

Characteristics of welfare-friendly broiler chicken production

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'Higher-welfare' systems: developments

- Trends towards an increase in these broiler systems:

Trend towards more 'middle-segment' systems: in between organic and conventional

- RSPCA Assured, Tierwohl, Danish 'hearts', Better Life stars (NL), Chicken of Tomorrow (NL), ...
- European Chicken Commitment



Characteristics of welfare-friendly broiler production systems

- A slow(er)-growing broiler breed
- Stocking density ≤ 38 kg/m²
- Environmental enrichment (usually bales, wheat)
- Uninterrupted dark period ≥ 6 h
- Natural light entrance in the house
- Veranda or outdoor range



Welfare of slower-growing breeds

- How is a slower-growing broiler breed defined?
 - Chickens from a slower-growing female breeder and either a fast- or slower-growing male breeder
 - Growth rate of 50 g/day or lower¹
 - Reaches slaughter weight in 49 days or longer
 - Within these breeds, large differences in growth rate exist



¹ Saatkamp et al., 2019, RSPCA Assured, 2018

Welfare of slower-growing breeds

- Studies¹ comparing slow(er)-growing broiler breed(s) with fast growing breeds, under similar conditions, showed that:
 - Slower-growing breeds have **better locomotion**
 - Slower-growing breeds have **better hock burn/foot pad dermatitis scores (lower prevalence)**
 - Slower-growing breeds have **cleaner feathers**



Welfare of slower-growing breeds (continued)

- Recent studies¹ comparing slow(er)-growing broiler breed(s) with fast growing breeds, under similar conditions, showed that:
 - **Slower-growing breeds are more active**, especially in the second half of rearing, and **make more use of enrichments**
 - Slower-growing breeds had a **lower prevalence of breast myopathies** at slaughter



¹Dixon, 2020; Torrey et al., 2020; Rayner et al., 2020

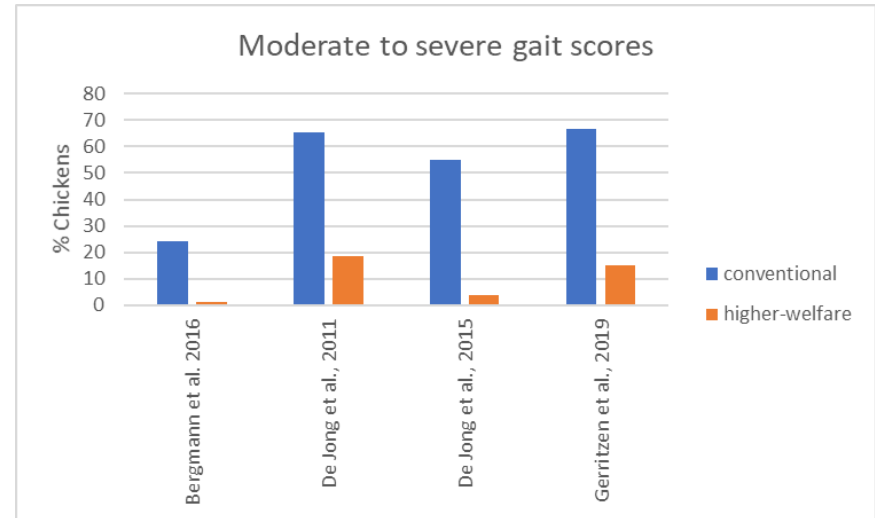
Welfare performance of welfare-friendly broiler systems

- As these systems **vary in the input variables** (type of breed, stocking density, enrichment types, etc.), these systems **vary in the degree to which broiler welfare** is met
- These systems do not per se *guarantee* broiler welfare, but
- *Have the potential to provide better welfare* as compared to the conventional indoor system with fast-growing breeds at high stocking densities



Welfare performance (continued)

- However, existing data¹ indicate generally better welfare in these systems
- Example: all showed a lower proportion of chickens with locomotion defects in higher-welfare systems:



¹ see de Jong and Bracke in Eurogroup report

Health: a reduction in use of antibiotics

-> Dutch data show **reduced antibiotics use in systems with slower growing broilers**

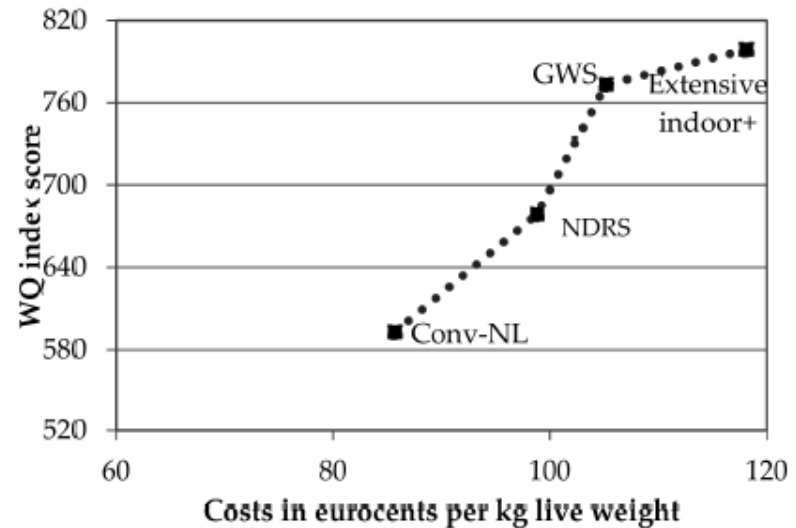
Year	Type	DDDA _s	% flocks without Ab
2014	Slower	4.90	95
	Conventional	17.83	67
2015	Slower	3.60	94
	Conventional	15.56	70
2016	Slower	4.01	93
	Conventional	13.11	72
2017	Slower	4.66	91
	Conventional	13.37	71
2018	Slower	3.75	91
	Conventional	13.42	69
2019	Slower	2.24	94
	Conventional	13.70	70

Welfare gain vs. costs

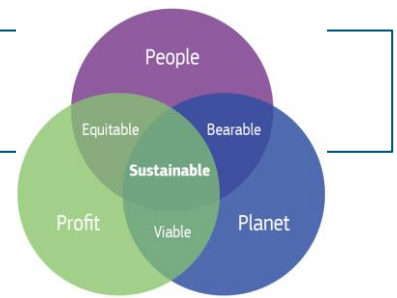
- Higher costs involved, but:
- Significant increase in welfare with 'middle-segment' systems at relatively small increase in costs¹
- Market opportunities for premium prices



Welfare ↑



Welfare and sustainability



- Sustainability is a multi-faceted concept which includes animal welfare
- Environmental sustainability of higher-welfare broiler production systems is topic of discussion – the few published studies indicate a negative effect of these systems on environmental sustainability
- Innovations can improve the environmental sustainability of these systems, e.g., Windstreek; use of by-products for feed
- Research is required to further study the environmental impact as well as possible solutions

Conclusions

- Existing 'higher-welfare' broiler production systems in EU countries are examples how broiler welfare can be improved under commercial conditions
- Even in existing houses, welfare can significantly be increased by the use of slower-growing strains, reducing stocking density, providing environmental enrichment etc.
- Costs are involved, but there are also market opportunities for price premiums – see recent examples in Europe



Thank you for your
attention

