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ANIMAL HUSBANDRY

Environmental performance & animal welfare in organic poultry production

Creation and study of a silvopoultry system

AUTHOR
Lisa Arguile

CONTACT
Lisa Arguile

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Cindy Engel, Bruce Pearce, Vanessa Pegg, Lois Philipps, Lindsay Whistance, Martin Wolfe

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Juliet and Peter Kindersley
- Silvo-Poultry: An Agroforestry System for Organic Chicken Production at Sheepdrove Organic Farm

SHEEPDROVE

Poultry production is conventionally an intensive system focused on efficiency. This creates challenges for animal health and welfare that result in behavioural and physical issues. Environmental impact assessments alone do not consider animal measures, and intensive systems can therefore be seen outperforming their extensive counterparts that encourage natural behaviours unless a multicriteria approach is taken. The reason for this is a higher resource use efficiency and smaller land use impact.

Silvopoultry systems (SP) integrate poultry production with trees, offering a way to reduce the environmental impact by sharing the land use cost between enterprises and capturing emissions at the same time. SP also mimics the natural habitat of chickens, providing additional enrichment that improves animal health and welfare. A study of broilers produced under olive trees showed SP tripled estimated forage intake, did not impact production, reduced footpad dermatitis and breast blisters, compared to a free-range system with no enrichment.

Sheepdrove organic's silvopoultry system

In 2002 the Organic Research Centre supported Sheepdrove Organic Farm (SOF) with the creation of their own SP system demonstrating a way in which organic poultry production could develop to become more sustainable by allowing the animals, farmer and wider environment to benefit at the same time. After moving to the SP system SOF recorded final weights which were both lower and more variable than before. Temperature had no effect on final weight in the seven weeks prior to processing and negligible (<1%) migration was observed between sheds of different production stages. Instead, management and nutrition were identified as the possible cause for the lower and variable body weights. A further explanation may be variation in the use of the range, with birds that utilise the range more extensively having higher daily energy requirements.

FURTHER READING

1. Leinonen and Kyriazakis (2013) d-nb.info/1044488840/34
2. Pearce (2003) orgprints.org/id/eprint/10297
3. Pegg and Pearce (2004) orgprints.org/id/eprint/10295
4. Pegg *et al.* (2003) orgprints.org/id/eprint/10320

ORGANIC RESEARCH CENTRE 40th anniversary

The Organic Research Centre
Trent Lodge, Stroud Road, Cirencester GL7 6JN - United Kingdom
Company Registration: 1513190 | Registered Charity: 281276
organicresearchcentre.com