EFFECTS OF SPECS (OR POLYPEEPERS) ON EGG PRODUCTION, EFFICIENCY OF FEED CONVERSION AND BEHAVIOUR OF LAYING HENS IN CAGES AND FLOOR PENS

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Specs or polypeepers are devices which restrict the forward vision of hens. They were introduced about twenty years ago to reduce cannibalism in laying hens. Cumming and Epps (1976) found that specs, in addition, increased egg production by approximately 10% and increased the efficiency of feed conversion by approximately 17%. Specs have been prohibited in Great Britain on the grounds of cruelty, although no experimental evidence exists to support this contention.

Our recent experiments have studied the effects of specs on hens in floor pens, as well as in single and 3-bird cages and sought to determine the reasons for the enhanced productivity and efficiency of feed conversion of the spec hens. The production results are from about 4000 hens; the behavioural results from 128 hens. Behaviour was studied by direct observation and by continuous and time-lapse photography with an 8 mm Minolta cine camera.

During the first month, egg production was slightly reduced in the spec hens. Behavioural observations showed that spec hens had initial difficulties in feeding, as specs caught on wires on cages and showed increased stereotypic behaviour patterns such as protracted head shaking and neck preening (P<0.001). During the remaining 11 months, feeding difficulties and stereotypic behaviour patterns disappeared and spec hens outproduced the control hens.

Spec hens in cages were much quieter, spending 43% less time pacing (P<0.01). Specs reduced the number of social interactions by 33.6% (P<0.01) and aggressive behaviour (Score 1.8 vs score 0.8) (P<0.001) and suffered 70.5% less pecking damage to feathers (P<0.001). The adrenal glands of the spec hens were considerably lighter (approximately 50%) than those of control hens (P<0.001) suggesting a reduction in stress. The subordinate hens had freer access to feed (P<0.01). Spec hens ate 6.4% less feed, wasted less feed (P<0.05) and spent less time in eating (P<0.01) because they ate rather than played with the feed.

In floor pens, productivity and feed efficiency of spec hens was still greater, but there was not as great a difference between the groups in agonistic behaviour because in pens the subordinate hens could withdraw from the dominant hens. Studies are in progress to determine cortisol and thyroxine levels, as well as metabolic rates in the two experimental groups.

In summary, improved egg production and feed efficiency of spec hens was found to be due in part to reduced activity, time spent eating and agonistic behaviour which reduced stress and increased access to feed by spec hens. Better insulation due to reduced pecking damage helped to reduce food requirements, especially in winter. There was no evidence of cruelty in the use of specs — in fact they reduced stress and appeared to produce "happier" hens.


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