Weeds Won't Wait: Don't Hesitate

For Immediate Release

Contact: Lee Van Wychen
Science Policy Director
National and Regional
Weed Science Societies
Lee.VanWychen@wssa.net
202-746-4686

March 25, 2008

CLIMATE CHANGE MAY BE FUELING A NEW GENERATION OF MORE AGGRESSIVE WEEDS

(LAWRENCE, Kansas) — Is global warming fueling a new generation of more aggressive weeds? According to recent research, the answer may be yes.

One of the major characteristics of a warming planet is an increase in the amount of carbon dioxide in the atmosphere. Rising carbon dioxide has been shown to help vegetable and grain crops grow more quickly, become more drought-resistant and produce potentially higher yields. Unfortunately, though, the impact of rising carbon dioxide seems to be far more pronounced in the weeds that compete with crops than in the crops themselves.

"Weeds are survivors," said Lee Van Wychen, director of science policy for the Weed Science Society of America. "They can fill various niches and thrive under a wide range of conditions. While we have about 45 major crops in the U.S., there are more than 400 species of different weeds associated with those crops. There is always another weed species ready to become a major competitor with a crop if growing conditions change, such as an increase in carbon dioxide levels."

The impact of rising carbon dioxide levels on weeds can be striking. In a study conducted by Dr. Lewis Ziska of the U.S. Department of Agriculture's Agricultural Research Service, weeds grown under urban conditions of warmer temperatures and more carbon dioxide – conditions anticipated for the rest of the world in 50 years – grew to *four times* the height of those in a country plot 40 miles outside the city, where carbon dioxide and temperature reflected background conditions.

So what if there are a few more weeds? Well, Ziska's research shows that common ragweed plants exposed to higher levels of carbon dioxide dramatically increased the amount of pollen they produced. A doubling in carbon dioxide led to a quadrupling of pollen. Some people are allergic to ragweed pollen, resulting in the "hay fever" response, including sneezing and watery eyes. Additional work by Ziska also suggests that even recent increases in carbon dioxide during the last 50 years may have led to bigger poison ivy plants with a more virulent form of the oil that causes people to break out in a rash.

"As the climate and carbon dioxide levels change, we can no longer assume the weed control strategies we used in the past will continue to work," Ziska said. "Not only are some of the nation's most invasive weeds spreading, but they are becoming more difficult and costly to control. Understanding the impact of increasing carbon dioxide on weed control is still in its infancy. While researchers explore new approaches, we will need to mix and match the strategies currently available."

About the Weed Science Society of America

The Weed Science Society of America, a nonprofit professional society, was founded in 1956 to encourage and promote the development of knowledge concerning weeds and their impact on the environment. The Weed Science Society of America promotes research, education and extension outreach activities related to weeds, provides science-based information to the public and policy makers, and fosters awareness of weeds and their impacts on managed and natural ecosystems. For more information, visit www.wssa.net.

###