



BIOTECHNOLOGY AS A TOOL TO ENHANCE SUSTAINABILITY FOR ANIMAL PRODUCTION

Rationale:

The United Nations Convention on Biological Diversity describes Biotechnology as “Any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use” (1). This definition extends to many aspects of animal agriculture used over the last century including animal breeding, artificial insemination, and the use of vaccines. More recently, biotechnologies are used for gene transfer to modify gene expression (transgenics), in health care (insulin for diabetics), or for environmental clean up (bacteria that can digest oil). In addition, comparing genomics of organisms that are resistant and susceptible to disease to identify genetic markers is used to select for genotypes that favor desired health status or production traits.

The world population will increase from 6.7 billion to 9.2 billion by 2050 (2,3). By 2020, the global demand for meat will increase by 58%; milk consumption will increase from 568 to 700 million tons; egg production will increase by 30%; and demand for poultry, beef and pig meats will increase by 85%, 80%, and 45%, respectively, from 1995 levels (2). With only 2% more arable land available for food production in North America in 2050, there must be continual improvement in productivity per unit of land area (3). FAO estimates that 70% of these gains in production must come from the use of new technologies (4). Modern biotechnology offers solutions to challenges for environmentally sustainable animal production that are not achievable using historical technologies. However, the use of biotechnology in food animal production can be a contentious issue for some consumers.

Policy Statement:

FASS recommends that the basis for acceptance of the use of biotechnology to improve the sustainability of agricultural production be from a science-based viewpoint. FASS believes that adoption of modern biotechnology is critical to meet the growing demands for sustainable food production in the next 25-50 years. FASS believes that consumers should have the right to choose what technology they embrace by having the freedom in the marketplace to buy products with the attributes they desire.

Policy Objectives:

- FASS endorses the importance of continuing to do research and where applicable adopt modern biotechnologies to safely improve the attributes of agricultural production systems, and the plants and animal products used and consumed by the world’s human population.
- FASS endorses that rational, scientifically-based systems be adopted in governmental policy regarding the research and introduction of agricultural biotechnologies, including the production, marketing, and global trade of plant and animal products derived from the use of biotechnology.
- FASS can provide information and educational assistance to any agency or educator as a resource to support the science underpinning the use of a biotechnology related to animal agriculture.
- FASS encourages funding for research and education necessary to provide the fundamental biological knowledge of organisms, including genomes, that will lead to strategies for global solutions that address the grand challenges for production of abundant, safe and affordable foods for the 21st century and beyond.

References:

1. "The Convention on Biological Diversity (Article 2. Use of Terms)." United Nations. 1992. Retrieved on February 6, 2008.
2. http://www.grid.unep.ch/geo1/ch/ch4_9.htm Accessed 07DEC2010.
3. USDA Agricultural Projections to 2017. Office of the Chief Economist, World Agricultural Outlook Board, U.S. Department of Agriculture. Prepared by the Interagency Agricultural Projections Committee. Long-term Projections Report OCE-2008-1, 104 pp.
4. Food and Agriculture Organization of the United Nations (FAO). 2004. Protein Sources for the Animal Feed Industry. Expert consultation and workshop. Bangkok 29April-3May 2002. FAO, Rome.

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