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Experts Examine Gene Flow and Co-existence in Agriculture and the Environment

Washington, D.C. -- Experts in agriculture, ecology, and plant biology gathered on September 7-8 in Washington, D.C., to examine the interface between diverse mechanisms of trait transmission among plants and the co-existence of different agricultural production systems. The movements of genes and traits between crops and among crops and their related wild relatives have potential economic and biological impacts, particularly with respect to genetically engineered (GE) plants. While genetic engineering has produced improved crop varieties that are utilized on over half of the crop acreage in the U.S., some agricultural sectors, particularly organic and export, serve markets that are sensitive to the inadvertent presence of even very low amounts of GE products.

More than 110 participants attending the conference on “The Science of Gene Flow in Agriculture and Its Role in Co-existence” discussed biological and management strategies to minimize gene flow and mitigate potential impacts. Speakers from seed and biotechnology companies, academic institutions, government research organizations, trade associations and certification agencies presented the latest information on the consequences of unwanted gene flow and methods for its prevention. Topics included management and stewardship guidelines that are utilized to produce identity-preserved products, the potential consequences if agricultural traits were transmitted to wild or weedy relatives, implications for biofuel crops, and economic impacts of both gene flow and mitigation strategies. The conference highlighted the latest scientific advances in methods to monitor gene flow and to modify flowering and fertility of plants to prevent unwanted pollen or seed dispersal. There was consensus that absolute containment or zero-tolerance thresholds were not achievable in practice but that gene flow could be reduced to very low levels that would meet end-use based standards and have minimal environmental impact.

Dr. Allen Van Deynze of the Seed Biotechnology Center at the University of California, Davis, organizer of the conference, noted that “The meeting brought together experts from across the agricultural and ecological spectrum to identify research targets and mitigation strategies that will enable all segments of agriculture to meet their market goals while minimizing impacts on the surrounding environment.” A subgroup of experts will develop a report and publication to communicate the outcomes of the conference, which was funded by the USDA’s National Institute of Food and Agriculture and Biotechnology Risk Assessment Grant programs. For further information, see <http://sbc.ucdavis.edu> or contact sbc@ucdavis.edu.