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The New Ethic For Animals And The Dairy Industry

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There is an unfortunate tendency on the part of those who use animals to dismiss the new social concern with animal treatment as the irrational ravings of tofu-eating, ginseng-guzzling, urban wimps and bunny-hugging extremists. "Animal welfare is what we already do; animal rights if what they want us to do," one animal scientist said, neatly summarizing the situation. However, what is of paramount importance is that "they" are not just a band of radicals; the new ethic for animals has taken root among society in general. As one cowboy in Kingsville, Texas put it to me: "Hell, Doc, if it were just the damn radicals, we could shoot the sons of bitches!"

My first point, then, is to explain the new ethic and its conceptual roots. Although society has paid formal attention to limiting human behavior regarding animals for over 2,000 years, such attention was restricted to the prohibition of overt, intentional, willful, extraordinary, malicious, or unnecessary cruelty; deviant sadism; or outrageous neglect. For example, not providing food or water. This ethic can be found even in the Bible. For example, in the injunction not to yoke the ox and the ass to a plow together, or in the restriction against muzzling the ox when he is being used to mill grain.

This minimalistic, lowest common denominator ethic was formally encapsulated in the anti-cruelty laws during the 19th century. These laws were as much designed to ferret out sadists and psychopaths – who might begin with animals and, if left unchecked, graduate to venting their twisted urges upon human beings – as to protect the animals for themselves.

This view of prohibiting animal cruelty can be found in Catholic theology where, although animals do not in themselves count morally, animal cruelty is forbidden for its potential consequences for people, since people who are cruel to animals will 'graduate' to abusing people. Interestingly enough, contemporary research has buttressed this insight. The traditional humane or animal welfare movement was also caught up in the categories of kindness and cruelty, and for this reason tended (and still tends)

to simplistically categorize anyone causing animal suffering as 'cruel'. Hence, one can still find activists picketing medical research institutions and carrying signs which say "stop the cruelty" — as if researchers are on a par with people like the serial killers, many of whom did indeed torture animals in their youth.

Within the purview of this traditional ethic, any suffering inflicted on animals for "acceptable," "normal" or "necessary" reasons such as economic benefit, food production, pursuit of scientific knowledge, cures for disease, or, as one law puts it, otherwise "ministering to the necessities of man," was morally and legally invisible, shrouded by the all-encompassing cloak of "necessity." By and large, therefore, the "normal" use of animals for human benefit in research, agriculture, hunting, trapping, rodeo and the like was not the concern of social moral thought on animals.

During the past two decades society has begun to move beyond the overly simplistic ethic of cruelty and kindness and to reach for a more adequate set of moral categories for guiding, assessing, and constraining our treatment of other animals. Perhaps the key insight behind this change is the realization that the overwhelming majority of animal suffering at human hands is not the result of cruelty, but rather, these animals suffer because of normal animal use and socially acceptable motives. To prove this, I ask you to perform a thought experiment. Imagine a pie chart representing the total amount of suffering that animals experience at human hands. Then ask yourself, what percentage of that suffering is the result of intentional, sadistic, useless, deliberate infliction of pain or suffering on the animals for no purpose? Interestingly enough, all of my audiences, be they Montana rodeo people or San Francisco activists, say the same thing — well under 1%. Most animal suffering comes from reasonable human motives and goals. Scientists may be motivated by benevolence, high ideals and noble goals, yet far more animal suffering is occasioned by people acting in pursuit of these motives than by the actions of overt sadists. Confinement agriculturalists may be motivated by the quest for efficiency, profit, productivity, low-cost food and other putatively acceptable goals, yet again, their

activities occasion animal suffering in orders of magnitude traditionally unimaginable.

As we mentioned, the old ethic doesn't apply to these normal, non-deviant uses of animals. This is true not only conceptually, but practically. The limitations of the ethic and the laws based in it were dramatically illustrated when the Animal Legal Defense Fund, a group of attorneys whose *raison d'être* is raising the moral status of animals in society by use of the legal system, attempted to extend the scope of the anti-cruelty laws by a test case. As animal advocates, they generate many fascinating lawsuits which test, press, and expose the limits of the legal system's control over the treatment of animals. In 1985, they brought suit against the New York State Department of Environmental Conservation, that branch of New York State government charged with administering the use of public lands. Specifically, they charged the department with violating the anti-cruelty laws by permitting trapping on public lands utilizing the steel-jawed trap. Since there are no laws regulating how often a trapper must check his trap line, an injured animal could be trapped without food, water, medical care or euthanasia for long periods of time which, according to the plaintiffs, constituted unnecessary cruelty. They were thus seeking an end to such trapping.

Given the laws, the judge made a very wise decision. He opined that the steel-jawed trap was in his view an unacceptable device. But given the way the anti-cruelty laws have been written and interpreted, the actions of the agency in question did not constitute cruelty. After all, steel-jawed trapping is widely done as a means to achieving pest control, supplying fur, and providing a recreational pastime. Thus, the activity of trapping is a legitimate one from a legal point of view, and does not fit either the intent, judicial history or statutory language of the anti-cruelty laws. If one wishes to change the status of the steel-jawed trap, the judge asserted, one should therefore go not to the judiciary, but to the legislature. In other words, one must change the laws, i.e. the social ethic.

This case neatly illustrates some important features of what is happening in social thought: First of all, social thought is moving beyond cruelty. Second, society is attempting to create new social rules and laws to protect animals. (The best illustration of this point is the passage in 1985 of two new federal laws to protect laboratory animals after society realized that the research community was not regulating itself.) Third, society is moving beyond concern about traditional cute and cuddly animals to concern about all animals who can suffer.

Why is society suddenly concerned about the 99% of animal suffering that is not the result of deliberate cruelty? One can speculate as to why the demand for such an ethic has emerged only recently.

First, society has just lately focused its concern on disenfranchised human individuals and groups, such as women, Blacks, the handicapped, and the Third World. This same emphasis on moral obligation rather than patronizing benevolence toward the powerless has led to a new look at animal treatment.

Second, the urbanization of society makes the companion animal, not the food animal, the paradigm for animals in the social mind.

Third, graphic media portrayal of animal exploitation fuels social concern. As one reporter said to me, "animals sell papers."

Fourth, increased awareness of the magnitude of animal exploitation made possible by technologies of scale inspires massive unease among citizens, who perhaps see themselves being rendered insignificant in the face of techniques, systems and machines that relentlessly reduce the individual — animal or human — to a replaceable quantity. This sense of impotence in the face of forces one cannot even understand, let alone control, can fuel empathy with the animals.

Fifth, numerous rational voices have been raised to spearhead the articulation of a new ethic for animals. Although concern for animals was traditionally seen (with much justice) as largely a matter of inchoate emotion, such a charge cannot be leveled against the numerous philosophers and other intellectuals of today who eloquently and forcefully nudge the social mind in the direction of increasing moral awareness of our obligations to animals.

Sixth, and most important, the nature of animal use has changed significantly. The major use of animals in society was and is, of course, agricultural. Before the mid-20th century, the essence of agriculture was husbandry. People who used animals put those animals into environments for which they were evolved and adapted and then augmented their natural ability to cope with additional food, shelter, protection from predators, etc. Producers did well if and only if animals did well. This is what Temple Grandin has aptly called "the ancient contract" — or as ranchers say: "we take care of the animals and they take care of us." No producer could, for example, have attempted to raise 10,000 egg laying chickens in one building — he would have had all his animals succumb to disease in weeks.

In contrast, when animal husbandry departments symbolically became animal science departments in the 1940s and 50s, industry replaced husbandry, and the values of efficiency and productivity above all else entered agricultural thinking and practice. Whereas traditional agriculture was about putting square pegs in square holes, round pegs in round holes, and creating as little friction as possible while doing so, 'technological sanders' such as antibiotics and vaccines allowed us to produce animals in environments which didn't suit their natures but were convenient for us. For example, we could now raise 10,000 chickens in one building.

Similarly, the rise of significant amounts of research and toxicity testing on animals in the mid-20th century also differs from the ancient contract — we inflict disease on animals, wound, burn and poison them for our benefit, with no benefit to them.

These, then, are the reasons society seeks a new ethic for animals. What form is this emerging ethic taking? Very simply, it asks that the consensus ethic we all share in society be extended to include animals, as it was extended to include disenfranchised humans. Despite an inherent tendency on our part to magnify and stress differences in the ethical positions among diverse persons in a society, the similarities and agreements in ethical principles, intuitions, practices and theories that obtain in society far outweigh the differences.

This phenomenon is true for many reasons. In our society, most of us are brought up and steeped in the same Judaeo-Christian, individualistic heritage. In addition, we live under the same set of laws, which encode much of that morality in ways that guide and shape our theories and practices. Finally, it is evident that we could not live and function together if we did not implicitly share a very significant set of moral guidelines. This point is typically unnoticed precisely because it is always there and it works. What is noted and remembered are the situations in which the point does not work and about which we are greatly divided — issues like capital punishment or abortion. If you X-ray very different looking people, what you see is very similar; if you X-ray a Hassidic rabbi and a Wyoming rancher morally, the same thing occurs.

What aspect of our social ethic is being extended to animals? In our democratic society, the consensus social ethic effects a balance between individuality and sociality, or more specifically, between individual rights and social utility. Although most social decisions and policies are made according to that which produces the greatest benefit for the greatest number, this is constrained by respect for the individual. Our ethic builds fences around the individual to protect the sanctity of his human nature, or telos, from being submerged by the general or majority welfare. Thus, we cannot silence an unpopular speaker, or torture a terrorist to find out where he has planted a bomb, or beat a thief into revealing where he had hidden his ill-gotten gains. These protective fences around the individuals are rights; they guard fundamental aspects of the individual even from the general good. Specifically, these rights protect what is plausibly thought to be essential to being a human — believing what you wish, speaking as you wish, holding on to your property and privacy, not wanting to be tortured, and the like. These rights are fueled by the full force of law.

One major step toward extending the ethic to animals, not difficult for the average person to take, is the realization that there exists no good reason for withholding the ethic from our treatment of animals. In other words, there is no morally relevant differ-

ence between humans and animals that can rationally justify not assessing the treatment of animals by the machinery of our consensus ethic for humans. Not only are there no morally relevant differences, there are significant morally relevant similarities. Most important, most people believe that animals are conscious beings; that what we do to them matters to them; and that they are capable of a wide range of morally relevant experiences — pain, fear, happiness, boredom, joy, sorrow and grief. In short, they experience the full range of feelings that figure so prominently in our moral concern for humans.

Not only does ordinary common sense accept as axiomatic the existence of consciousness in animals, it also takes for granted that animals have natures (telos) — “fish gotta swim, birds gotta fly,” as the song goes. Again, it is not difficult to get ordinary people to admit that the central interests of animals’ natures should be protected from intrusion; even if we use animals, animals should live lives that fit their natures. It is not an accident that a major confinement chicken producer like Frank Perdue did not, in his advertising, show the public how he really raises chickens. Rather, he ran ads showing open barnyard conditions which affirmed that he raised ‘happy’ chickens. Ordinary people — even those who are not animal advocates — are appalled by veal calves in confinement, wild animals in tiny cages, or primates in austere and deprived environments. Polls indicate that 80% of the general public believe animals have rights. Well over 90% of the 7,000-10,000 ranchers I have addressed also believe this. Indeed, the president of the Colorado Cattlemen’s Association remarked some years ago at a closed seminar for agriculture leaders that, “If I had to raise animals the way these veal people do, I would get the hell out of the business.”

In summary, society has gone beyond the anti-cruelty ethic and has expressed concern that animals used by humans not suffer at our hands, and

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indeed, that they live happy lives. The rights of animals, as determined by their natures, must constrain and check animal use. Convenience, utility, efficiency, productivity and expense are not sufficient grounds for overriding animals’ rights. This idea is tentatively encoded in some legislation, and it is affecting animal husbandry without being legislated; the extensive efforts over the past decade to

create zoos that respect animal natures give testimony to the spread of the new ethic. Furthermore, it appears that society is actually willing to give up certain animal uses and conveniences for the sake of the animals. The abandonment of the Canadian seal hunt, the massive social rejection of furs, and the rejection of cosmetic testing on animals by many companies, all without legislation, attest to the growing hold of the new ethic.

Considering what we have discussed, it is patent that the dairy industry should undertake a proactive, critical self-examination before society as a whole is galvanized by some sensational event or expose to legislate in an ill-informed way. The Minneapolis-South St. Paul stockyard situation could well have had that effect.

You must become proactive in the face of the emerging ethic, not reactive and defensive. You must try to separate the legitimate from illegitimate criticisms directed at your activities, and correct the real deficiencies in an anticipatory way. It is far cheaper and easier to deal with things yourself than to have changes legislated by well-meaning but ignorant people who don’t know hay from straw or foals from ponies. If legislation is necessary to correct abuse, it is far better that it come from you than that it be forced upon you. Legislation coming out of a crescendo of public pressure is invariably flawed.

If society can generate sufficient concern to pass legislation that mandates the control of pain of rats and mice — the overwhelming majority of animal used in research — imagine what a groundswell of concern

could be evoked about dairy cows, the animal which has been called "mother of the human race."

Let us examine the status and problems of the dairy industry proper in the face of this new ethic, leaving aside the veal production issue for another discussion.

There is, historically, probably no area of traditional, extensive, pre-industrial agriculture where the contractual, "we take care of the animals, the animals take care of us" ethic was more fully realized than in dairy farming. What made dairy an especially good example of the contract between animal and man was the early realization that gentle, compassionate treatment of cattle leads to significantly better milk yield. Science has recently confirmed what common sense knew for sure — that the variable that correlates most highly with milk production is the personality of the herdsman, and that women generally make the best stockmen.

Thus, while few people considered range beef cattle to be, as it were, members of the family, such was not the case with dairy cows. A colleague of mine who grew up on an extensive dairy farm recalls that there was no bigger honor in his family than to be named after one of the favored cows. Students still tell me of their father's crying after the death of a favorite cow. Since dairy cattle were raised for their products, not their meat, the element of killing was not central to such farming, and animals often lived for a long time, even beyond what could be justified by productivity alone.

This view of dairying entered popular culture and, in my view, still makes the general public favorably disposed towards milk production. The image of Bossy happily chewing her cud is a cliché, often depicted in cartoons, and the Carnation Company has indelibly stamped an entire generation or two with the pastoral picture of "contented cows." Few members of the general public would agree with the activist statement I heard at an animal welfare conference — "I can think of nothing more disgusting than drinking the milk of another species." Thus, the dairy industry would be wise to confirm this perception of concern, not erode it.

Yet there exist both genuine welfare issues and issues growing out of uneducated public perception

which could harm the enviable position of dairy in the public mind. In either case, however, these problems must be laid to rest. As the animal industry often remarks, in animal welfare perception is reality. Unfortunately, as Albright has forcefully pointed out, "very little organized U.S. research on dairy animal welfare is under way. A library CRIS-USDA computer search from 1978-1986 with such key words as dairy, cattle, cow, calves, calf, veal, welfare, humane, or well-being revealed four projects active and pertinent to this discussion."

1. LARGE DAIRIES

One of the most dramatic changes in dairies, directly relevant to public perception of the industry, is the rise of large intensive dairy operations, with up to 3,000 cattle maintained in relatively small acreages. The small dairy farmer, with names for his cows, is a vanishing breed, as land costs, labor costs, and capital investment costs increase. The public tends, with some justification, to equate large operations with lack of concern and attention to individual animals. On the other hand, proponents of large, well-capitalized, intensive operations argue that their operations, possessed of adequate money, and unlike small operations, not running on a shoestring, are thus able to afford sufficient labor to look after the cows, and actually provide for more inspection of animals, since mechanization and automation have removed much of the 'scut' work. Arave and Albright have argued that this is true for mastitis control. Supporting this view is the fact that, unlike sows, cows are relatively expensive and highly productive (the modern cow can produce 10 to 36,000 lbs. of milk per year), and thus careful attention to the animal also benefits the producer.

Albright has argued that mechanization is no substitute for stockmanship, a point echoed by others. Research into this question would be highly desirable. If it is true that large operations increase individual attention to animals, such research could blunt negative public perceptions of large operations. If it is false, it would probably lead to revisions in industry practice and to better management. Such research might compare small and large dairies in

terms of a variety of parameters related to welfare. My key point is that the public must be convinced that, regardless of size of operation, concern for individual animals is still operative.

One area which feeds the idea of callousness at large dairies, according to Temple Grandin, is the treatment of surplus calves. She informs me that such calves often receive no colostrum and are shipped as young as one day old, before they can even ambulate properly.

Behavioral Knowledge

One of the most needed research areas in dairy cattle is fundamental, basic research into the normal behavior patterns of modern dairy cattle under the open conditions for which they were historically selected, something like what was achieved at Edinburgh by Stolba for domestic swine. This will help in judging the extent to which modern systems meet the animals' natures. Unfortunately, there is no wild population of *Bos taurus* analogous to the population of European wild swine which Stolba used as a basis for ethological comparisons. The closest analogue may be beef cattle maintained under range conditions, or dairy cattle still kept under traditional conditions.

At any rate, methodology must be devised, and research conducted, which will provide researchers with a baseline 'ethogram' of natural behavior for dairy cattle, which can then be used as a rational basis for assessing current systems. Such basic research would be invaluable for welfare concerns. In addition, as Temple Grandin and others have shown, knowledge of fundamental behavior is useful for handling and management.

As we have said earlier, behavior seems to be emerging as a focal point for welfare deliberations. At the same time, cattle show fewer stereotypies than other animals, but do show some. It has been suggested that cud-chewing provides a built-in form of self-stimulation which allows the animal to cope with austere environments, even as gum-chewing has carried generations of students through boring lectures. Given our earlier explanation of the new social ethic, such basic knowledge of cows' behavioral needs and natures is vital.

2. CALF WELFARE

Some of the major potential hotspots for the dairy industry come from the treatment of calves. Most female calves are used as replacements for dairy cows. Various practices associated with raising such calves have been criticized on welfare grounds. One such issue is the very early separation of calf from mother. Public perception suggests that such a separation is stressful to both animals, since cattle under extensive conditions can suckle for some seven months.

According to Albright, such separation is necessary in order to expedite human-cow interaction — cattle reared by dams or by nurse cows with no human involvement "are more difficult to calm down, have greater flight distances,... circle continuously in the holding pen, and are difficult to train to the milking routine." In other words, the early stress of separation may increase the animals' welfare later when it becomes a dairy cow, since humans have become surrogate mothers to the calves, as Albright puts it. On the other hand, the average person sees 'removing a baby from its mother' as paradigmatically abusive, even cruel.

It is obvious that the practice of separating calves at an early age from mothers should be further researched, with regard to stress on both cow and calf, and ways of mitigating that stress should be examined. Given that virtually all dairy farmers effect such separation, the issue is of considerable significance.

A related question concerns the optimal time for removing calf from cow. This is currently disputed, most notably with regard to the provision of colostrum. Some dairy farmers leave the calf with the mother for up to three days to allow the calf to suckle, to permit a mother-offspring relationship to form, and to render the cow's milk free of colostrum and thus able to be sold. In contrast, others separate the calf immediately and deliver the colostrum through a nipple-pail or bottle. Although it may seem more welfare-friendly to allow the cow and calf the longer period to bond, one can argue that separation of the calf after three days, rather than at birth, causes greater trauma. According to Albright:

"When the calf is left with the cow three days or more, it is more difficult to separate the pair. Excessive bawling, fussing, and breaking down fences occur when maternal urges are then denied, and the cow will fret excessively when separated from the calf, resulting in decreased milk production."

Again, this points towards the need for further research in minimizing the stress of separation. It is also clear that close attention to separation of calf from dam by the public could generate very bad publicity for the industry, given the sanctity of the mother-offspring relationship for common sense. Research into raising calves on nurse cows, as is sometimes done in the beef industry, should perhaps be undertaken. Dairy bulls raised on nurse cows grow up less dangerous because still fearful of humans.

Another welfare issue concerns the housing of calves. In the U.S., it is most common to raise calves for about three months in individual pens or hutches to which the calf may be tethered. Although such hutches are an improvement over crates, as animals in fenced-in hutches can move freely, they are still offensive to many people who dislike the restricted space and isolation from other animals. Despite the fact that probably the major purpose of individual housing is disease prevention and ease of observing individuals, many dairymen will allow calves to interact with calves in adjacent pens or hutches. Roy has argued that calves are happier when they can see one another, and most dairymen with whom I have discussed this issue tend to agree. Outside hutches reduce calf mortality over inside ones.

Supporters of individual housing argue that dairy calves do better and develop normally if they are kept individually until weaning, especially in outdoor pens. They cite higher survival rates, reduced disease and reduced tendency for persistent intersucking among calves raised this way. Albright has argued that the vice of intersucking which is prevalent in Europe is a function of early group housing.

A different view is expressed by Kilgour and Dalton, who favorably cite work by Sambras to justify the importance of keeping calves in groups to ensure

appropriate resting behavior, social and activity behavior:

"The calf's surroundings should provide plenty of stimuli to allow exploration and play."

Similarly, Fraser asserts that:

"Individually reared calves cannot interact much with one another and long periods of social isolation lead to failure to develop normal social behavior."

Strangely enough, some research has shown that calves individually raised in isolation, though indeed subject to a chronic stressor, nevertheless produce more milk as adults. This is open to many interpretations, ranging from the simple notion that this is a clear case where individual productivity is not a mark of welfare, to the complex notion suggested by Albright that:

"Isolation stress has an organizational effect on the ontogeny of the hypothalamo-hypophysial-adrenal system of neonatal calves. The resultant stronger response to adult stressors could increase milk production."

In general, given the diversity of opinion cited above, as well as the strong tendency of the non-agricultural public to react negatively to isolation of calves, research and public education should continue in this area. Ideally, such research could generate group systems which do everything that isolation does, but allows the calves to enjoy social interaction. According to Fraser:

"With further refinement of management procedures, [straw-based] systems are likely to [become]... the normal method of calf housing."

3. HOUSING SYSTEMS

The dairy industry in the U.S. employs a wide variety of housing systems for dairy cattle, ranging from highly extensive, very traditional pasture systems, to stanchion or tie-stall housing, to freestall housing. There are positive and negative features relevant to welfare associated with all systems, but some seem to be more problematic than others.

The system of greatest concern is probably tie-stalls, where the animals are tied in one place for

long periods of time. Tie-stalls are used almost exclusively in the Midwest and Northeast. Although the apparent historical motivation for tie-stalls has been concern for the well-being of the cattle as well as reduction of labor, with tie-stalls allowing for ease of observation and inspection of the cows, the fact that the animals are unable to move and unable to engage in normal

behavior, notably grooming, makes tie-stalls a very plausible and inevitable target for social concern. Whereas a range cow will walk over 6,000 meters a day, a cow in a tie-stall is clearly prevented from such exercise. In addition, the cow's social nature is frustrated by such housing systems. Getting up and lying down can also be a problem in poorly designed stalls. Many tie-stall operators will let the cows out onto pasture or dry lots for one to five hours a day when weather permits, but will keep them inside during bad weather.

Many dairy cattle, especially in the West, are kept in drylot conditions, in outdoor dirt pens in groups. The cow's social nature is expressed, and she can exercise. The problems with dry lots are similar to problems of feedlots: lack of shade, lack of shelter from wind and snow, poor drainage, and general lack of protection from climatic extremes. Some farmers do provide shade and cooling by use of sprinklers. In general, cattle withstand cold stress better than heat stress.

Freestalls have gained in popularity since their invention in 1960. In such systems, cows can be in their own bedded stalls and move freely into concrete or earth yards where they receive food and water. Poor flooring in these systems can lead to foot and leg problems. Given a choice, dairy cows prefer other flooring over concrete. Research is needed into flooring which reduces slippage and injury, and into more effective sanitizing systems for waste removal. Poor hygiene in stalls can also cause masti-

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tis. Again, research is needed to improve the systems.

One problem with all of the systems described above is they fail to allow for grazing on pasture, an activity for which cattle have evolved and which, if permitted, they will spend 8-10 hours a day doing! (Indeed, one can argue that the domestication of cattle resulted precisely from their ability to convert forage to food consumable

by humans.) Recent Swedish legislation aimed at respecting the rights of animals following from their biological natures stressed the need for cattle to graze, and indeed granted cattle the right to graze, in perpetuity. It is likely that public opinion in the U.S. similarly favors the grazing of cattle. Few pastoral images are as powerful and pervasive as that of cows on pasture.

In any case, systems of housing which respect the animals' natures should be sought. I do not think that the new ethic will accept total confinement of cattle.

4. OTHER WELFARE PROBLEMS

Castration, Dehorning and Branding – As in beef cattle, dehorning is a problem, as is castration without anesthesia of bull calves. Most operators do not brand dairy cattle.

Tail-Docking – Over the last few years, docking of tails in dairy cows has gained in popularity in the U.S. and Canada. It is alleged that tail-docking reduces mastitis and somatic cell counts. This is often accomplished by elastrators. Allegedly, the procedure is painless and keeps the cow from flinging manure. Conversations with dairy specialists, dairy veterinarians, and a lactation physiologist have convinced me that there is absolutely no scientific basis for claims about the benefits of tail-docking. Problems with mastitis are largely a function of hygiene, arising when animals are regularly down in unclean stalls. Removing the tail is another example of attempting to deal with what is a problem of human

management by mutilating the animal — e.g. ‘devo-cialization’ of dogs, declawing of cats, and docking tails in piglets. In this situation, however, unlike the others, the procedure will not even deal with the problem. Indeed, removing the tail will cause additional suffering to the cow, since it can no longer deal with flies!

Not only is docking the tail in fact not curative, it can exacerbate the problem. The use of elastrators, contrary to the belief of some farmers, is quite painful. Use of the elastrator can also cause infection, death and decreased milk production. In purely prudential risk-benefit terms, then, it is irrational to choose to dock the tails, and since there is no potential benefit from the procedure, the farmer is not rationally warranted in taking any risk whatsoever. The same point, of course, holds regarding surgical docking of the tail.

Indeed, there is reason to believe that docking the tail is likely to increase the very problem that the farmer is trying to eliminate, namely high somatic cell counts. Kilgour and others have reported that stress elevates SCCs in dairy cattle, and the use of the elastrator and the subsequent pain and distress that it causes the animal would certainly represent a stressor, as would any resultant infection. Furthermore, since stress results in immunosuppression, an animal experiencing the docking procedure would surely be more prone than ever to mastitis, since its immune system is being compromised.

It appears to me that the non-invasive alternative of clipping the tail switch should work as well as docking if there is anything to the theory implicating tails in mastitis. The issue should be definitely dealt with as a welfare concern.

Mastitis and Lameness – According to Fraser and Broom, lameness and mastitis are the two major welfare problems in dairy cattle, and that there is a positive correlation between the incidence of both diseases. Lameness has in turn been tied to high protein and high concentrate diets. Lameness can be reduced by hoof trimming and foot baths, and by attention to flooring, but much remains to be discovered about the conditions which lead to indi-

viduals being likely to become lame. A good deal of lameness is a result of laminitis. Thus, we have a major tissue of researchable issues here, preferably undertaken in tandem with research into improving stall housing and controlling mastitis. Many of these problems can currently be handled with good husbandry and labor which is ‘cow smart’. The challenge, as in all of modern agriculture, is to make the systems ‘idiot-proof’ in the context of larger and larger operations. Research into better flooring, waste disposal, sanitation, and diet would help create systems which are welfare-friendly, even when stockmanship is not perfect.

Downer Animals – The dairy industry is probably the major source of downer animals, and has tended to block legislation against this horrendous practice. While increasing numbers of dairymen are beginning to realize that nothing is more erosive to the contented cow image of the dairy industry than transporting and then dragging a downer cow with a tractor or loader to the kill floor, other elements of the industry have turned a blind eye to the problem. Most dairy downers are probably a result of calcium-phosphorus imbalance leading to milk-fever (hypocalcemia).

Animals that are down should be killed on the farm and not transported. As one rancher put it, “we should eat our mistakes.” The industry should proactively develop or support legislation outlawing it. Both state and federal initiatives are pending regarding downer animals. Not acting decisively on the downer issue is probably the greatest current threat to the dairy industry in terms of public perception, and is also the most morally reprehensible practice.

Future Technology – Future technology is moving quickly into the dairy industry. All technological innovation can have major implications for the well-being of the cows. Consequently, all new innovation must be researched in terms of welfare implications at the same time they are being researched for productivity and efficiency.

The rise of automated computerized milking should be carefully monitored. It has been argued that “this could allow the elimination of the milking parlor, because cows could at their leisure enter

stalls to be milked automatically. More frequent milking would increase production and place less stress on the udder. An important benefit would be to allow the stockman to spend more time observing and tending his animals and less time on routine laborious work." On the other hand, such an innovation could go wrong in many ways, lead to less attention to the animals, and further erode the bond between humans and farm animals.

Genetic engineering can also cause problems. Recent unpublished work on double-muscling led to unexplained weakness and paralysis in calves. Other animals (pigs and chickens) engineered for increased size have shown a variety of problems, notably foot and leg problems, since foot and leg strength did not increase in proportion to the additional size. Cloned calves have been extremely large at birth, leading to birthing difficulties, and have shown other problems, including alleged 'stupidity'. In all genetic engineering programs, the resultant animals should be no worse off than their parent stock, and should be carefully monitored. Productivity should not be pushed at the expense of welfare.

The use of BST and other similar growth hormone innovations developed through biotechnology should also be monitored for effect on cattle well-being. It has been argued that the use of BST will amplify a problem already prevalent in the dairy industry as a result of artificial insemination. In evaluating A.I. Sires, a major criterion employed is the first lactation production of the bull's daughters. Unfortunately, a bull may be bred to thousands of cows before an evaluation can be made of the longevity of his daughters. The result is strong selection pressure for high first lactation production and weak selection pressure for longevity, a major factor in

Not acting decisively on the downer issue is probably the greatest current threat to the dairy industry in terms of public perception, and is also the most morally reprehensible practice.

efficient production. We are thus selecting for a 100-meter dash cow, forgetting that the most profitable cow is the marathon cow. Thus, many cows are culled before they reach their (theoretically highest) fifth lactation, during the third lactation. BST could augment this problem. Canadian research showed that "BST treatment was associated with an increased culling rate presumably as a result of increased

stress associated with higher milk production." The study showed that while BST increased milk production by 14.4%, it increased culling rate by 45%

According to this argument, this dramatic rise in the culling rate as a result of the injection of BST is further confirmation that we have, through natural selection, bred cows to produce a level of BST which jeopardizes their chances of surviving until their most productive years. Injecting additional BST makes matters worse. The use of BST definitely increases the incidence of mastitis in dairy cattle perhaps because the animals are giving more milk and the lactation ducts are more patent and thus more susceptible to bacterial invasion. Social acceptance of BST has of course been highly equivocal. Widespread public knowledge of the deleterious consequences of its use to the animals could seriously harm the industry's stature.

Conclusion

The dairy industry, by and large, has not been the target of negative publicity, except as the source of downer cattle, as we discussed earlier. The problems we have discussed should be aggressively dealt with in order to preserve the industry's enviable position in the public mind and, more importantly, to preserve the fundamental decency hitherto built into our ancient contract with these animals.

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