Carbon Dioxide is Good for the Environment

by John Carlisle

Carbon dioxide is good for the environment.

That simple fact must be restated to counter environmentalists' baseless allegations that the accumulation of man-made carbon dioxide, produced by cars, power plants and other human activities, is causing dangerous global warming.

Indeed, far from being a poisonous gas that will wreak havoc on the planet's ecosystem, **carbon dioxide is arguably the Earth's best friend** in that trees, wheat, peanuts, flowers, cotton and numerous other plants significantly benefit from increased levels of atmospheric carbon dioxide.

Scientists have lots of evidence demonstrating that increased carbon dioxide levels leads to healthier plants. A team of scientists in Nevada conducted a five-year experiment in which they grew one group of ponderosa pine trees at the current carbon dioxide atmospheric level of about 360 parts per million (ppm) and another group of pines at 700 ppm. The doubled carbon dioxide level increased tree height by 43 percent and diameter by 24 percent. Similarly, a team of scientists from Virginia Tech University reported that growing loblolly pine trees in a greenhouse with a carbon dioxide concentration of 700 ppm increased average tree height 9 percent, diameter by 7 percent, needle biomass by 16 percent and root biomass by 33 percent.2

Increased atmospheric carbon dioxide doesn't just make a plant bigger. **Carbon dioxide also makes plants more resistant to extreme weather conditions**. In a study discussed in the journal Plant Ecology, a team of scientists subjected the Mojave Desert evergreen shrub to three different concentrations of carbon dioxide - the current level of 360 ppm and at 550 ppm and 700 ppm. The plants, which were being grown in simulated drought conditions, responded more favorably in the carbon dioxide-rich environments. Photosynthetic activity doubled in the 550 ppm environment and tripled at 700 ppm. Increased photosynthetic activity enables plants to withstand drought better.3

Likewise, a team of biologists grew seedlings of three yucca plants in cooler greenhouse environments at the 360 ppm and 700 ppm concentrations. The yucca plants exposed to the enhanced carbon dioxide concentration showed a greater resistance to the colder temperatures. Dr. Robert Balling, a climatologist at Arizona State University, notes that by making plants healthier and more resistant to extreme weather conditions, higher levels of atmospheric carbon dioxide expands the habitat of many plants, improves rangeland in semi-arid areas and enhances agricultural productivity in arid areas.4

Another benefit of enhanced atmospheric carbon dioxide is that it helps the tropical rainforests. Scientists from Venezuela and the United Kingdom grew several species of tropical trees and other plants in greenhouse conditions at carbon dioxide concentrations double the current level. The plants responded favorably, showing an increase in photosynthetic activity. The scientists concluded that, "In a future atmosphere with a higher carbon dioxide concentration, these species should be able to show a higher productivity than today."5

Another team of British and New Zealand researchers grew tropical trees for 119 days at elevated levels of atmospheric carbon dioxide. They found that the enriched carbon dioxide environment stimulated the trees' root growth by 23 percent. Expanded root systems help tropical trees by increasing their ability to absorb water and nutrients.6

Bigger trees, increased resistance to bad weather, improved agricultural productivity and a boon to rainforests are just some of the many benefits that carbon dioxide bestows on the environment. With little evidence that carbon dioxide triggers dangerous global warming but lots of evidence showing how carbon dioxide helps the environment, environmentalists should be extolling the virtues of this benign greenhouse gas.

Footnotes:

2 Dr. Robert Balling, "Pine v. Weeds," World Climate Report, Vol. 6, No. 7, December 26, 2000.

3 Dr. Robert Balling, "Evergreener," World Climate Report, Vol. 6, No. 6, December 12, 2000.

4 Dr. Robert Balling, "CO2 as Antifreeze," World Climate Report, Vol. 6, No. 4, November 6, 2000.

5 Dr. Robert Balling, "CO2 Packs Tropical Punch," World Climate Report, Vol. 6, No. 5, November 20, 2000.

6 Ibid.

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