

AIMBE POSITION STATEMENT

CONGRESS MUST RECOGNIZE THE BENEFITS TO OUR HEALTH AND OUR FOOD SUPPLY OFFERED FROM ADVANCEMENTS IN BIOENGINEERING AND BIOTECHNOLOGY

Our nation's food supply, and ten-percent of our national exports rely on the agricultural industry of America. Not only does our agricultural base feed the world, but it also develops plant and animal technologies which will improve the health of Americans, and may help to clean the environment.

Benefits of Biological Engineering

- Biological engineering-derived food can boost the nutritional value of foods. For example, the genetically modified "Golden Rice" contains beta-carotene for production of Vitamin A, in order to prevent blindness and death in deficient children.
- Biological engineering helped produce a vaccine that protects animals in the wild against rabies and a vaccine for "shipping fever" of cattle, the biggest killer of beef cattle in feedlots. These developments have helped to reduce the spread of such diseases in both animal (and in the instance of rabies) humans, resulting in fewer cases of each, and lower costs associated with either healthcare for the rabies patient, or economic loss for the rancher.
- The development of pest-resistant and disease-resistant crops will increase yields and improve hunger in developing countries. Plants that can be bred to tolerate dry and saline soil will increase available farmland. For example, an Agricultural Research Service (ARS) scientist used bioengineering to find a gene that could allow wheat, a major food staple, to grow on millions of acres worldwide that are now hostile to the crop. ARS scientists have also developed an experimental potato hybrid that contains genes to resist a new, more virulent strain of the so-called "late blight," the disease that caused the Irish potato famine in the 1840s.
- Biological engineering can help reduce the use of insecticides and herbicides. For example, Bt cotton, a widely grown bioengineered crop, kills several important cotton pests. Biological engineering-derived pigs can express salivary phytase and produce low-phosphorus manure that is beneficial to the environment. Transgenic cottonwood trees are being tested for their potential to remediate soil and water contaminated with mercuric compounds.
- Engineered crops that are disease-resistant can rescue a crop market economically. For example, the development of two types of virus-resistant papaya saved the Hawaiian papaya industry from being devastated by the papaya ringspot virus.

In order to continue to identify these and other bioengineering based solutions to problems facing our food supplies, AIMBE supports the following legislative actions

- AIMBE calls for increases in federal support and investment at the Department of Agriculture's Agricultural Research Service. ARS conducts research to develop and transfer solutions to agricultural problems of high national priority and provide information access and dissemination to: ensure high-quality, safe food, and other agricultural products; assess the nutritional needs of Americans; sustain a competitive agricultural economy; enhance the natural resource base and the environment, and provide economic opportunities for rural citizens, communities, and society as a whole.
- Additionally, AIMBE calls for increased collaboration between researchers at the ARS and scientists and researchers in other federal agencies such as the National Institutes for Health, the Food and Drug Administration and the Environmental Protection Agency. This collaboration will allow for a sharing of resources to benefit the quality of life and wellbeing of American's through ensuring a healthy and safe food supply. Further, it will allow technology which is identified for the agricultural industry at the ARS to be potentially transferred to other communities such as to biomedical or environmental engineers.

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Sources:

United States Department of Agriculture

The American Institute for Medical and Biological Engineering (AIMBE) is the authoritative voice for the value of medical and biological engineering to society. It is an organization of leaders in medical and biological engineering consisting of academic, industrial, professional society councils and elected fellows.



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