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INTRODUCTION

Food Animal Husbandry and the New Millennium

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The four articles comprising this special issue of the *Journal of Applied Animal Welfare Science* (JAAWS) originally were presented at the conference “Food Animal Husbandry and the New Millennium: Ethical, Environmental, and Societal Impacts,” organized jointly by the Center for the Interaction of Animals and Society, and the Center for Animal Health and Productivity at the University of Pennsylvania. Two of the articles explore specific animal welfare concerns associated with modern farming methods; two address the theme of changing public perceptions of animal agriculture in general. Together, they provide an illuminating and critical appraisal of the food animal industry at the dawn of the 21st century.

The articles by Duncan and Rushen focus, respectively, on animal welfare challenges in the poultry and cattle industries. Duncan is unequivocal in attributing the exceptionally high incidence of welfare problems in poultry to agricultural intensification. His review of the most serious of these problems—starvation of laying hens to expedite molting and the resumption of laying, degenerative joint disease in fast-growing broilers, the poor welfare conditions of poultry immediately prior to slaughter, and the particular plight of spent hens whose bones fracture due to osteoporosis—pulls no punches.

Duncan also is uncompromising about where to point the finger of blame. Economic pressures to produce inexpensive meat products have resulted in crowded housing systems; the use of husbandry practices such as food restriction; little incentive to protect the health and welfare of low-value animals at the end of their productive lives; and intensive genetic selection for enhanced production traits
without sufficient regard for some of the phenotypic costs, including abnormal beh-

avior. Although critical of this system, Duncan’s stance is neither anti-agriculture nor pro-vegetarian. He accepts that some problems are intractable, but he also maintains that substantial improvements are possible if the industry is willing to recognize and correct deficiencies and if consumers, in some cases, are prepared to pay more for meat and eggs produced by more welfare-friendly systems. This will require the development of accepted standards of animal care and laws and regulators to uphold these standards. In support of his argument, however, he points to Europe, where such developments are already well underway—for example, the gradual phasing out of battery cages for laying hens and of stall housing for gestating sows.

Rushen, overall, is more guarded in his critique of intensive farming methods in the cattle industry, primarily because the scientific evidence is less clear-cut. He chooses to focus on the prevalence of mastitis and lameness in dairy cattle, because these two health problems are thought to be very painful, are certainly detrimental to productivity, and are increasingly common among modern dairy herds. Despite the evident shortcomings of the data, Rushen nevertheless points to mounting evidence of a correlation between genetic selection for high milk production and the incidence of both maladies, as well as an interaction with modern housing conditions. To tackle these problems, he advocates increasing the emphasis on genetic selection for health-related traits rather than milk yields and decreasing the reliance on high-yielding breeds. Like the welfare-friendly farming methods proposed by Duncan for poultry production, Rushen’s suggestions for dairy production promise to increase the cost of milk. Regarding the relationship between welfare problems and housing conditions, his recommendations are less definitive, although he suggests that concrete flooring and lack of access to pasture seem to exacerbate both conditions. If proven true, this correlation is an important one, as the majority of the dairy farms in the United States have moved away from pasture-based rearing to more confined housing systems.

The contributions by Fraser and Thompson offer contrasting, yet complementary, views of the gradual deterioration of public trust and confidence in animal agriculture over the last 30 years. Although perceived declines in the welfare of food animals have been an important ingredient of this loss of faith, especially in Europe, such ethical concerns also have become linked inextricably with a host of other, more human-centered fears. These include real and apparent threats to public health (food safety, dietary fat consumption, infectious disease outbreaks, and non-therapeutic use of antibiotics and hormones to enhance animal productivity); damage to local and global environments (pollution of rivers and estuaries, production of greenhouse gases, soil erosion, and tropical deforestation); and deleterious social effects on the structure, stability, and quality of life of rural communities. Fraser and Thompson frame their arguments very differently. Both agree, however, that the root of the public’s loss of confidence in agriculture lies in
the postwar trend from relatively small, family-owned and -operated farms toward increasingly large-scale intensive or confinement production systems in which many farmers work under contract for a restricted number of large or very large agribusiness corporations.

To Fraser, this historically rapid process of agricultural industrialization has produced a disquieting mismatch between popular ideas or mythologies about what farming ought to consist of—involving long-established pastoral and agrarian ideals of responsible stewardship—and what it actually has become: an increasingly technological, corporate enterprise driven almost entirely by market forces. Therefore, the resulting public pressure for a return to more traditional husbandry methods is, to some extent, an attempt to reduce the dissonance between these disparate, and ultimately incompatible, visions of animal agriculture. Fraser accepts that intensive farming arose in response to the postwar demand for more and cheaper food, and that it has created substantial economies of scale and improvements in animal disease control, nutrition, and productivity. He also stresses that these technological developments, originating as they did in the context of 1950s attitudes to animals, are no longer culturally appropriate. Food animal agriculture, despite being efficient and profitable, is now increasingly out of step with prevailing societal values and concerns and is in grave danger of losing the favorable public image it hitherto has enjoyed. The current, highly polemicized propaganda battle between proponents and opponents of modern farming only makes matters worse by bombarding already bewildered consumers with flatly contradictory messages. The best solution to this impasse, according to Fraser, is for governments to build consensus and develop new policies based on the findings of high-quality, publicly funded research on the actual, as opposed to the perceived, effects of modern animal production on consumers, producers, animals, and the environment.

Thompson reaches conclusions similar to Fraser’s, but he arrives there by a different route. He approaches the perceived welfare problems of agricultural animals by viewing them as one element within a “nexus of livestock production risks” that affect everybody with an interest in the outcomes of intensive farming. These risks can be conceptualized in different ways—some more constructive than others. Thompson is unenthusiastic about what he calls “the industrial paradigm,” according to which all of the problems associated with modern agriculture, including threats to animal welfare, are unintended but inevitable by-products of the process of industrialization. This way of framing the problem, he argues, leads people to view industrialization as a kind of disease with symptoms, such as animal cruelty, that need to be treated or cured. It encourages people to hark back to the supposedly safer, less abusive, more “natural” production methods that existed before intensification. In Thompson’s view, this way of characterizing the problems of animal agriculture is inappropriate not only because it is oversimplified and inaccurate, but also because it leads to political polarization and mutual dis-
trust between those on opposite sides of the debate. Instead, he favors a “postindustrial paradigm” in which social problems such as intensive farming are analyzed in terms of the various risks affecting the concerned parties (including producers), and which then are weighed and evaluated openly to engender feelings of mutual trust and cooperation. Such analyses also may take into account cultural values—such as consumer concerns about welfare of food animals—that are not amenable to scientific measurement.

Fraser’s and Thompson’s call for open, political consensus building on the real benefits and costs of intensive farming appears particularly apposite in the wake of the public scrutiny afforded the British livestock industry during its recent Bovine Spongiform Encephalopathy (BSE) and foot-and-mouth disease epidemics. Irrespective of the validity of claims that intensive farming practices contributed to the origin and spread of these diseases, it is apparent that such arguments resonate strongly with a public already disillusioned with numerous other aspects of agricultural production. From the perspective of agricultural interests, these epidemics are seen primarily as economic disasters that threaten the survival of large sectors of the industry. To the average man or woman in the street, however, the untimely slaughter of millions of innocent animals on the farm also carries the message that something is profoundly wrong with the way in which modern agriculture is practiced—so wrong, some would argue, that a complete transformation of the entire system is needed. Valid concerns about the psychological well-being of the animals maintained within this system only serve to reinforce these jaded perceptions.

In the absence of economic incentives, one can question the ability of corporate farming interests to take a long-term, sustainable view that would include substantial improvements in the welfare of food animals. Nevertheless, growing public anxiety about how its food is raised or produced promises eventually to force the agricultural industry to address these consumer concerns. As Duncan points out, North America tends to lag behind Europe by about 8–10 years in the field of animal welfare, and significant legislative reforms to protect the welfare of poultry and swine are already either in place or in the pipeline within the European Union. Thus, as the 21st century begins, American food animal industries find themselves at a crossroads. Continued inaction or reactive behavior toward animal welfare concerns ultimately may pave the way for potentially economically crippling legislative initiatives. Alternatively, a proactive stance on animal welfare issues provides the livestock producer with the opportunity both to develop and market animal welfare-friendly products, and to engage in a meaningful dialog on the reforms that may come to dictate both their lives and their livelihoods.

The articles in this special issue of JAAWS highlight pressing animal welfare challenges found in several food animal industries and propose conceptual approaches around which to initiate a constructive discussion on food animal husbandry and the new millennium.
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