Introduction

- Dented corn (Zea mays L.) and soft wheat (Triticum aestivum L.) are the most common cereals used in poultry diets.
- Feeding crumbles to broilers improved growth performance.
- The authors had not found any report on the effects of alternating feed form during the rearing phase on performance and GIT traits of brown-egg laying pullets from hatching to 17 wk of age.

Objectives

Evaluate:
- The influence of the main cereal of the diet on productive performance and development of the GIT of pullets from 0 to 17 wk of age.
- The effects of feeding crumbles for different periods of time, followed by feeding mash to 17 of age, on performance, GIT development, and body measurements of brown-egg laying pullets.

Materials and methods

Experimental design: 4 feeding programs × 2 cereals

- 1-5 wk: Crumble, Crumble, Mash, Mash
- 5-10 wk: Crumble, Crumble, Mash, Mash
- 10-17 wk: Crumble, Crumble, Mash, Mash
- Corn: 40.0% 40.0% 40.0%
- Wheat: - 40.0% - 40.0%
- Soybean meal (46%): 34.2 31.7 18.5 15.6 12.3 9.3
- Barley: 13.0 17.0 24.1 27.0 20.0 22.8
- Wheat middlings: - - - - 12.0 12.0
- Sunflower meal (28%): 5.97 4.54 12.70 12.80 11.52 11.64
- Soybean oil: 2.71 2.92 1.00 0.90 1.00 1.00

Calculated analysis:
- EAM (Kcal/kg): 2.790 2.790 2.700 2.700 2.650 2.650
- Crude protein: 21.5 21.8 18.0 18.0 16.0 16.0
- Lys: 1.10 1.10 0.95 0.95 0.72 0.72

1Includes AA, minerals, and premix

Result

Influence of main cereal and feed form of the diet on growth performance and digestive tract traits of brown-egg laying pullets from 1 to 5 wk of age.

<table>
<thead>
<tr>
<th>Period, wk</th>
<th>C</th>
<th>C</th>
<th>M</th>
<th>M</th>
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<tr>
<td>0-5 C</td>
<td>19.3 9.18</td>
<td>2.09</td>
<td>4.9</td>
<td>3,3</td>
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<tr>
<td>5-10 C</td>
<td>19.2 9.20</td>
<td>2.09</td>
<td>4.6</td>
<td>3,2</td>
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<tr>
<td>10-17 C</td>
<td>20.2 8.46</td>
<td>2.39</td>
<td>P = 0.008</td>
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</tbody>
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Weight (% BW)

Pullets fed corn had heavier GIT and gizzard than pullets fed wheat from 0 to 17 wk of age. Feeding crumbles continuously improved growth performance of the pullets at 17 wk of age but hindered GIT development. The GIT of the pullets adapts quickly to changes in feed form.

Conclusion

- Wheat supplemented with enzymes can be used successfully as a substitute of corn in diets for pullets from 1 to 17 wk of age.
- Pullets fed corn had heavier GIT and gizzard than pullets fed wheat from 0 to 17 wk of age.
- Feeding crumbles continuously improved growth performance of the pullets at 17 wk of age but hindered GIT development.
- The GIT of the pullets adapts quickly to changes in feed form.