POSTER

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New feeding strategies for organic egg production with reduced dietary phosphorus

Background

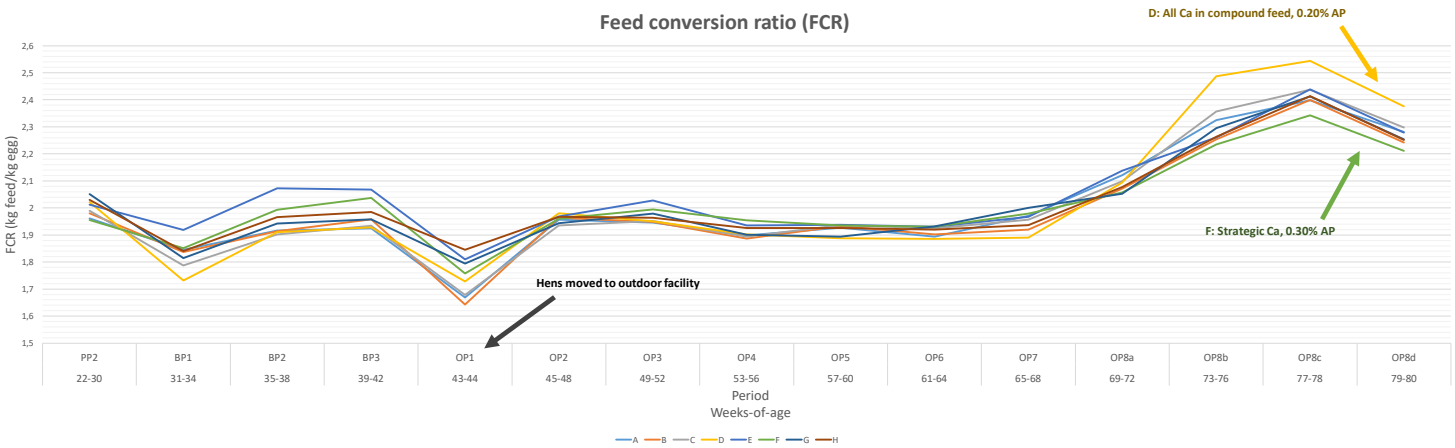
- Organic laying hens have a high demand for calcium (Ca) and phosphorous (P)
- Current feeding strategies and P-level recommendations may lead to an elevated P-excretion due to oversupplying
- High levels of P and supplementation of Ca via compound feed given during the day, where no shell formation occurs, can negatively affect productivity and result in leaching of excreted P to the surrounding environment.

Aim

- To investigate the effects of lowered dietary levels of available phosphorous (AP) and strategic allocation of a coarse Ca source in organic laying hens from 30 weeks-of-age (WOA) to 80 WOA

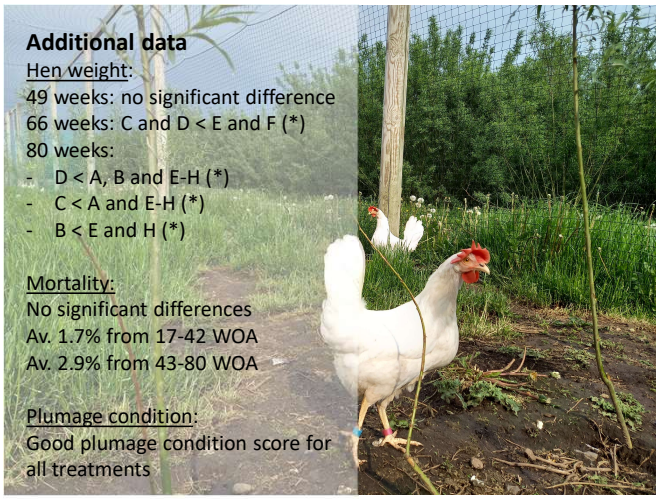
Experimental setup

- 1200 Dekalb White hens were fed one of four levels of P (0.20-0.35% AP)
- One of two Ca feeding strategies (Ca included in compound feed or fed separately at 4:30 PM to 7:30 AM).
- Production data were collected continuously during the experiment. Hen weight and plumage quality were obtained seven times during the study.



Experimental diets

	Ca exclusively from compound feed	20% of Ca in compound feed
0.35% AP	A	E
0.30% AP	B	F
0.25% AP	C	G
0.20% AP	D	H

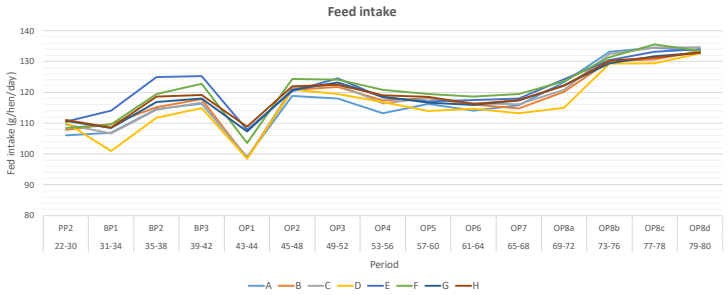


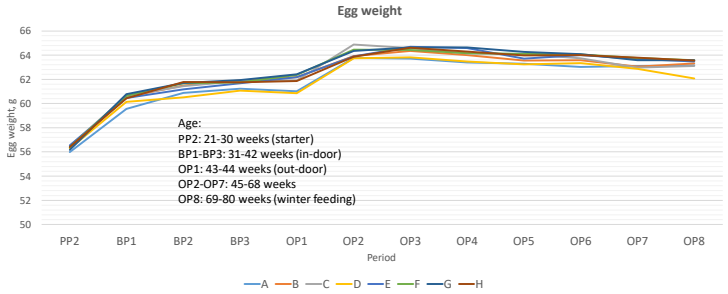
Additional data

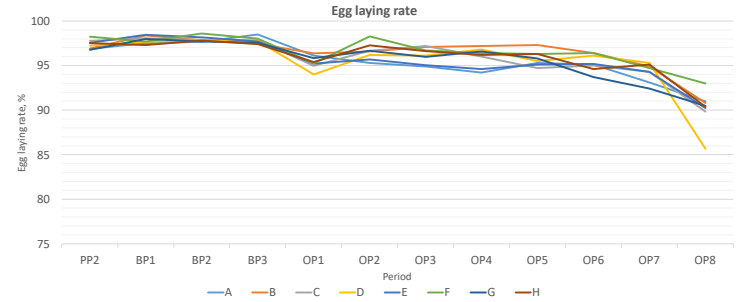
Hen weight:
49 weeks: no significant difference
66 weeks: C and D < E and F (*)
80 weeks:
- D < A, B and E-H (*)
- C < A and E-H (*)
- B < E and H (*)

Mortality:
No significant differences
Av. 1.7% from 17-42 WOA
Av. 2.9% from 43-80 WOA

Plumage condition:
Good plumage condition score for all treatments







Conclusions

- It is possible to reduce P-content in the feed considerably without impairing production results if coarse Ca is allocated as a separate source
- Hens may regulate their own Ca intake with this feeding strategy.

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