CHAPTER 7

HUSBANDRY PRACTICES

7.1 Several husbandry practices in the poultry industry were the subject of concern during the inquiry. These practices included beak trimming, induced moulting and the use of artificial lighting cycles.

7.2 The practice of beak trimming has been criticised by some welfare groups who see it as a distasteful mutilation which is painful to the bird and may have adverse long-term effects. Some methods of induced moulting have also been criticised as inimical to welfare, as have the use of artificial lighting patterns to enhance production performance. Each of these issues is discussed below.

Beak Trimming

7.3 Beak trimming refers to removal of part of the beak of the chicken. Generally the portion of the beak removed varies, ranging from one third of the upper mandible to the whole beak.[1] The amount removed may also vary as between upper and lower mandible, for example, two thirds upper, one third lower. Research indicates that beaks continue to grow after trimming, and by 65 weeks will be 12 per cent shorter than normal beaks.[2]

7.4 The Model Code of Practice for the Domestic Fowl prescribes that not more than half of the upper beak and one-third of the lower beak be removed, but the Committee received evidence that there was considerable variability in the results. Greater uniformity occurs overseas, possibly because it is done before 12 weeks of age in some countries. Evidence

indicated that beak trimming in Australia is done from 18 to 22 weeks. Other evidence indicated that chickens are generally beak trimmed in hatcheries at one day of age, or on the farm at 7-10 days of age.[3] However, the evidence did not support a specific time (age of chicken) being prescribed in the Code.[4]

7.5 According to the Australian Council of Egg Producers (ACEP), beak trimming involves removal of the very tip of the beak (usually the upper mandible). The procedure is extremely quick, and is carried out using a hot blade.[5] The most commonly used method is to remove about one third of the upper beak and a little of the lower beak, by electrocautery. An electrically headed blade is used to simultaneously cut and sear the beak to prevent bleeding.[6]

7.6 The responses of birds to beak trimming varies according to the age of the bird. Research has indicated that the earlier in life birds are beak trimmed, the smaller their responses. Research suggests that adult birds may suffer short term pain and/or fear, reduced food intake for a period, and reduced body weight but little effect on egg production. Most investigations have not shown a significant effect on mortality.[7]

7.7 Beak trimming may be repeated later in the growing period if necessary, usually to prevent or curb an outbreak of cannibalism.[8]

Reasons for Beak Trimming

7.8 Beak trimming is used to prevent or eliminate cannibalism, and pecking between birds (feather pecking); activities which can occur in all housing systems.[9]

7.9 The Australian Veterinary Association (AVA) argued that beak trimming is widely practiced by the industry to control cannibalism, and is justified on welfare as well as economic grounds. The AVA stated, however, that standards of practice could be improved by better staff training and less incentive for haste.[10]

7.10 Injury to birds occurs during normal social interaction between birds as they establish dominance (peck orders). Sick or injured birds, and those with oviduct protrusion are also attacked. Injuries, presumably, are painful and can result in bleeding, infection, and carcass downgrading.[11]

7.11 Some strains tend to feather peck, which can lead to cannibalism. What triggers cannibalism is not fully understood, although reduced lighting intensities do inhibit both activities.[12]

7.12 Certain strains of layers are prone to prolapse, and the oviduct everts on laying. The oviduct is bright red which encourages cannibalism.[13]

7.13 The banning of beak trimming would lead to heavy mortality in flocks (estimated at up to 30 per cent) and extensive injuries would also increase.[14]

Consequences of Beak Trimming

7.14 Evidence to the Committee indicated that beak trimming does cause at least temporary pain. Evidence was given that the beaks of chickens are enervated.[15] Research has identified some of the types of nerve cells which, in other species, for example, humans are sensitive to pain.[16] Dr Kite told the Committee it was possible chickens experience some pain as a result of beak trimming, but the extent of the pain was difficult to quantify.[17] While it is difficult to quantify pain in humans, let alone in birds, research is being conducted to try to quantify the pain experienced by chickens due to beak trimming.

7.15 The Australian Veterinary Association (AVA) submitted that beak trimming 'causes immediate pain and short-term discomfort' but is essential to minimise prolonged suffering due to cannibalism.[18] Observations of producers indicate that birds are reluctant to peck at feed for perhaps a number of hours to a day or two after beak trimming. Beyond that, from observation, birds appear to behave normally.[19]

7.16 Other evidence, from Mr Miller of the Victorian Department of Agriculture and Rural Affairs, indicated that if beak trimming was done correctly, there did not appear to be any lasting consequences for the bird.[20]

7.17 Beak trimming at day old produces least fear and pain in chickens. Evidence from NSW Department of Agriculture and Fisheries indicated that if carried out at under 10 days of age, beak trimming does not adversely affect feed intake, growth rate or subsequent egg production.[21]

7.18 The long-term neurological consequences of beak trimming have been investigated at the Poultry Research Centre, Midlothian, Scotland. The studies have found that beak trimming damaged the nerves of the beak for up to three millimetres from the cut end. By six days, the damaged nerve had degenerated, but by 10 days there was evidence of regrowth. By fifteen days a neuroma was present at the end of the nerve stump. In some birds, a large and complex neuroma formed adjacent to the scar tissue at the end of the beak. The authors concluded that these findings were consistent with the formation of neuromas following peripheral nerve damage in humans, rats and mice which are implicated in post-amputation stump pain.[22]

7.19 If beak trimming is done badly, it can cause the bird problems. Dr Murphy, a poultry researcher, in evidence to the Committee argued that it was essential to ensure 'that beak trimming was always done by people who were properly trained'.[23]

7.20 The practice of beak trimming also causes the bird some stress. Actual handling of the bird is stressful; studies indicate heart rate is elevated more, or as much by handling, than the actual beak trimming.[24] Gradual increase of the fear response to being caught, handled, and beak trimmed occurs as the birds age.[25]

7.21 Research is being conducted into the stress effect of beak trimming to establish the 'optimum' age to beak trim in relation to stress and performance.[26]

7.22 Evidence to the Committee also indicated that beak trimming reduces the bird's ability to preen itself and remove external parasites. In well-managed housing systems, however, external parasites are normally kept under control.[27]

When Beak Trimming is Performed

7.23 Evidence submitted to the Committee indicated considerable variation as to the age of chickens when beak trimming is performed. The Committee saw trimming at eight days but were informed that usually it is done at about 15 days.[28]

7.24 Precision in performing beak trimming was of concern to some witnesses, including Mr Macindoe of the NSW Department of Agriculture and Fisheries, who argued that there was a need to improve the exactness and skill of operators.[29]

Alternatives to Beak Trimming

7.25 One alternative to beak trimming for mature birds is the fitting of 'polypeepers'. These are small pieces of plastic which clip onto a chicken's beak and obstruct forward vision preventing direct focus, eye-to-eye contact, with other chickens; peripheral vision is, however, unimpaired. The AVA argued that polypeepers should be used with care as they can injure the nasal septum, get caught in the cage and may make feeding, drinking and nesting more difficult.[30] Polypeepers are seldom used in Australia.

7.26 The use of dietary supplements and drugs have been successfully used overseas to reduce aggression in chickens and as an alternative to beak trimming, although this method has not been used in Australia.[31]

7.27 The need for beak trimming may be reduced given the change in the temperament of layer strains, with some modern strains being more docile.[32] Encouragement of this development, and an increasing trend towards controlled environment housing was seen as reducing the incidence of cannibalism which in turn, may reduce the need for beak trimming.[33]

7.28 Various witnesses supported the concept of genetic selection for birds less prone to cannibalism which could also minimise the need for beak trimming.[34] Control of light intensities, with quite low light intensities, also appears to reduce the incidence of cannibalism and hence the need for beak trimming.[35] These alternatives, in themselves, raise concerns regarding welfare: for example, continuous reduced lighting arguably alters certain aspects of the birds' natural behaviours.

Standards of Practice

7.29 Evidence to the Committee indicated that it was essential that beak trimming be carried out with precision by experienced operators using proper equipment. The NSW Department of Agriculture and Fisheries indicated that 80 per cent of beak trimming is now performed by hatchery operators and professional contractors.[36]

7.30 The AVA submitted that staff training could be improved in this area.[37] In Victoria, Mr Miller indicated that the industry self-regulated, and operators who did not beak trim correctly were not re-employed.[38] Currently, the training of new operators is done by poultry companies or contractors.[39] Most beak trimmers employed by hatcheries are paid on a piece rate basis.

7.31 The AVA submitted to the Committee that formal training and licensing of beak-trimmers may ensure a higher and more consistent standard of practice.[40]

Conclusion

7.32 The Committee does not oppose the practice of beak trimming although it considers the procedure should be performed at the optimum time to avoid stress to the bird. The Committee supports research into temperament of layer strains, and the use of less invasive methods to control cannibalism. The Committee believes that beak trimming should only be performed by competent operators and **recommends** that more formal training and supervision be introduced by the poultry industry for beak trimmers so that improved standards of practice may be achieved.

Induced Moulting

7.33 Natural moulting occurs when birds are between 8-12 months of age.[41] Egg production ceases, and feathers are shed before the birds build up body reserves in preparation for another season of egg production.

7.34 In a natural environment, moulting occurs during autumn and winter being induced by declining day length, reduced temperature and reduced feed availability. A moult can also occur at other times as a natural response to stress.[42]

7.35 Moulting may be deliberately introduced in poultry as a management technique. The reasons include:

- extension of the productive life of layers - a second period of egg production can be gained from the flock without the costs associated with buying and/or rearing replacement birds;
- larger eggs are produced during the second laying period; and
- egg quality may also be improved.[43]

7.36 Other evidence indicated that egg production after a moult is generally lower than in the first year of lay. Methods used in induced moulting not only attempt to shorten the time of the moult, but also to increase post-moult production.[44]

7.37 The economic success of induced moulting depends on how quickly and uniformly the flock can be taken out of lay and brought back into full production again.[45]

Procedures for Induced Moulting

7.38 There are various methods of inducing a moult in laying hens. Such methods include turning off supplementary lights to reduce day length, increasing shed ventilation to reduce temperatures, and reducing food and water intake.[46]

7.39 Force moulting by the starvation method (depriving birds of food and water for up to two weeks) is unacceptable to both veterinary and animal welfare groups.[47] The traditional method of inducing a moult involves 'fasting' the birds by severely restricting the food supply for a period of 6-10 days, although water is provided at all times.[48]

7.40 The Committee considers deprivation of food and water an unacceptable practice. The Committee notes that the matter is addressed in the Code of Practice, which in relation to hens, states that water should not be withheld for more than 24 hours, and food for no more than 48 hours.[49]

7.41 The Australian and New Zealand Federation of Animal Societies (ANZFAS) in its submission to the Committee was opposed to any method of induced moulting that involved the deprivation of food and water. The Federation considered that other methods now being considered to replace the traditional ones should be viewed with concern and referred to research into dietary levels of specific nutrients on moulting and their adverse welfare effects.[50]

7.42 An alternative, and now recommended as preferred, method of induced moulting being used successfully in Australia is feeding whole barley ad libitum.[51] Whole barley grain is used without restriction of water or lighting. This is continued until egg production ceases (usually within several days) when normal feed is introduced.[52] Once normal feed is re-introduced, biochemical changes, including activity of the thyroid, triggers the laying cycle. Barley may produce the same effect on the endocrine system as fasting, while still allowing the birds to feed.[53]

7.43 The barley method has the potential to allow hens to be kept on for two laying seasons and may not be experienced as deprivation as the hens are still ingesting the same volume of food.[54]

Welfare Effects of Induced Moulting

7.44 Little research has been done on the stress effects of induced moulting. While the practice causes some stress, albeit shortlived, continuous egg production itself is stressful.[55] As previously noted, moulting occurs naturally in laying hens.

7.45 Various methods of inducing a moult by dietary manipulation include calcium restriction, sodium restriction, high iodine or high zinc in the diet. Some research has been done into these methods, however, none are considered suitable for commercial use.[56]

7.46 There is a need for further research into the stress and welfare aspects of induced moulting, while continuing to seek less stressful methods of inducing a moult.[57]

7.47 The Committee does not recommend prohibiting induced moulting. To do so would result in birds being slaughtered and replaced at the end of the first laying season.[58]

7.48 The Committee believes that moult inducement is an acceptable management practice provided it causes only minimal stress to the hens. The Committee therefore **recommends** that only humane methods of induced moulting be utilised and notes, with approval, the preferred method of feeding barley ad libitum. The Committee believes that moulting practices that deprive birds of food or water for excessive periods cannot be justified on welfare grounds and **recommends** that the starvation method of induced moulting be prohibited.

Artifical Lighting Cycles

7.49 Light intensity and duration govern a number of important physiological and behavioural functions of poultry, for example, their activity, their feeding habits and their reproductive cycle. Under natural conditions, poultry are normally active and feed during daylight hours, resting at night. Hens are typically maintained on a constant lighting schedule of 16 hours light and 8 hours darkness.

7.50 Intensive housing systems commonly provide artificial light so that the duration and intensity of light may be controlled. Day length is controlled to bring breeding and commercial egg producing poultry into lay and to maintain egg production througout the year. Light intensity may be reduced to minimise activity and thereby improve feed conversion efficiency.

7.51 Evidence to the Committee by the ACEP, AVA and AFWA indicated that the lighting programs used by the commercial poultry industry do not adversely effect welfare.[59]

7.52 AFWA noted that:

> There is no evidence that these practices, derived from scientific knowledge of poultry physiology and behaviour, are detrimental to the birds' welfare. On the contrary, the improvements in egg production, growth and low mortality achieved are evidence of lack of stress in the flocks involved.[60]

7.53 The ACEP also noted that laying flocks are not routinely kept under conditions of continuous light as this would actually depress their productivity.[61] In addition, AFWA noted that light intensities may be reduced to effectively control feather pecking and cannibalism.[62]

7.54 The Committee believes that, on the basis of the evidence received, the lighting cycles currently employed by the industry do not adversely affect the welfare of laying hens.

ENDNOTES

1. Evidence, Australian Federation for the Welfare of Animals, p. S8942.

2. M.J. Gentle, 'Beak Trimming in Poultry', WPSA Journal, Vol. 42, No. 3, October 1986.

3. Evidence, NSW Department of Agriculture and Fisheries, p. S8178.

4. ibid., p. 8776.

5. Evidence, Australian Council of Egg Producers, p. S8154.

6. Evidence, Australian Veterinary Association, p. S8777.

7. Evidence, Australian Federation for the Welfare of Animals, p. S8942.

8. Evidence, NSW Department of Agriculture and Fisheries, p. S8178.

9. Evidence, Australian Veterinary Association, p. S8777; and NSW Department of Agriculture and Fisheries, p. S8178.

10. Evidence, Australian Veterinary Association, p. 9349.

11. ibid., p. S8777.

12. Evidence, Victorian Department of Agriculture and Rural Affairs, p. 9413; and NSW Department of Agriculture and Fisheries, p. 8766.

13. Evidence, Australian Veterinary Association, p. 9354.

14. Evidence, NSW Department of Agriculture and Fisheries, p. S8179.

15. Evidence, Australian Council of Egg Producers, p. 8723.

16. Gentle, op. cit.

17. Evidence, Dr Kite, NSW Farmers Association, p. 8724.

18. Evidence, Australian Veterinary Association, p. S8766.

19. Evidence, Australian Veterinary Association, p. 9353.

20. Evidence, Mr Miller, Victorian Department of Agriculture and Rural Affairs, p. 9412.

21. Evidence, NSW Department of Agriculture and Fisheries, p. S8178.

22. Letter to the Committee from the Australian Veterinary Poultry Association, dated 27 September 1989.

23. Evidence, Dr Murphy, p. 9555.

24. Evidence, Australian Council of Egg Producers, p. 8724.

25. Evidence, NSW Department of Agriculture and Fisheries, p. S8178.

26. ibid., p. S8179.

27. Evidence, Australian Federation for the Welfare of Animals, p. 9529.

28. Evidence, Australian Council of Egg Producers, p. 8724.

29. Evidence, Mr Macindoe, NSW Department of Agriculture and Fisheries, p. 8766.

30. Evidence, Australian Veterinary Association, p. S8778.

31. Evidence, NSW Department of Agriculture and Fisheries, p. S8178.

32. Evidence, NSW Department of Agriculture and Fisheries, p. 8766; and Victorian Department of Agriculture and Rural Affairs, p. 9413.

33. Evidence, NSW Department of Agriculture and Fisheries, p. 8766.

34. Evidence, NSW Department of Agriculture and Fisheries, p. S8179; and Australian Veterinary Association, p. 9349.

35. Evidence, Australian Federation for the Welfare of Animals, p. 9534; and NSW Department of Agriculture and Fisheries, p. S8178.

36. Evidence, NSW Department of Agriculture and Fisheries, p. S8178, p. S8766.

37. Evidence, Australian Veterinary Association, p. 9349.

38. Evidence, Mr Miller, Victorian Department of Agriculture and Rural Affairs, p. 9413.

39. Evidence, Dr L. Murphy, p. 9549; and Australian Veterinary Association, p. S8778.

40. Evidence, Australian Veterinary Association, p. S8778.

41. Evidence, Australian and New Zealand Federation of Animal Societies, p. S8839.

42. Evidence, Australian Veterinary Association, p. S8778.

43. Evidence, NSW Department of Agriculture and Fisheries, p. S8181, Evidence, Australian Veterinary Association, p. S8778.

44. Evidence, Australian and New Zealand Federation of Animal Societies, p. S8839.

45. Evidence, Australian Veterinary Assocdiation, p. S8778.

46. Evidence, Australian Veterinary Association, p. S8778.

47. Evidence, Australian Veterinary Association, p. 9350, p. S8767, p. S8779; and Australian and New Zealand Federation of Animal Societies, p. S8834, p. S8837, p. S8839.

48. Evidence, NSW Department of Agriculture and Fisheries, p. S8181.

49. Evidence, Australian and New Zealand Federation of Animal Societies, pp. S8839-8840.

50. Evidence, Australian and New Zealand Federation of Animal Societies, p. S8840.

51. Evidence, NSW Department of Agriculture and Fisheries, p. S8181; Australian Veterinary Association, p. S8779, p. S8793; and Australian and New Zealand Federation of Animal Societies, p. S8840.

52. Evidence, Australian Veterinary Association, p. S8783.

53. Evidence, Australian and New Zealand Federation of Animal Societies, p. S8840.

54. ibid.

55. Evidence, NSW Department of Agriculture and Fisheries, p. S8181.

56. Evidence, Australian and New Zealand Federation of Animal Societies, p. S8840; and NSW Department of Agriculture and Fisheries, p. S8181.

57. Evidence, NSW Department of Agriculture and Fisheries, p. S8182.

58. ibid.

59. Evidence, Australian Council of Egg Producers, p. S8154; Australian Federation for the Welfare of Animals, p. S8942; and Australian Veterinary Association, p. S8772.

60. Evidence, Australian Federation for the Welfare of Animals, p. S8943.

61. Evidence, Australian Council of Egg Producers, p. S8154.

62. Evidence, Australian Federation for the Welfare of Animals, p. S8942.