Poultry
Ethical problems and breeding goals

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Wageningen, March 15 2011

Overview

› Ethical issues in poultry production
  › Killing of male layer chicks
  › Short lifespan of layers
  › Health problems in broilers
  › Run use and feather pecking

› Assessment of to which extent breeding could be a good way to deal with these issues as compared with other available actions
Divergence of layer and broiler lines

Layer (left) and broiler (right)

Day 1  Day 29
Layer lines

- High egg production and low body weight
- Health problems related to high production
  - bone strength
  - keel bone deformation
  - feather pecking
- Female birds 1 year in production
- Male chicks and spent layers not used for human consumption or animal feed

Broiler lines

- Fast growing
- Health problems related to fast growth of muscles compared to growth of supporting structures
  - leg deformation and lameness
  - breast blisters
  - heart problems
Fattening males of layer lines

- Fattening period: 14 weeks
- Feed conversion rate: 3-5

Dual purpose chicken

- Would solve the problem of killing male chicks
- Would solve growth related health problems of broilers
- Would solve some health problems of layers
- Heavier hens would be better suited for human consumption
Moulting or prolonged use as an alternative

- Egg quality and feathering decline with age of hens
- "Welfare friendly" moulting programmes are feasible (veranda, light, without complete feed deprivation)
- After moulting
  - Egg quality ↗
  - Egg production ↗
  - Egg size ↗
  - Feathering ↗, Feather pecking ↘

- Most frequently mentioned as a wish for future egg production at Swiss farmer's workshops!
- Main problem: production planning
Feather cover before and after moulting

Before moulting  74 days after moulting

Organic egg production in CH under different production schemes

- Standard (49 weeks)
- Moulting (1.5 cycles, 4 w. break)
- Moulting (2 cycles, 4 w. break)
- Prolonged (70 weeks)

Calculations based on organic chicken statistics 2010 and data by aviforum and FiBL, CH
Use of hen run

<table>
<thead>
<tr>
<th>Hens/flock</th>
<th>Area/hen (m²)</th>
<th>Popholes open (h)</th>
<th>% hens in run</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000 (free range)</td>
<td>0.74 (0.38 – 1.88)</td>
<td>5.9 (2-7.75)</td>
<td>19.5</td>
</tr>
<tr>
<td>500 (CH organic)</td>
<td>5.06 (1.68-7.93)</td>
<td>7.5 (4.5-10.5)</td>
<td>29.5</td>
</tr>
<tr>
<td>50 (CH direct marketing)</td>
<td>6.05 (11.07)</td>
<td>11.9 (9.5-13.75)</td>
<td>41.2</td>
</tr>
</tbody>
</table>

Feather pecking

- Risk reduced when frequent use of run (Nicol et al. 2003, Bestman and Wagenaar 2003)
- Higher stress level (El Lethey 2000)
- Selection possible
Feathering in LowInputBreeds survey

The authors gratefully acknowledge co-funding from the European Commission, under the Seventh Framework Programme for Research and Technological Development, for the Collaborative Project LowInputBreeds (Grant agreement No 222623)