

Effect of alternative housing on the welfare of commercially raised ring-necked pheasants

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Game Farming in the UK

- Birds released for shooting
- Practise contentious and politicised



- Welfare concerns raised at all levels
- Research into commercial practise or welfare extremely limited

Productivity of commercial pheasant flocks in the UK



- Hatchability of pheasant eggs in the UK is only ~68% of eggs set
- Egg fertility is a major factors reducing hatchability (range 0.2–20.3%)

- Flock size: 10 → 300+ birds per pen
- There is little consensus on which ratio gives the best results

Breeding pheasants



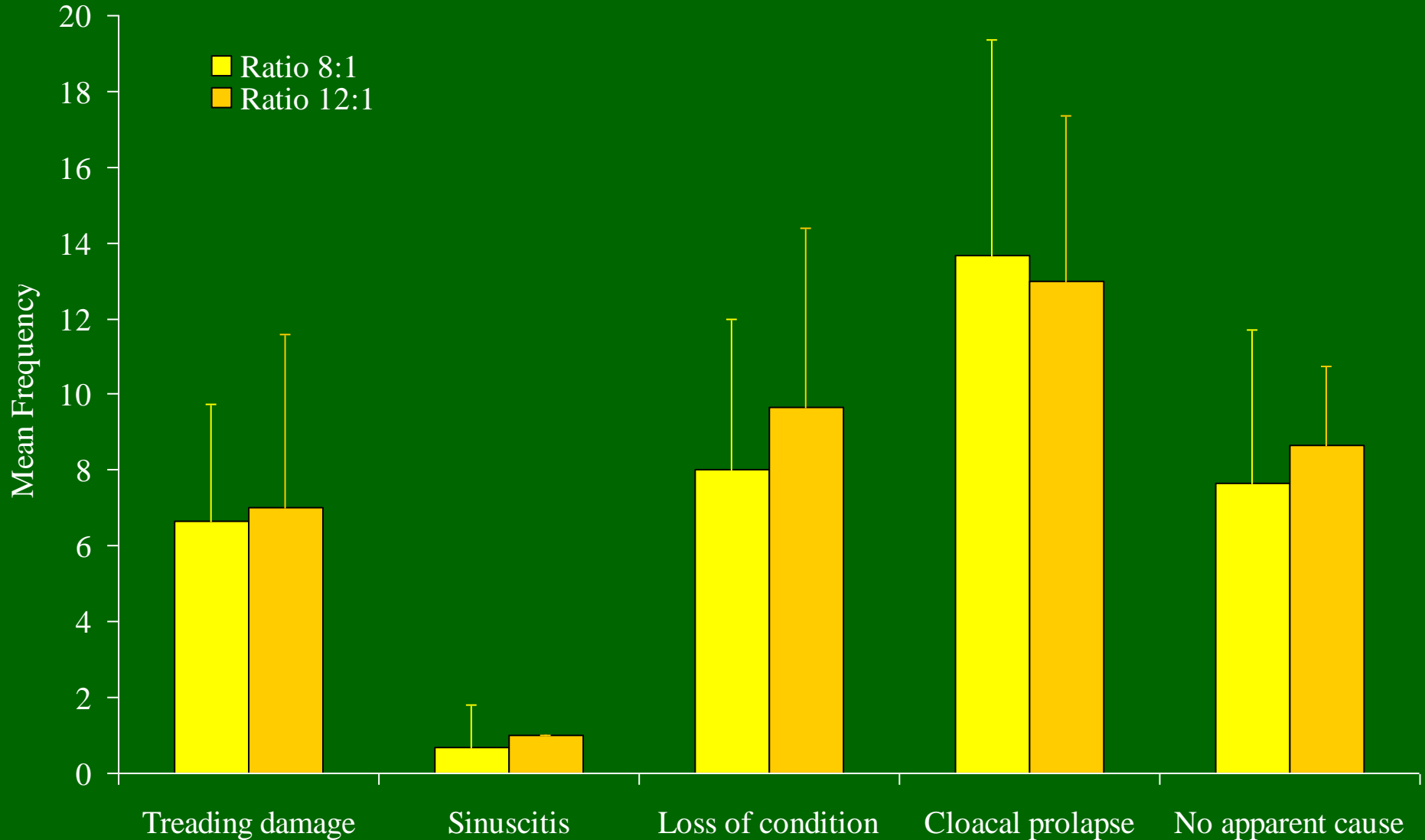
- Breeding pheasants are kept in a range of groups sizes and sex ratios
- 7:1 → 250:32 F:M

- Factors affecting commercial production
 - Breeding conditions
 - Fertility
 - Artificial incubation
 - Rearing conditions
- Emphasis on reproduction



Mean (+SD) total frequency of the causes of female mortality for the two mating ratios.

Deeming & Wadland (2002)



Factors affecting fertility in commercially raised ring-necked pheasants



- Research from 2010 looking at environmental enrichment and its effects on breeding pheasant behaviour and welfare



Effect of sight barriers



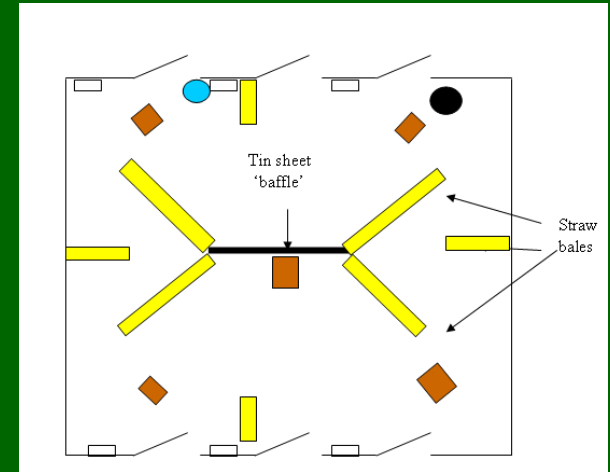
- Broiler breeder sheds with visual barriers have higher egg production, fertility and hatchability (Leone & Estévez, 2008).
- Hypothesis – sight barriers in breeder pheasant pens would provide refuges for birds and reduce aggression
- Data collected by Holly Hodges, myself & Jonathan Cooper



Effect of sight barriers



- 13.2 m x 13.2 m – 56:8 F:M
- N = 11 ‘open’ and N = 11 ‘barrier’”
- Bird mortality
- Plumage score
- General time budget
- Specific social behaviours – aggression & courtship

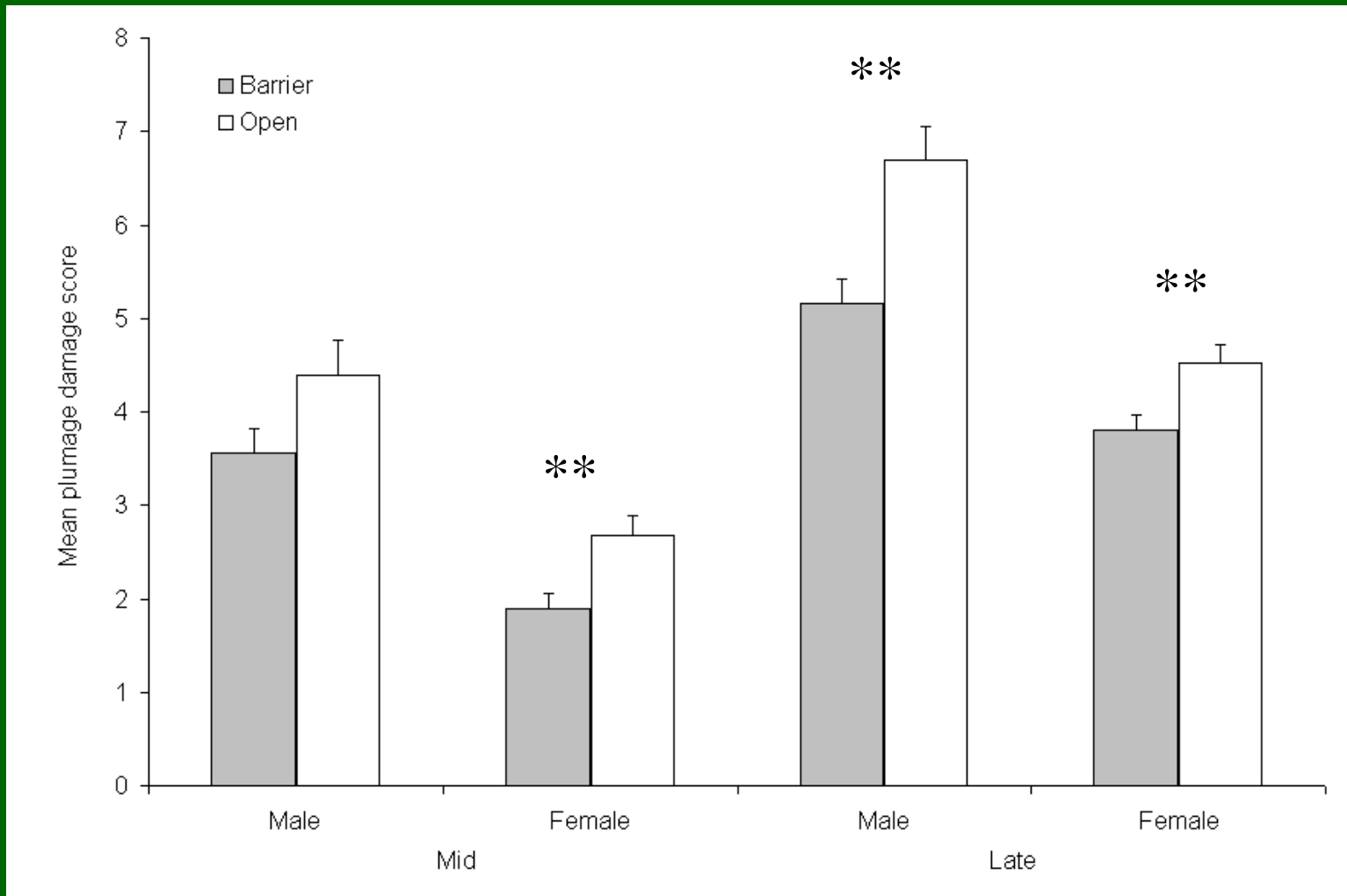


Effect of sight barriers: Bird mortality

- There was a higher rate of mortality in males (6.25%) than females (2.11%)
- Pen type did not influence mortality.
- No effect on overall sex ratio
- Levels comparable to industry levels

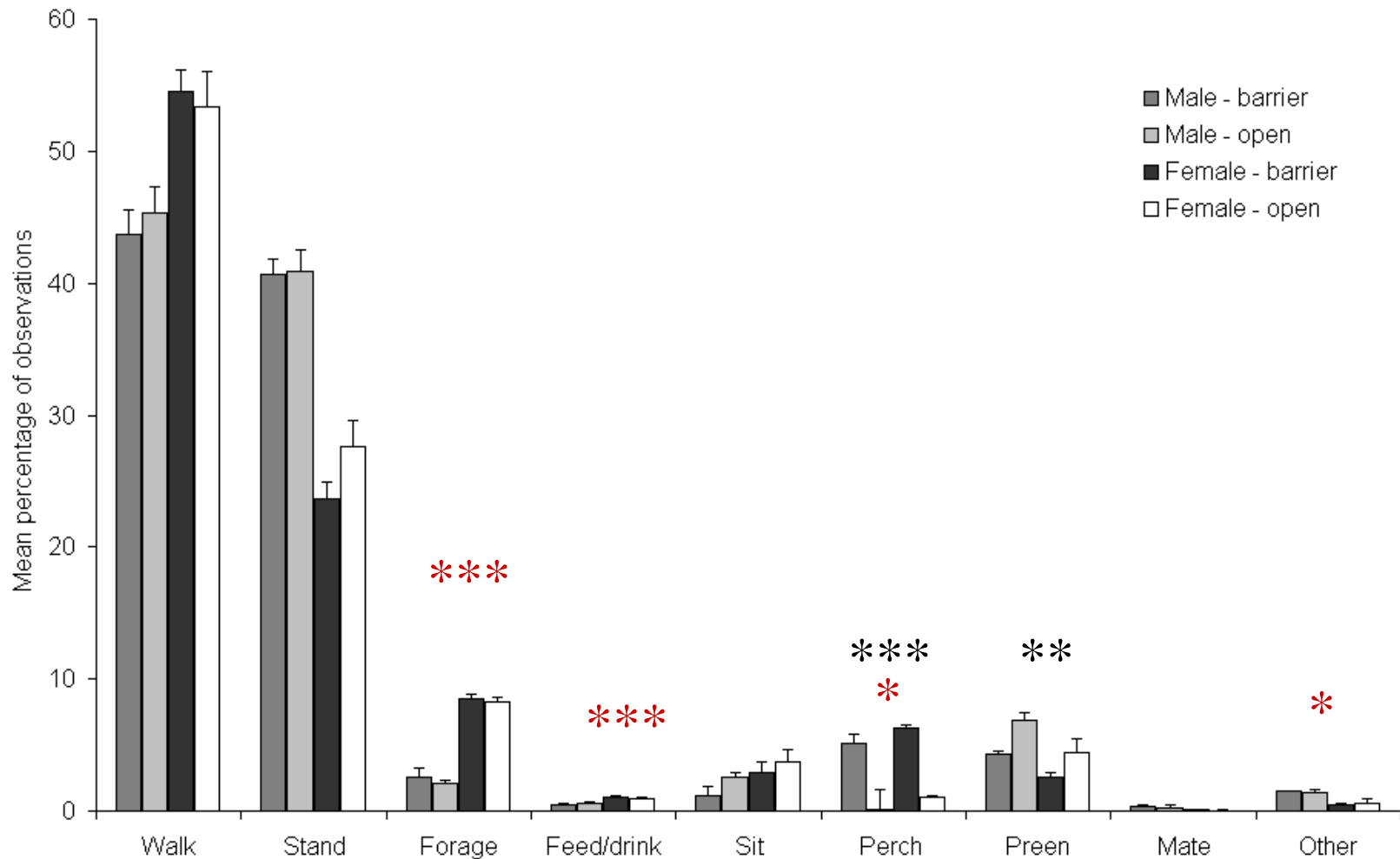


Effect of sight barriers: Plumage score



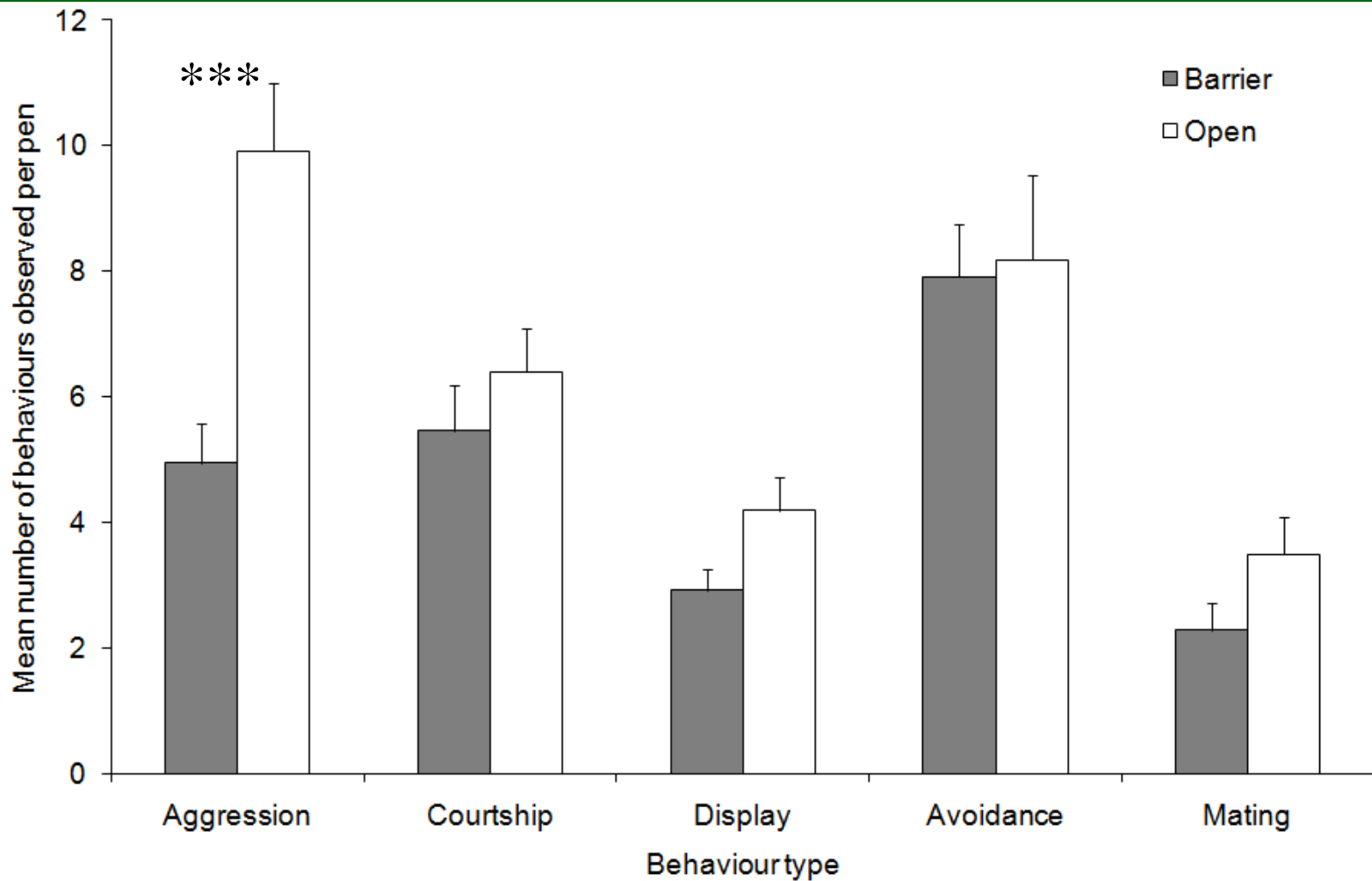
Effect of sight barriers on mean (+ SE) plumage damage score (high score = more damage) for male and female pheasants.

Effect of sight barriers: Time budget



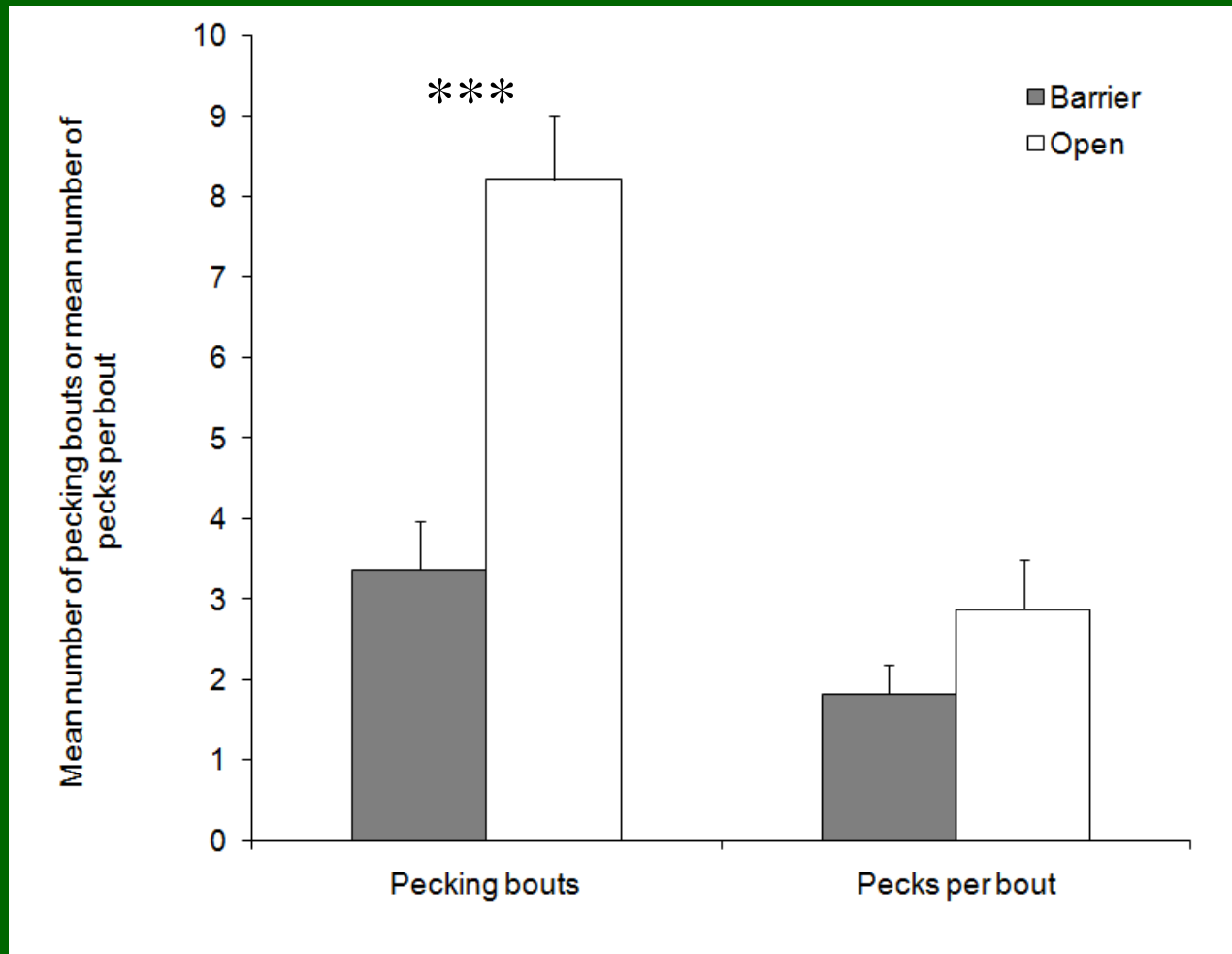
Effect of sight barriers on mean (+SE) percentages of behaviours in male and female pheasants

Effect of sight barriers: Social behaviour



Effect of sight barriers on mean (+SE) numbers of specific social behaviours in male and female pheasants

Effect of sight barriers: Number of pecks



Effect of sight barriers on mean (+SE) numbers of pecking bouts and number of pecks delivered in male and female pheasants (combined)

Effect of sight barriers: Summary

- Sight barrier have beneficial effects on bird welfare (reduced aggression and plumage damage) and reproductive performance (fertility and hatchability)
- Uncertain how effects on fertility are achieved – greater mating or more effective copulation?
- Barriers are simple and cheap to erect and have benefits for welfare
- Hoped that the effects on fertility will serve as an economic incentive to adopt this method and to stimulate funds for more research



Effect of sight barriers

- Thank you for kind attention
- Funded by
- Marsden's Game Feeds
- Game Farmers' Association
- Universities Federation for Animal Welfare
- University of Lincoln

