

Monsanto scientist says chances to mitigate climate change are 'dim'

Tiffany Stecker, Environment & Energy Publishing, 2-27-12

Efforts to curb greenhouse gas emissions to slow the effects of climate change have made little progress, leaving global agriculture no choice but to adapt to warmer, wetter and more erratic climates, said an environmental scientist with one of the world's largest agriculture companies.

"The prospect of mitigation is actually growing increasingly dim," said David Gustafson, a senior fellow in Monsanto Co.'s environmental and agricultural policy lead program. Gustafson spoke on a panel on assessing risks and opportunities for agriculture in the context of climate change at the Agriculture Department's annual Agriculture Outlook Forum.

Gustafson, who serves on the development and advisory committee for the U.S. Global Change Research Program's National Climate Assessment, clarified that the statement was his own, and not a reflection of the National Climate Assessment as a whole. The assessment, a comprehensive report to measure the impacts of climate change on environment, health, agriculture, energy use and other fields, will issue its next report in 2013.

Gustafson, who admits he "used to be a bit skeptical about climate change," said that warming attributed to human activity is equal to an approximately 2 percent increase in solar radiation. The concentration of carbon dioxide in the atmosphere is around 390 parts per million.

"There really aren't any [actions] to stop these emissions," he said.

Last month, USDA released its Plant Hardiness Zone Map, the first review of crop suitability across the United States since 1990. The map shows an upward trend in planting zones, suggesting that the northern belts of the country are now better able to host plants that would have struggled to survive 20 years ago.

'There is something going on'

At the official release of the map, USDA officials cautioned that it should not be held as a sign of climate change. The northern shift of the zones is more closely attributed to improved technology, and the time range for the map is not long enough to establish a long-term climate trend.

Despite the department's caution not to jump to a climate conclusion, Gustafson believes it's still an indication of warming.

"Personally speaking, there is evidence here that there is something going on here," he said.

Variation in crops yields in the United States has decreased significantly in the past 30 years due to more efficient management and products, according to Gustafson's analyses.

Monsanto, one of the largest agricultural companies in the world, began using the tag line "Producing more, conserving more, improving lives" in its advertisements in 2008 to reflect a new focus on yields. The company has been vocal in its push for increasing research in advanced breeding techniques and biotechnology to increase crops yields in a climate-stressed world.

Last week, the company announced it would launch the first trials of drought-tolerant DroughtGuard hybrid

corn this spring on Great Plains farms.

Critics have said that the company's technology will do little to increase yields globally. The Union of Concerned Scientists gave the company a grade of F last month for sustainable agriculture, saying it promotes solutions that serve its own interests.

A void in economic models

The last National Climate Assessment, released in 2008, did not include extensive analyses on the economic impacts of climate change on agriculture, said William Hohenstein, director of the climate change program in USDA's Office of the Chief Economist, who called on conference attendees to help contribute to the agriculture section.

Elizabeth Marshall, an economist with USDA's Economic Research Service, said that researchers have been less successful in applying changes in farm management to economic assessments for climate change. The rise in pests and pathogens has been difficult to quantify, as well, and could eliminate the potential benefits of warmer weather at northern latitudes.

"It's a critical part of the analysis that has not received attention in the literature," said Marshall.

International impacts are expected to be far more significant than domestic ones, she added. More consistency in hydrological scientific data, as well as a better understanding of uncertainty, would better help assess the economic impacts of climate change.