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FARMING AND GROWING

Life in a cage

Science says chooks should run free
Dr. Michael C. Morris puts the scientific evidence that keeping hens in battery cage systems is unacceptable.

In a leaked report, the National Animal Welfare Advisory Committee (NAWAC) ruled against phasing out of battery hen systems in New Zealand. NAWAC instead recommended further research, stating that welfare problems are present in all systems of layer hen management (battery, barn, perchery and free range). NAWAC placed emphasis on an Australian review, which based its conclusions on a small part of the scientific literature available. The review dismissed public concerns as "unscientific", and also did not take into account a great deal of evidence gathered by respectable animal welfare scientists.

In this article I provide evidence from trained scientists backing up the common sense view that hens suffer more in battery cages than in well run alternative systems.

Cage layer osteoporosis and bone weakening
 In today's high production layer hens, absorption and transport mechanisms for calcium are not efficient enough to cope with the extra burden of egg production. Calcium is therefore removed from the bones to make eggs. This results in a general weakening of bones, which is exacerbated by the lack of exercise among severely confined hens. Leg bones are often not strong enough to support the hen's weight. As a result, hens in caged systems often collapse and die in the cages. In addition, when "spent" hens are removed from cages, and shackled prior to slaughter, approximately a third of hens suffer from broken bones, double the number from free-range systems.

The bones of hens in percheries are stronger than those of hens from



batteries, but post mortems reveal a high percentage of old fractures due to flight injuries to some extent, and one study concluded that this means welfare problems due to broken bones are worse in free-range or perch systems. However, the study failed to take account of hens that had died as a direct result of bone weakening in battery cages. If these are factored into the equation, then the percentage of fractures is approximately equal between battery and free-range hens.

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In addition, although flight accidents can be common in percheries, these can be reduced through better perchery design, including reducing the distance between the perching frame and the nest box, and providing stairwells between perches.

Foot injuries
 Lesions, fissures, hyperkeratosis of the feet, and twisted and broken claws are more prevalent in battery than alternative systems. A New Zealand study found that 33-92 percent of battery hens suffered from 'cracked or open calluses' on the feet. All farms surveyed had volunteered to have their flocks inspected, so these were probably the better managed systems. Foot injuries occur in percheries, but again these can be reduced through perchery design. For example, inflammation and general mortality can be reduced by providing three tiers of perches instead of two.

Abrasion and feather loss
 Abrasion and feather loss is seen far more in hens from battery cages than from other systems. It is caused both by abrasion and feather pecking. The Federation that this is due to moulting has no scientific basis. Feather loss is selectively lost from areas that would be subject to high levels of abrasion, such as the neck and breast. Abrasion is also more common in hens that have been in cages longest.

Beak trimming
 Amputation of part of the beak (euphemistically described as beak trimming) is performed to reduce feather pecking and cannibalism in hens. Studies on peripheral nerve activity suggest that partial beak amputation is extremely painful. The beak of hens is a complex sensory organ, with a rich supply of pain receptors. In addition, bundles of nerve fibres (neuromata) form on the stump. Discharges from these fibres indicate that the pain from the stump is long lasting and intense. Similar chronic pain has been reported in human amputees.

Behavioural studies on adult hens
 show that hens avoid non-essential use of their beak for six weeks after amputation. Dozing and general inactivity can last up to 252 days. These and the other behavioural abnormalities have prompted behavioural scientists to conclude that there is a possibility of "depression" resulting from a chronically painful condition.
 The Egg Producers' Federation states that there is little or no pain

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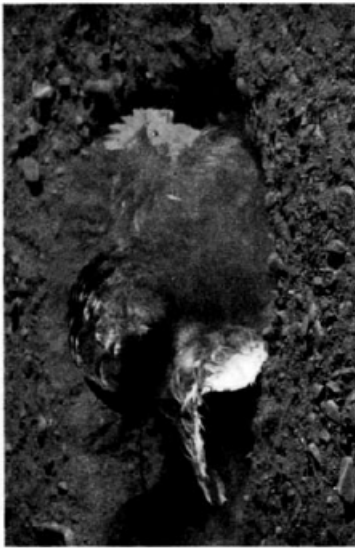


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involved if beak trimming is performed early in the life of a chick. What little evidence is available does not back up this claim, but in fact confirms that chicks avoid using their beaks for two weeks after the operation.

Advisers on MAF policy claimed that debanking in young chicks "may be" less traumatic. However, the study in their report did not justify even this guarded claim. The study compared production levels and mortality in debanked and non-debanded hens in conditions where the hens could peck each other. No attempt was made to compare mortality directly attributable to beak trimming.

Beak trimming is performed in all systems in New Zealand. A 1992 study found it was practised in 100 percent of the battery systems surveyed. (The figure has now been reduced. However, battery producers that do not beak trim have to dim the lighting to such a level that hens suffer through sense deprivation and physical eye abnormalities.) Beak trimming is performed in all barn systems accredited by the RNZSPCA and is carried out in about 50 percent of hens from RNZSPCA accredited free range systems. However, all accredited free-range farms must abolish the practice in June 2005.

Behavioural deprivation

Cannibalism and feather pecking are "misdirected" behaviours, which come about when a hen is unable to pursue her natural foraging and pecking practices. They can be reduced or eliminated by providing an enriched environment, as documented by numerous studies. Selective breeding, and judicious use of less aggressive strains also reduce aggressive behaviour.

There is still a tendency to dismiss the notion that animals suffer psychologically through behavioural deprivation. However, it is well known that animals display the same aggressive, repetitive and stereotypical behaviour as that seen in frustrated or mentally disturbed humans. Unless one is prepared to make the unscientific assertion that animals and humans evolved through a totally different process, then there is no valid reason to suggest that emotions such as boredom, fear and frustration are

Hens are genuine hedonists, seeking out pleasure for the sake of it.

Hens deprived of opportunities to dust bathe, lay their eggs in the nest boxes, forage, peck and sleep on perches, all show behaviour indicative of mental disturbance, including "vacuum disturbing", "vacuum resting", feather pecking, and increased restlessness and looking off for non-existent perches. The cognitive abilities of hens have also been impaired through depriving them of perches.

Battery hens show intense fear, described by one scientist as "hysteria", when confronted with human presence or other unfamiliar stimuli. In contrast, hens that have been exposed to enriched environments are far less fearful and showed more exploratory behaviour when placed in unfamiliar conditions.

The preference of human subjects for different outcomes can be measured quantitatively by their willingness to pay for such outcomes, either in monetary terms or in some other measurable commodity. Hens are generally strapped for cash, so experimenters instead measure how much a hen is prepared to work for an outcome. Such experiments provide further evidence that battery hens are frustrated in their current environment. Hens will go to

considerable lengths, lifting heavy weights, walking through air blasts, and pushing open swing doors to gain dust baths, nest boxes, and enough space to spread their wings.

Interestingly, hens will work hard for a dust bath even if they have already taken one. This suggests an emotional state that surpasses a mere instinct to obtain something of survival value. Hens are genuine hedonists, seeking out pleasure for the sake of it.

Conclusion

Hens suffer physically and psychologically in cages. Physical suffering can also be present in alternative systems, but this can be mitigated through good management. In contrast (and this is essential to the debate) physical and psychological suffering in battery hens is inherent in the system and comes about as a direct consequence of barren and cramped confinement.

As such, welfare problems in battery cages can only be eliminated by abolishing cage production. Welfare issues in alternative systems can be addressed through minimum standards. These should include a phase out of beak amputations, and preference for free-range systems. It is possible that well-designed perchery systems, as used in Switzerland, may be another humane option. ■

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