Alternatives to the elimination of male chicks

Profitability of dual-purpose chickens in organic production

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Background

Research Question

First week | 2 weeks old | 6 weeks old

Growth differences, from left to right: brother cockerels from different genotypes, right: broiler

> "The practice of killing chicks for purely economic reasons is not compatible with the Animal Welfare Act (TierSchG) as we understand it today…"
>
> *Deutsches Tierärzteblatt, 2022, 70 (08)*

- Ban on the elimination of day-old male chicks from laying hen breeding since January 1, 2022
- One solution: sex determination in the egg
- Concerns in organic farming: major organic associations in Germany (Bioland, Naturland, Demeter) have spoken out against sex determination
- Development of dual-purpose genotypes that are sustainable and economical in organic production
- This aspect is being investigated in the EU-research project PPILOW (2019-2024)

Research Question:
Which dual-purpose genotypes uses the least resources while producing the highest output to be economically viable?

Initial findings „on-station" at the experimental farm at Thuenen Institute for fattening the brother cockerels

Identified performance parameters

	Genotype A	Genotype B	Genotype C	Genotype JA757
Feed conversion ratio (FCR)	3.38	3.66	3.33	2.74
Daily weight gain (g/day)	26	21	19	45
Ø Feeding period (days)	83	83	83	85
Total feed consumed per bird (g)	7536	6332	5335	10373
Final live weight (g/bird)	2203	1763	1634	3831
Mortality at farm level (%)	1.1	1.1	2.1	3.3

- A, B and C: high feed conversion ratio
- C: lowest daily weight gain
- A and B: lowest mortality rate
- Broiler JA 757 – highest feed efficiency

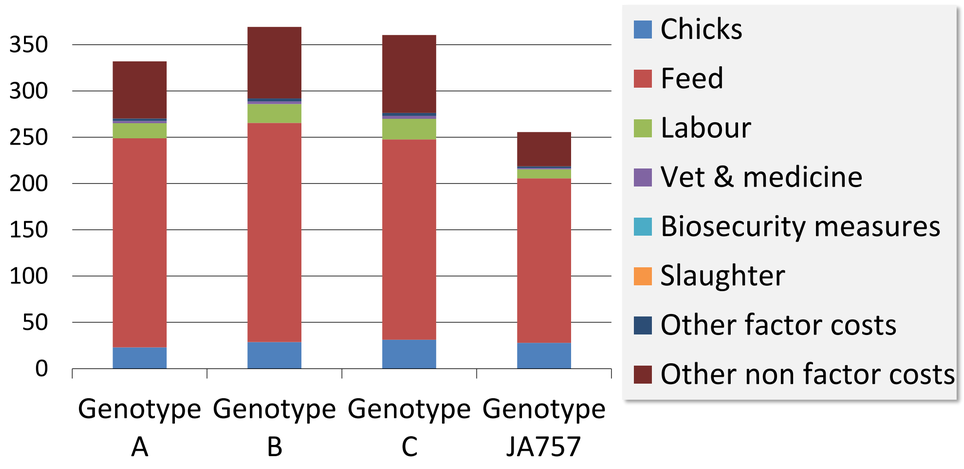
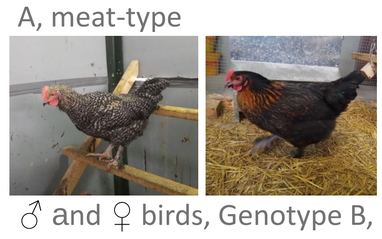


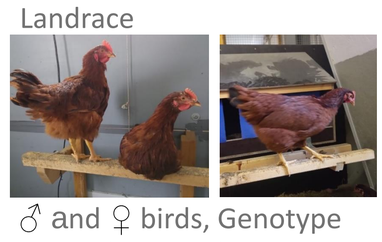
Figure 1. Comparison of full costs (€ per 100 kg live weight)

- A: lowest production costs among dual-purpose genotypes
- Full cost differences:
  A versus JA757: 70 €/100 kg live weight
  C versus JA757: 107 €/100 kg live weight

♂ and ♀ birds, Genotype A, meat-type



♂ and ♀ birds, Genotype B, Landrace



♂ and ♀ birds, Genotype C, emphasis on laying eggs

Conclusions from the PPILOW on-station trials in Germany

- The higher the egg production in the dual-purpose genotype, the lower the feed conversion and the higher the production costs of the males
- The higher production costs of the dual-purpose males can only be covered if higher product prices are achieved or if the males are "cross-subsidized" by a price premium for eggs.

Prospective analysis

- EU-Project PPILOW (Poultry and Pig Low-input and Organic production systems´ Welfare):
  → Performance and economic efficiency of ♂ and ♀ birds as joint unit
- Links to Project "aWish": Animal welfare indicators at the slaughterhouse (2023-2026)

♂ Control group broiler JA757

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https://www.ppilow.eu/

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