

Sustainability of broiler production - Balancing animal welfare and emissions

Broiler production has low GHG emissions compared to other species. However, this efficiency comes at the cost of bird welfare.

- Selection for rapid growth and high breast meat yield leads to serious health and welfare issues, such as poor walking ability, higher mortality and myopathies
- High stocking density negatively affects health, e.g. increasing incidence of contact dermatitis, and reduce opportunities for behavioural expression



The European Chicken Commitment (ECC) aims to improve broiler welfare by requiring, amongst other criteria:

- Slower growing breeds that are healthier and more active
- More space to improve health and allow behavioural expression
- Enriched environment with perches, pecking substrates and natural light

A sustainable model of broiler production should balance bird welfare and environmental impact

Environmental impact, mitigation strategies and broader advantages of the ECC

CHALLENGES

MITIGATIONS

ECC ADVANTAGES



- **Over 70%** of poultry emissions come from feed, mainly due to unsustainable soy and land use change
- **Slower-growing** ECC breeds need more feed as they take longer to reach slaughter weight

- **Optimize diets** for the system and breed. Feed-related emissions can be considerably decreased by using a low soy-low nutrient density diet
- Use **local and sustainable** protein sources

- ECC breeds adapt better to more **sustainable diets**
- The **parent stocks** of some ECC breeds are more productive and **consume less feed**



- **Lower stocking density** in ECC systems leads to higher land use and energy use
- **Longer living birds** produce more manure

- Overall, inputs in the form of **electricity use and fuel are low** in the poultry industry
- Use **renewable energy**
- Treat manure for **biofuel or biogas**

- Lower mortality rates and lower carcass downgrades lead to **less food and feed waste**
- Lower stocking density leads to **less manure produced per barn**
- **Natural light** decreases the need for artificial lighting
- Eggs of ECC parent breeds have **better survivability**



- **Increasing poultry demand** conflicts with fewer chickens produced per shed in ECC systems
- Consumer **preference for breast meat** conflicts with lower breast yield in ECC breeds

- Promote different parts of the chicken and **use the full carcass** to reduce waste
- **Develop new recipes**, reduce meat portions and use blended meat products

- Lower mortality and carcass downgrades **decrease the meat yield gap** with conventional production
- Meet consumer demand for **higher welfare products**
- Less breast myopathies leads to **better meat quality**
- Using slower growing breeds leads to **lower antibiotic use**

Sustainability goes beyond cutting carbon emissions...

ECC production offers a range of additional advantages including human health benefits (e.g. reduction in antibiotic usage, lower risk of foodborne diseases and zoonotic diseases) as well as better working conditions for the farmers, while meeting increasing consumer demand for higher welfare products.