



CAST Reports Results of Study On Food Animal Welfare

A synopsis of the findings of 24 scientists who studied the question of food animal welfare is printed here; their complete report (CAST Report 91, "Scientific Aspects of the Welfare of Food Animals") may be obtained for \$3.50 postpaid from CAST, 250 Memorial Union, Ames, Iowa 50011, (515) 294-2036, or (515) 294-2903.

Are modern scientific methods of food animal production compatible with the welfare of the animals? This question is discussed from the scientific standpoint in a report released by the Council for Agricultural Science and Technology (CAST), an association of 25 food and agricultural science societies. The report was produced by a task force of 24 scientists chaired by Frank H. Baker, an animal scientist at Oklahoma State University.

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"When we started work on our report," says Baker, "we had to decide upon the ground rules of what we should and should not cover. We decided to cover animal welfare instead of 'animal rights' because whether or not animals have rights is a question of human ethics, not science. Also, we concluded that we need not discuss overt cruelty to animals, which is an ethical issue upon which almost everyone agrees. We decided to focus our report on the scientific aspects of the welfare of food animals managed by modern scientific methods. These methods are defended by some but are attacked by others as being inhumane."

Growth, Productivity Indicate Welfare

The traditional criteria used by many scientists and animal producers as indicators of the welfare of food animals are rate of growth or production, efficiency of feed use, efficiency of reproduction, mortality and morbidity. These indicators use the animals themselves to integrate the effects of all environmental factors to which the animals are exposed. The criteria can be measured objectively and expressed in numbers and they relate to the reasons food animals are produced. However, these criteria do not necessarily provide an index of all aspects of animal welfare, the indications provided by the various criteria are not necessarily concordant, and there is still no theoretical basis upon which the criteria can be combined to produce an acceptable value for animal welfare.

One particularly controversial aspect of animal welfare is the measurement and interpretation of animal stress. The overall effects of stress on animal production are reflected in measurements made by traditional criteria. Additionally, certain physiological and behavioral measurements may be made as more direct indicators of stress.

Differences in Interpretation

The basis of the controversy is a difference in interpretation. In the view of some scientists, physiological and behavioral measurements indicate that food animals in modern production systems are under significant stress and, hence, that the welfare of the animals is not being taken care of adequately. In the view of other scientists, the stresses that may be present do not have a significant effect on animal welfare unless the traditional criteria indicate significant impairment of animal performance. Resolving the problems of interpretation will require further research because animal stress, like animal welfare, is a

broad concept that as yet cannot be measured objectively and expressed numerically.

Economist Gordon Kearn on the CAST task force points out that one cannot realistically look at animal welfare in isolation as something that is the exclusive province

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of researchers and animal producers. Everyone who produces food animals and everyone who uses the products of food animals has an economic stake in production methods that lead to a high level of animal welfare.

Profitability Relates to Welfare

The producers' goal of maximum profitability of their operations cannot be achieved without careful attention to animal welfare. Producers' attempts to achieve this goal increase the quantities of animal products on the market and decrease the costs to consumers. If producers did not pay attention to the welfare of their animals, production would decrease and consumers would pay more for the products.

"Nonetheless," says Kearn, "maximum profitability for producers and minimum prices for consumers, which represent the maximum in human economic welfare, do not necessarily mean the maximum in welfare of the food animals involved. Some degree of trade-off between animal welfare and human welfare generally exists because the combination of conditions that leads to the maximum profitability of an enterprise that produces many animals is not necessarily the same as the combination of conditions that leads to the maximum welfare of the animals as individuals."

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emphasis on the management aspects that are of current concern," says Baker, "and, although our current knowledge is not as complete as we would like, it provides a useful basis for understanding the situation and, hopefully, for rational decision making. Also, we discussed the role of companion animals and the importance of animals in human welfare, including their use as research subjects."

Specialists Review Poultry Practices

"Our task force specialists in poultry production reviewed the evidence on population densities, controlling day length by artificial illumination, controlling temperature, trimming the beaks, partial removal of the combs of chickens and the snoods of turkeys, including moulting (loss of feathers), controlling disease and disposing of unwanted baby chickens and turkeys. They concluded that, with most practices, humane care is compatible with economic gains for the producer and consumer of poultry meat and eggs. In general, the poultry industry uses stocking densities no greater than, and often less than, those indicated by research data to place the birds under no undue stress.

Areas that need attention by the poultry industry are monitoring ammonia levels in the air and ventilating to keep the levels low, designing poultry houses to prevent high mortality in extreme summer heat, and adopting methods for humanely disposing of unwanted baby chicks and turkeys.

"Our swine-production specialists reviewed the evidence on available space allowed per pig, the light-dark cycle, the flooring, the practice of confining sows to stalls or crates during gestation and delivery of young, the absence of straw bedding, the opportunity for swine to groom themselves and their pen mates, docking the tails of baby pigs, castrating male

animals and controlling disease. They concluded that productivity and health data obtained in well-managed confinement operations seem to indicate that the identifiable and quantifiable stress of the animals is in the acceptable range.

Swine Prove Tough to Read

The behavioral patterns of swine, however, cannot always be interpreted. Additional research is needed to clarify the basis

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for observed behavioral patterns and additional research is needed on types of flooring, use of straw bedding, and use of gestation and farrowing stalls or crates.

"Our specialists in ruminants (cattle and sheep) explained the diversity of the industries involved and they discussed such practices as branding, artificial insemination, transferring embryos, castration, dehorning, docking the tails of sheep, controlling predators, producing cattle and sheep intensively, using low levels of iron in veal-calf rations, raising calves in individual pens and controlling disease. They concluded that the use of proper methods of castrating cattle and sheep, dehorning cattle and tail-docking of sheep to minimize

pain is important. Control of predators is essential to the welfare of sheep on pasture and rangeland. Intensive production of ruminant animals requires special management to assure that productivity and welfare are within acceptable ranges.

The relatively low levels of iron employed in veal calf rations as a result of consumer demand for light-colored meat result in normal feed consumption and growth. Raising calves in individual pens reduces disease incidence and increases the survival rate. Additional research is needed on the interrelationships of animal productivity and welfare in all modes of ruminant production.

Research Should Continue

"Our specialists in managing animals during handling, transportation, and slaughter reviewed existing laws and practices, and they concluded that continued research is needed to adapt and utilize new technology to improve the handling practices and the environment of animals during production, transportation and slaughter. Our specialists in laboratory animal research reviewed the laws and scientific organizations involved in promoting the welfare of animals used in this way. They noted that, where agriculture is concerned, the use of animals in research on food animal productivity is essential to continued progress toward adequate world food supplies for the future. Animal welfare is inseparable from animal productivity."△