CEP Chemical Engineering Progress

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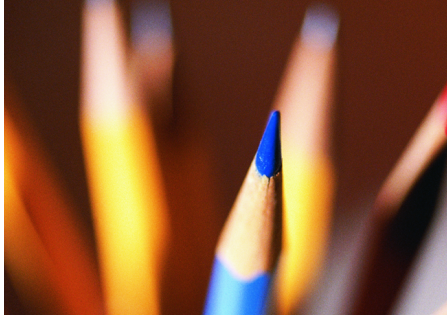

Critical Issue: Genetically Modified Crops

Tackling sensitive and timely issues that impact the general public and in which chemical engineers can play a key role is the continuing theme of the Critical Issue Series (CIS; p. 15). In its second outing, the CIS at the Annual Meeting (Indianapolis, IN; Nov. 3-8) focused on the emotionally charged topic of cloning and the safety concerns of genetically modified crops (GMC).

While it may be a little known fact that over two million people are eating products produced via biotechnology each day, as noted at the CIS by C. S. Prakash, professor of plant molecular genetics and director of the Center for Plant Biotechnology Research at Tuskegee Univ., we are certainly aware of the negative publicity received by companies who produce GMCs. Many of us may remember the GMC incident that occurred two years ago, in which gene-altered corn, StarLink (which contained an insecticidal protein), produced by Aventis CropScience (now a part of Bayer AG) had to be recalled. And just this month, ProdiGene Inc. (College Station, TX), a small biotech firm, made the news when traces of leaves and stalks from its genetically modified corn (containing a protein that may serve as a vaccine against viral diseases in pigs) were found in soybeans in a grain warehouse in Nebraska. The result – ProdiGene will buy the soybeans, estimated to be worth over $2 million, and try to sell them as fuel.

Although the goals of GMCs are expected be beneficial to society (*e.g.,* increased food supply and greater quantities of drugs), we are charting into unknown territory, and the result is strong public concern about safety. "There must be zero-tolerance where public confidence in the integrity of the food supply is involved," noted Biotechnology Industry Organization (BIO) executive director for food and agriculture, Michael J. Phillips, in a statement after the Prodigene news came out. "This incident, however, should not overshadow the benefits of this emerging technology," he continued.

Certain measures are being taken to address safety concerns. For instance, BIO recently announced that its members would not grow altered corn in the Midwestern corn belt, or altered canola in the Canadian canola belt. Additionally, there are tools that are being developed to keep biotechnology in check. Take for instance the Technology Protection System developed by the USDA's Agricultural Research Services, which is designed to prevent the possibility of transgene movement (Oct. 2002, p. 15).

Comprehensive and effective communication is key to overcoming the hurdle of negative publicity. The best way to stay informed is by attending such meetings as the CIS or by reading about GMCs at updated websites such as www.bio.org, www.agbiotech.com or www.agbioworld.com.

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