"This paper is dedicated to the memory of John Barnett, a brilliant scientist who was committed to improving poultry welfare standards through the study of stress physiology and the development of welfare audits. His astute advice on poultry welfare issues and his contributions to research and teaching in Australia will be greatly missed"

Attracting laying hens into range areas using shade

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A concern for the free-range layer system reported by Hegelund *et al.* (2005) is that only 9% of birds use the range area. The factors which influence use of the range include weather (temperature, wind and rain), season, age, flock size, time of day and shade (Hegelund *et al.*, 2005). This current trial examined the role of shade areas in attracting laying hens into the range. A total of 120 laying hens (Hy-Line Brown) were housed at 18 weeks in an eco-shelter (6m x 6m) located in the centre of a paddock with dimensions 66m x 66m. The eco-shelter had 6 internal pens of equal size (2m x 3m) with a free range area (726m2) adjoining the shelter. Hens were provided feeders, drinkers, nest boxes and perches in each pen but no artificial light. Layers were randomly allocated into 6 groups of 20 birds. There were 2 treatments provided in the range, shade *vs.* no shade, with each treatment replicated 3 times. The control hens were not provided with outdoor shade while the treatment hens were provided with a shaded area (3m x 2m x 1m= l x b x h) fitted with shade cloth located 10 m and 20 m from the shed. Over the late summer period from 32-44 weeks (March-May, 2008) hens were allowed access to the range and measurements were made daily for egg production, weekly for egg weight and four weekly for feather score. There was little forage available for birds due to prevailing drought conditions in South Australia. Video records were made of hens from each of the replicates using the shade or in the range for a 1hour (h) period in the morning and afternoon at 38 weeks when average maximum temperature was 27.5°C. A total of 12h of video tape was assessed. Data were analysed using ANOVA in the Systat software. In the morning shaded areas were visited by 18% of the hens with a tendency (P=0.07) for more hens to be in the paddock; 43% for paddocks with shade compared to 25% for the paddocks with no shade provided. In the afternoon there were no difference between treatments for hens that used the range (30% for shade treatment *vs.* 40% no shade; P=0.49). Only 10% of hens used the shade in the afternoon. There was no significant difference (P=0.22) for hens (12%) in the shade closer to the shelter *vs.* the shade (6%) provided 20m from the shelter. There was no significant effect on production and feather score of hens whether they were provided shade or no shade in the range. The provision of shaded areas in the free range attracted some additional hens into the range but other attractants are needed to encourage more hens into the paddocks, particularly during the summer season.

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