



30th Poultry
Science
Symposium

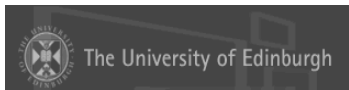
7-8 September 2011, Glasgow, Scotland



Is there a future for alternative systems?

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Supporting the
land-based industries
for over a century



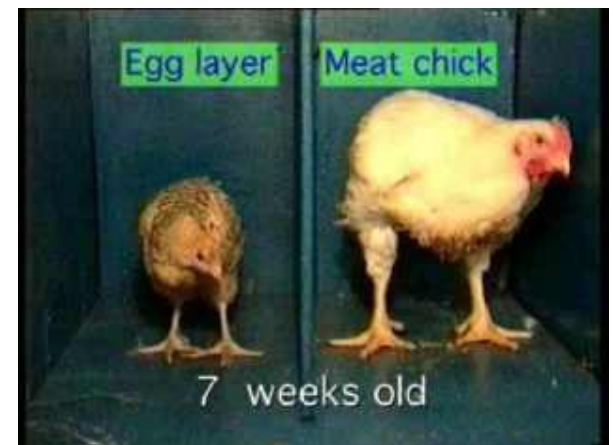
Outline

- Are alternative systems economically and environmentally sustainable?
- Do alternative systems fulfil the reasons that we use them for?
- How will conflicting developments across the world cope with fluctuations in alternative systems in a free market?

Are alternative systems
economically and environmentally
sustainable?

How production has changed

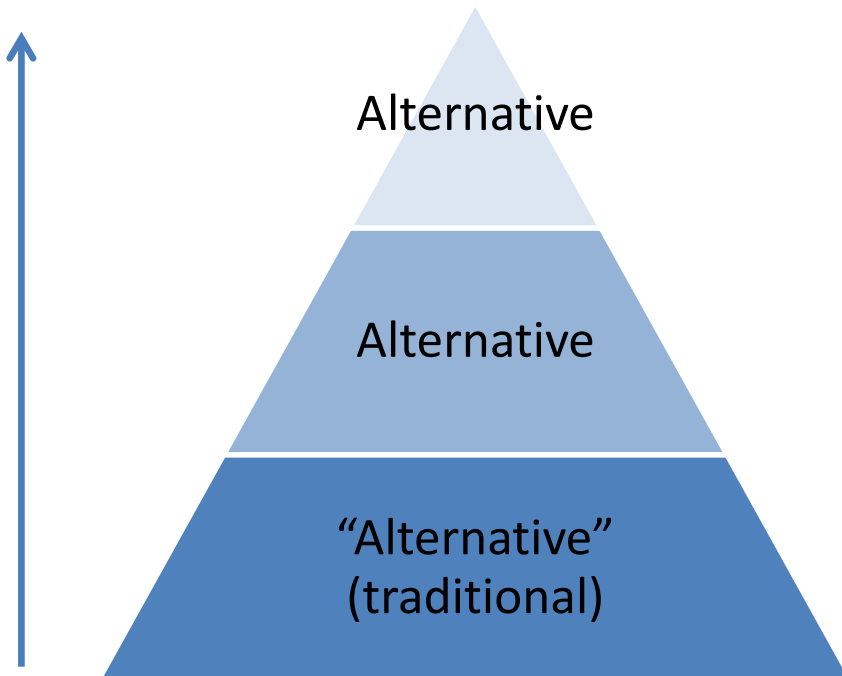
- Genetic selection – better FCR
 - Half the feed required for equivalent body weight
- Greater intensification
 - Poultry meat and eggs are cheap!
- Vaccines, compound feed
- All contribute to sustainability
- (But now we eat more...)



Economically sustainable?

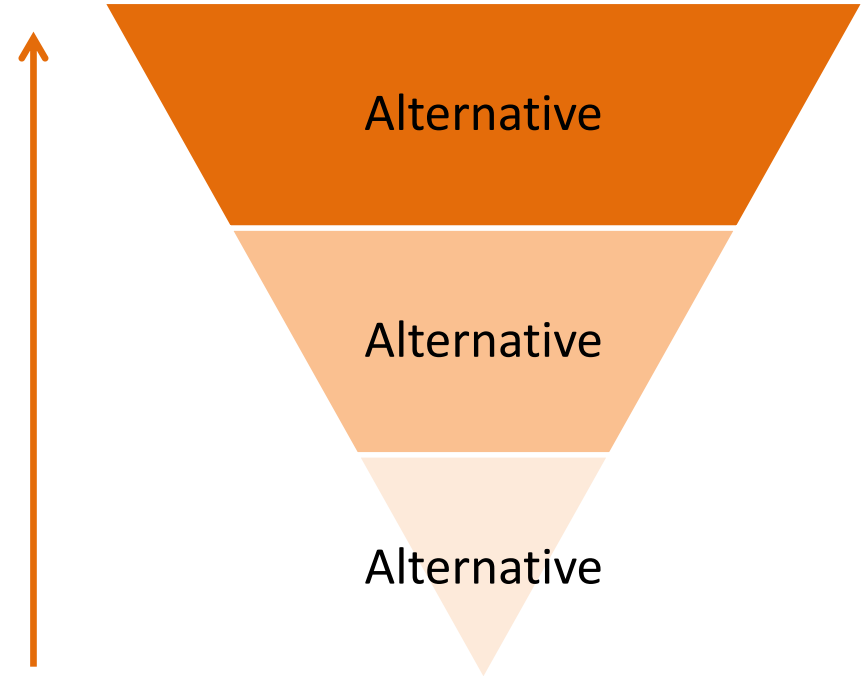
Developing

Economic growth, population,
export markets

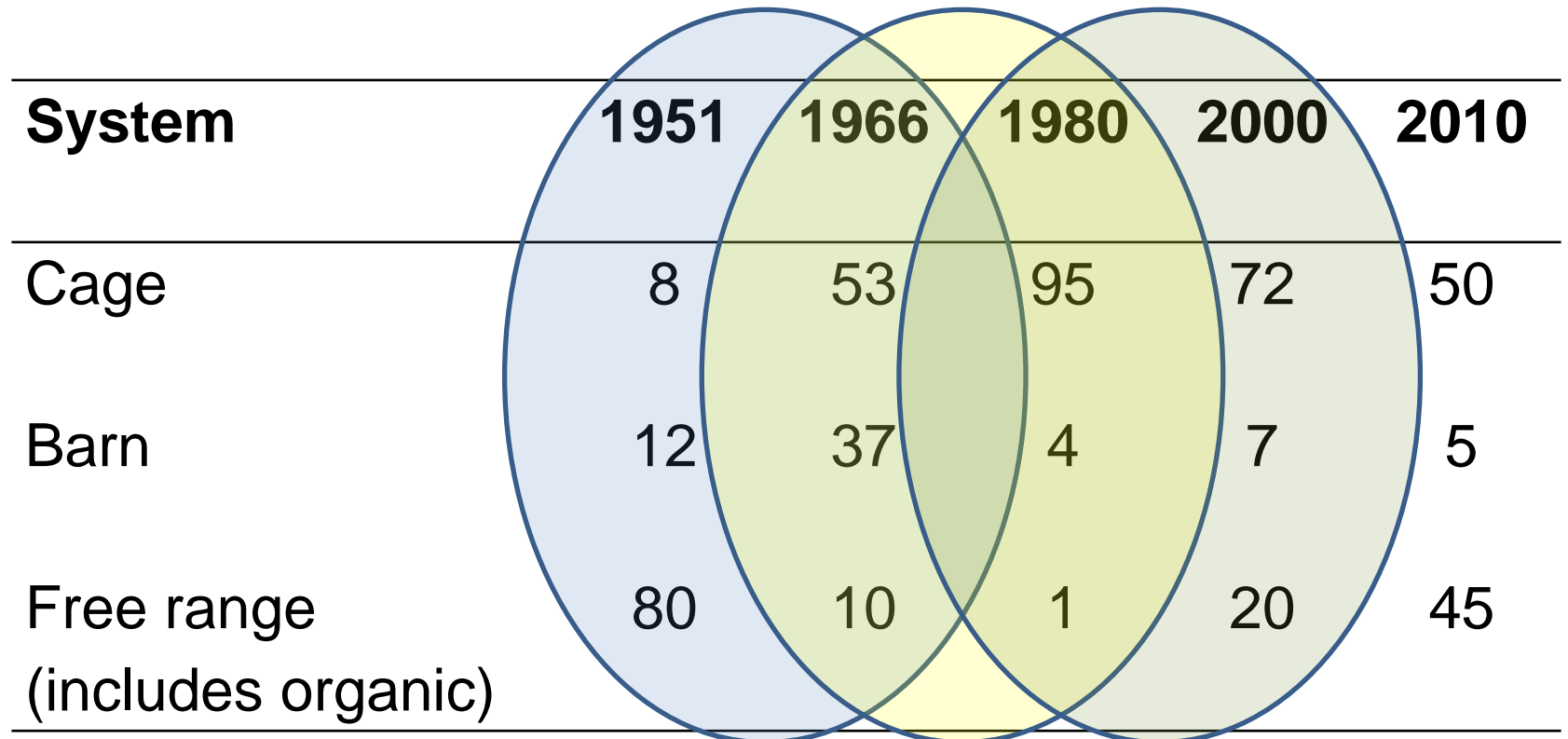


Developed

Affluence, animal welfare,
environment



Percentage of eggs from different systems of production in the UK



Percentage of eggs from different systems of production in the UK

System	1951	1966	1980	2000	2010
Cage	8	53	95	72	50
Barn	12	37	4	7	5
Free range (includes organic)	80	10	1	20	45

Environmentally sustainable?

2011: 7 billion

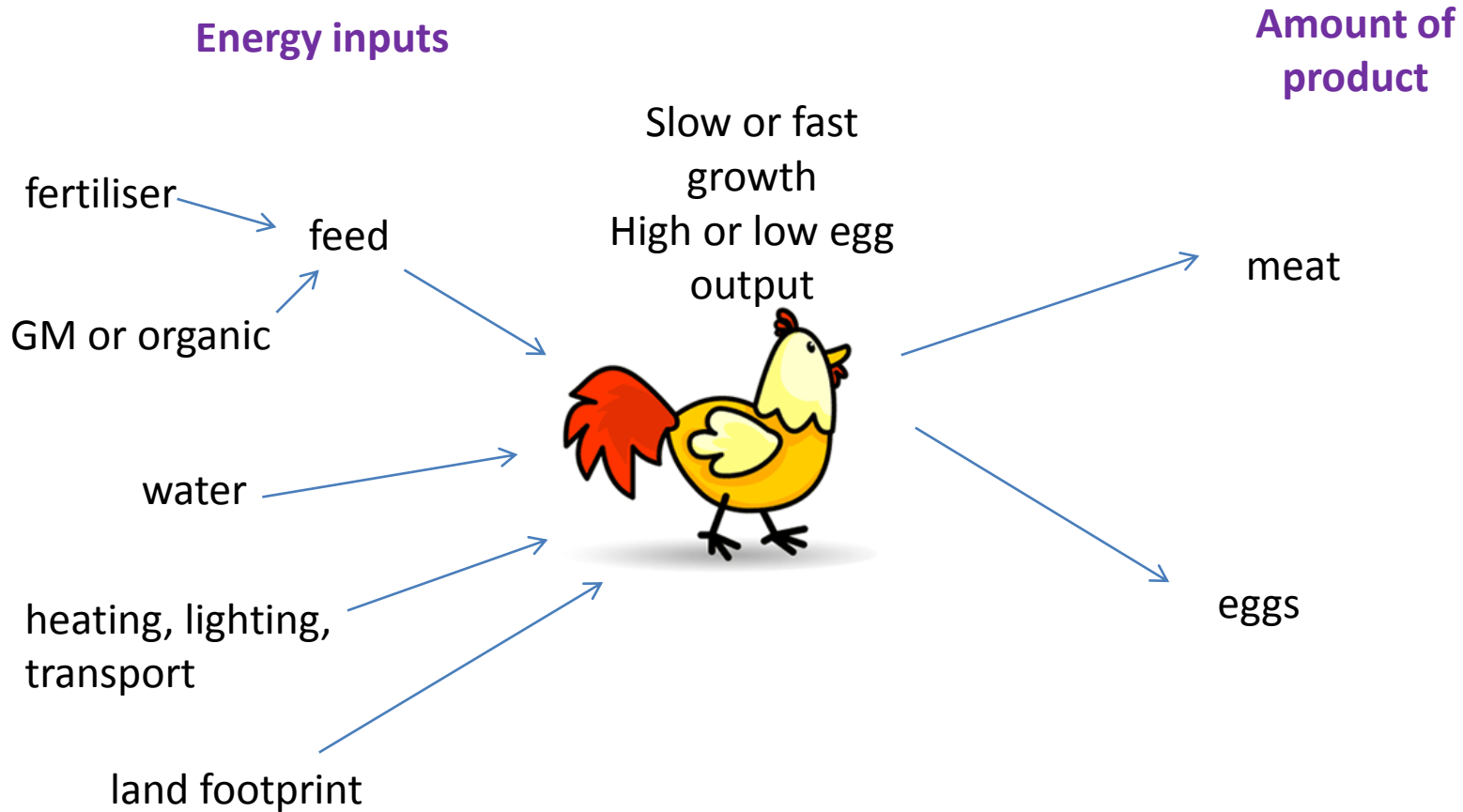


2050: > 9 billion



- Animal protein will be in greater demand than ever (numbers, affluence)
- Many current (intensive) livestock systems rely heavily on fossil fuel inputs

Environmentally sustainable?



Do alternative systems fulfil the reasons that we use them for?

Science and animal welfare

- Meeting the needs of animals
 - Birds are motivated to build nests, dustbathe, perch, forage for food
 - Fulfilling the Five Freedoms
 1. Freedom from hunger, thirst, malnutrition
 2. “ “ fear and distress
 3. “ “ pain injury and disease
 4. “ “ thermal/physical discomfort
 5. Freedom to perform most natural behaviours

Consumer demand

- Egg production/consumption
 - Not purely demand, but due to EU regulations
- Expressed desires not always \neq what is purchased




Meat systems

- Have undergone less radical change
 - Because they are perceived to need less improvement (cf. hens in conventional cages)
 - Because intensive floor systems are easier to improve
 - Stocking density
 - Environmental enrichment (hay bales, ramps)
 - Natural light

How will conflicting developments
across the world cope with
fluctuations in alternative systems in
a free market?

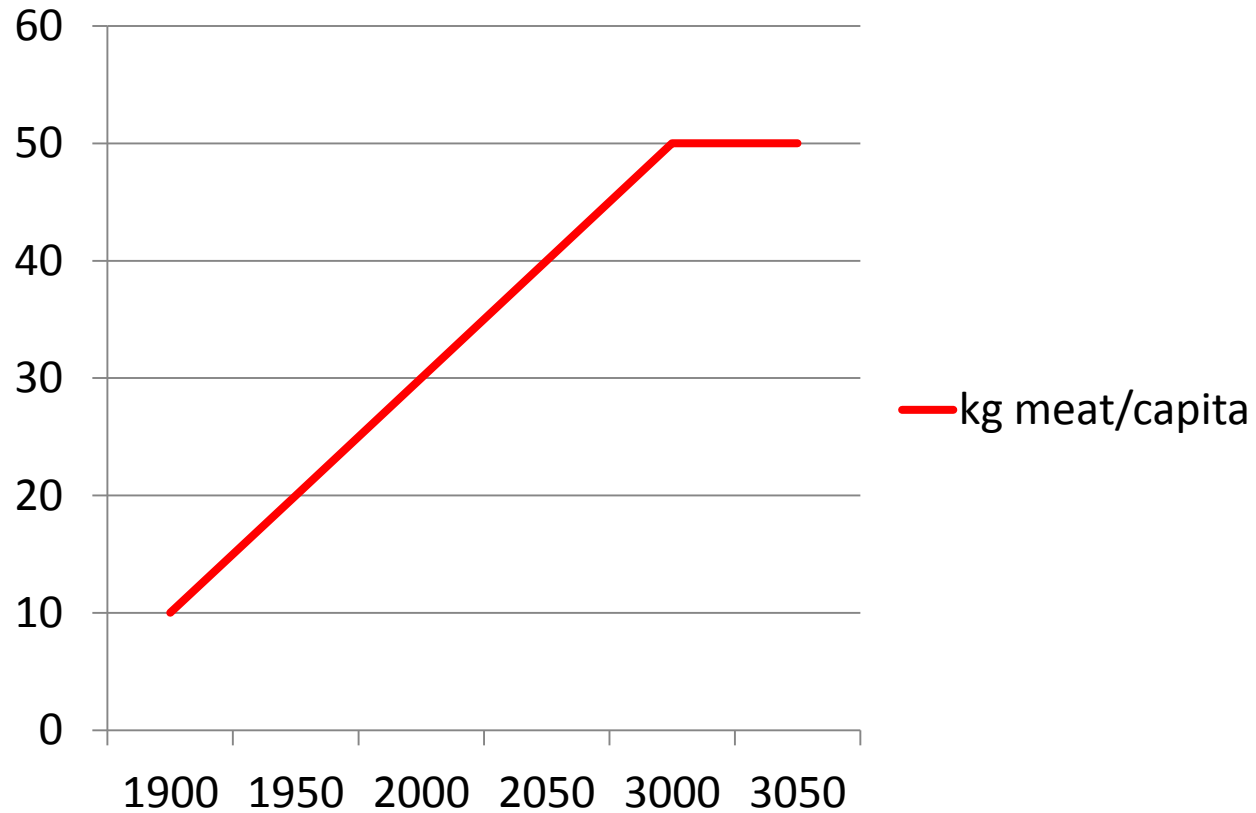
Conflicts

- Competitiveness
 - Game bird breeding is moving to cage-type systems, to increase viable egg production
 - Waterfowl production in Asia vs Europe
 - Imports of cheaper alternatives
 - Goals versus reality
 - Animal welfare can be compromised in any system managed poorly
 - Animal welfare may be more easily compromised where more inputs are required (alternative)
 - But where done well, welfare can outweigh conventional
-  GOOD MANAGEMENT is essential (and costly)

Fluctuations in alternative systems

- There will continue to be both intensive and alternatively-reared poultry on a world-wide basis
 - Economics
 - Different values re: animal welfare
 - Resources (both local and worldwide)

The future



- Will meat become a luxury item?

Conclusion

- Major factors
 - Feeding a far larger, more affluent population
 - Competition for land, water, energy (for feed etc)
 - Protecting the environment
 - Welfare legislation
 - Major factor in Europe
- Low cost changes can have large welfare impact
 - Furnished cages for hens, enrichment for meat birds
 - Simple techniques to improve livelihoods re: village
- Balance:
 - “a life worth living”
 - sustainable production of animal protein

- What do you think?

Thank you