CLEAN AIR COOL PLANET

Weeds, pests threaten crops, gardens in warmer, wetter climate, experts say

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Providence, RI -- Noxious weeds, including poison ivy and ragweed - the pollen of which is a leading cause of allergies in late summer - will be among the big winners as levels of carbon dioxide in the atmosphere increase. Invasive crop pests and plant diseases are likely to increase too as a result of global warming.

Experts from across the country discussed this and other troubling news for farmers and gardeners at the Impacts of Climate Change on Horticulture symposium here Saturday. Over 200 horticultural leaders attended the day-long event, including professional horticulturalists, Extension educators, and university faculty. A group discussion at the end of the day focused on education outreach and the need for more resources to understand how warming already underway will affect water resources, growing seasons, and plant health.

While weeds strengthen their grip on America's farmland, horticultural crops including pumpkins, tomatoes and apples may suffer losses in production and quality due to warmer temperatures and increased drought. Potatoes were singled out as a cool-climate crop that may increasingly be pushed towards Canada, while beans and asparagus are likely to become stringier and tougher in a warmer world.

"American farmers are already noticing the effects of global warming. In Vermont, the increasing threat of drought has forced farmers to pay for irrigation systems and in New York, warmer winters have led to an improvement in conditions for wine producing grapes, " noted Adam Markham of Clean Air - Cool Planet, one of the symposium organizers, along with Cornell University's horticulture department. "But we need to be able to predict with much greater certainty the effects continuing climate change will have on our ability to produce food, feed, and other crops, as well as garden plants."

The symposium, the first to address horticultural crops and climate change in the United States was part of the centenary annual meeting of the American Society for Horticultural Sciences, and was urgently needed, according to David Wolfe, Cornell professor of horticulture, because "increasing temperatures and higher concentrations of carbon dioxide alter the way all of the factors in horticulture interact, from soil and water to weeds and insects, and we need to understand the implications of this."

Scientists speaking at the symposium, including leading climate experts, pest specialists, and crop researchers, noted that common assumptions about ways to deal with climate change are unlikely to prove useful.

"We saw pretty clearly that the idea that you will simply be able to move crops northward or deal with the projected increases in weed populations with herbicides are misguided," said Markham. "The processes at play are much too complex."

Climate scientists Bill Moomaw from Tufts University, Cameron Wake from the University of New Hampshire, and Arthur DeGaetano from Cornell, gave an overview of changes that are likely in the United States. Predictions include, along with a warming of the atmosphere, a range of affects from increased rainfall leading to flooding in some areas while other areas will see drought during the growing season and the spread of diseases and weeds.

"If you look at just the projected increases in noxious weeds - things like kudzu and Canada thistle, it's daunting," Markham said, noting that 2,300 acres of productive land are lost to weeds every day, at a cost to the economy of more than $13 billion annually.

"The common wisdom now is that herbicides can beat back weeds encouraged by more CO2, more moisture, and longer growing seasons," Markham explained. "But the research we saw indicates that in a higher CO2 world, herbicides will be less effective."

The scientists said increased research would be needed, as well as direct outreach and education work with farmers and gardeners through cooperative extension services, botanic gardens and garden clubs, if severe impacts on gardens, orchards, and crops were to be avoided. Funding will need to be available for research into how agricultural and horticultural interests can adapt to changing climate conditions, the scientists agreed.

"But we will need to move beyond where we are now politically regarding the issue of climate change if this is going to happen," Markham said.

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