer desires.
- The market place will tell us how much of each product they want.
- We need to decide if we will sell low-cost commodity product or specialty products.



# Take a lesson from people who buy and sell eggs -- give consumers a choice

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Meet Behavioral Needs – commodity pork

Meet Behavioral wants – up-scale products

*Always meet behavioral needs; get paid more when behavioral wants are also met*



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"I'll have two eggs and some H... A... M."

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# Thank you!



- Cultural views about animal welfare vary widely from the EU to North and South America to Asia and Africa.
- Everyone should respect other culture's views
- EU views should not be forced on others
- This is called neocolonialism – where economics rather than military forces cause change in other cultures – and this is fundamentally wrong.



*Commentary*

## **Animal Welfare and the Acknowledgment of Cultural Differences**

Arlene Garcia <sup>1,2,\*</sup> and John J. McGlone <sup>2</sup> 