

CONTEMPORARY ISSUES

341 An appropriate role for ethics in teaching contemporary issues courses. K. K. Schillo*, *University of Kentucky, Lexington.*

Most public policy issues are dilemmas; i.e. cases where there is compelling support for two or more conflicting courses of action. Therefore, an appropriate goal of contemporary issues courses is to teach students to analyze and understand these dilemmas in ways that reveal how such conflicts might be resolved. Ethics is an important and essential resource for achieving this goal. Policy issues arise from conflicts both within and between values such as rights and utility. For example, disputes regarding consumption of meat frequently involve a conflict concerning the interpretation of utility, whereas disputes over resources often involve conflicts between rights and utility. Ethics does not provide an algorithm for universal solutions to such dilemmas. Because values such as rights and utility are formally different, there is no *a priori* reason to give one priority over the other in all cases. Furthermore, the contexts of issues vary considerably. Values that should be given priority in one region, society or era may be inappropriate in other locations, social environments or times. However, ethics can provide a means to analyze and understand issues. An understanding of traditional moral theories provides a basis for identifying the ethical points that should be addressed in a public policy decision. If there can be consensus regarding these points, then there is a chance that a policy decision can be made responsibly. Such decisions are made by judgment; i.e. a practical wisdom based on general knowledge of many pertinent disciplines, and revealed through reflection over time. Based on this view, issues courses can provide a realistic view of public policy issues and contribute to the ethical development of students by providing them with the means and opportunities to analyze and make informed judgments about specific cases.

Key Words: Ethics, Teaching, Issues

342 A team approach to teaching participatory/group process involving natural resources and agriculture. R. William*, L. Cramer, K. Stephens, R. Gresswell, G. Stephensen, and S. Davis, *Oregon State University, Corvallis.*

Following graduation, students take their first job and immediately face diverse viewpoints and conflict over water, labor, pesticides, grazing, land use, manure handling systems, fisheries and other issues. In many instances, resolution of these conflicts may mean litigation and regulations. Recent approaches explore coalitions, consensus, and collaborative action as ways to resolve these complex issues. This course helps students:

- Study a natural resource issue (with agriculture being included under this umbrella term) within a societal context
- Facilitate group action
- Practice systems thinking as a way to deal with complex issues
- Explore relevant science regarding group learning, facilitation, systems thinking and natural resources.

The faculty are from Departments of Horticulture, Sociology, English, Political Science, Fisheries and Wildlife, Extension and Animal Sciences; the course is crosslisted in each of those departments. The purpose of the course is to seek consensus first and compromise as an alternative. We invite students and faculty from across the university campus to experiment, learn, and interact around issues involving society and natural resources.

Key Words: Natural Resources, Systems Thinking, Group Processing

343 Contributions of plant by-products to the human food and fiber system. J. G. Fadel*, *University of California, Davis.*

The objective of this study was to quantify the amount of by-products generated during the harvesting or processing of selected plant commodities in which human food or fiber is derived. The by-products generated from production, processing, or harvesting of almonds, sugarcane, sugar beets, flour, beer, oils, citrus, and cotton were quantified in California, Nebraska, Argentina, Egypt, Kenya, Korea Republic, Mexico, USA, China, and the World during 1992 or 1993. The millions of Mcal, generated by the by-products above, in these states or countries were 6,434; 6,654; 6,776; 9,354; 1,363; 10,943; 22,574; 118,182; 155,832; and 934,925 respectively. These by-products used worldwide, not including the crop residues, would energetically support over 500 million metric tonnes (MT) of milk production using production systems similar to those found in California. Using the commodities above, the consumption of 100 kg of food generates about 37 kg of by-products not including crop residues. Even more by-products are generated if crop residues are included. This large generation of by-products and consumption by livestock emphasizes the importance of animals in the food and fiber system. Assuming the growth of by-products parallels the projected growth of cereals, then the quantity of by-products will increase by about 40% from 1993 to 2010. The projected ratio of total cereal production growth to population growth is 0.98 for developing countries from 1993 to 2010. This same ratio is 3.5 for developed countries. These ratios imply that developing countries will produce about the same amount of cereals per person in 2010 as they did in 1993. Developed countries will produce about 3.5 times more cereals relative to their population growth and will probably export surplus cereals to developing countries. The total by-products produced per person and per animal will increase in developed countries compared with developing countries assuming some processing occurs before cereal exportation generating a by-product. Understanding the role of animals in utilizing by-products will become more important in the future.

Key Words: By-product

344 Health and welfare parameters of horses commercially transported to slaughter. C. L. Stull, *University of California, Davis.*

Senate Bill (S.B. 2522) entitled "Humane and Safe Commercial Transportation of Horses for Slaughter Act" was introduced in 1995 and would have regulated transportation of horses to slaughter in 2-tiered (pot-belly) livestock trailers. However, the final language stipulated USDA to formulate regulations for the transportation of horses to slaughter. Currently, there is little scientific data to support any standards. The objectives were to evaluate the health and welfare of horses transported to slaughter for human consumption under commercial interstate conditions. Nine loads of horses were examined with a total of 306 mature horses. Pot belly (N = 4) and straight deck (N = 5) trailers were used to transport horses. The distances from origin to the processing plant ranged from 230 to 963 km (370 to 1550 miles) with durations between 05:45 and 30:00 h. Stocking density ranged from 1.24 to 1.54 sq. meters per horse. Environmental conditions were considered hot and humid. The Quarter Horse and Thoroughbred breeds comprised 66% of the horses. The data was analyzed by ANOVA using GLM procedures. Sources of variation included gender, breed, load, and their interactions. If load effect was significant, additionally vehicle type, duration/length of trip, and density of horses were evaluated. Parameters included the difference in pre- and post-transit values. Load effects (P<.05) included changes in WBC, neutrophils, lymphocytes, N:L ratio, lactate, body weight and rectal temperature. Stocking density (P<.05) included parameters of % weight difference, and changes in WBC, neutrophils, lymphocytes, and N:L. Duration/distance of trip were significant for changes in rectal temperature, neutrophils and lactate. No horses died in transit. Injuries (abrasions/lacerations) sustained during transportation occurred in 19.6% of horses, with the head/face as the most prevalent area for injury. The percent horses injured in pot-belly trailers was 29.2, while 8% of the horses were injured in straight deck trailers.

Key Words: Transport, Horses, Stress

345 The role of the dairy farmer in on-farm quality assurance programs: a survey of producers opinions. M. A. Payne*¹, C. M. Bruhn¹, J. A. O'Donnell², B. A. Reed¹, and A. J. Searce¹, ¹*University of California-Davis*, ²*California Dairy Research Foundation*.

In preparation for implementation of a California-specific dairy quality assurance program (CDQAP), practices and opinions of dairy producers and industry leaders were surveyed using both an anonymous questionnaire and focus groups. The majority of the 55 focus group participants were dairy producers. Processor marketing executives, extension dairy advisors, packing house executives and dairy veterinarians were also represented. In the focus groups there was general consensus that any successful dairy QA program would have to be voluntary, managed by the creamery and confer an economic advantage to participants. Focus group members listed chemical and microbial food safety (in both meat and milk), environmental health and animal welfare as issues which should be addressed. Of the 1440 questionnaires sent out in producers milk checks, 413 were returned. An overwhelming 99 percent of producers think that they are responsible for the safety of meat and milk leaving the farm. About 1/3 of responding producers were hesitant to even consider joining a California-specific QA program. Producers would be far more likely to join if their processor believed it would impart a market advantage and the program standards were controlled by producers. Only about 10 percent of respondents indicated that they would refuse to join under any circumstances. Information regarding opinions and practices pertaining to animal drug use, medical records and animal ID, culling practices, manure management, cow welfare and feeding of animal protein was also collected.

Key Words: Food Safety, Quality Assurance, Producer