

Hudson Institute

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BIOTECHNOLOGY HOLDS KEY TO PROTECTING ENDANGERED SPECIES, FEEDING WORLD'S GROWING POPULATION, SAYS NEW HUDSON REPORT

Advances in biotechnology, including the genetic engineering of crops and livestock, and the adoption of high-yield farming and forestry methods will enable the world to support an increasingly affluent population twice its current size while preserving existing forests and wildlife, according to a new study released today by Hudson Institute.

The author, Hudson Senior Fellow Dennis T. Avery, refutes widely held fears that population growth and industrialization, especially in the Third World, will lead to a rapid loss of plant and animal species. In Hudson's Executive Briefing *Biodiversity: Saving Species with Biotechnology*, Avery argues that environmentalists' recommendations that policy makers promote organic farming techniques rather than modern farming methods in order to protect the environment and biodiversity are misguided and counterproductive.

"The real danger to biodiversity is habitat destruction," said Avery, who is the director of Hudson's Global Food Issues Center and an internationally known expert on agricultural and environmental policy. "Organic farming produces lower crop yields, which means farmers must cultivate more acreage. If we didn't have today's advances in high-yield farming, we would have had to plow down an additional ten million square miles of land--an area roughly equal to the size of North America--in order to feed the world's current population of 5.5 billion. Today's farmers produce twice as much food as they did in 1950 on the same amount of land. If we pursue biotechnology, within a generation we will be able to produce three times as much food as we do today."

Avery also contends that a reliance on organic farming would hurt consumers: "Organically grown food doesn't look as good as the food we buy in the supermarket today. You have a hard time getting your children to eat it. And, at twice the price, many consumers wouldn't be able to afford the fresh fruits and vegetables that are known to decrease the risk of cancer and other diseases."

The recent advances wrought by biotechnology are just a beginning. Avery's 44-page report contends that, in the decades ahead, biotechnology will:

- Renew the momentum of plant and animal breeding, the key to most of the world's previous gains in crop yields, by tapping a broader range of the world's genes.

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- Give the world its first truly high-yield forestry. Cloning and tissue culture are already boosting tree crop yields by up to sixfold. Forest-product needs can be met by genetically-engineered tree plantations that will yield 20 times the timber and pulp of the natural forests now being logged. Thus, biotechnology will enable countries to preserve most of the world's remaining wild forests.
- Create additional biodiversity. Advances in genetics will enable scientists to recreate lost species such as the American elm and chestnut trees that succumbed to natural diseases and create new species.
- Reduce the release of farm chemicals into the environment by breeding pest-resistant plants, creating biopesticides, and adding sex-attractants to pesticides to enhance their effectiveness.

In *Biodiversity*, Avery also recommends a number of policy initiatives that will enable farmers and consumers to reap even greater benefits from advances in biotechnology. "One crucially needed change is for governments to turn over communally held lands to private owners in order to give individuals proper economic incentives to preserve threatened resources and adopt new, more productive technologies," Avery noted. "Commons such as the Amazon rain forest have always risked environmental disaster." Individuals who own their land have the incentive to invest in better forms of irrigation and other methods of improving crop yields and conserving natural resources.

The son of a Michigan dairy farmer, Avery served as senior agricultural analyst for the U.S. Department of State from 1980 to 1988. He is the author of Hudson's book *Global Food Progress 1991* and numerous articles on public-policy issues regarding agriculture and the environment.

Hudson Institute is a private, not-for-profit policy research organization founded in New York in 1961 by Herman Kahn. Hudson analyzes and makes recommendations about key policy issues for business and government leaders and the public at large. Now headquartered in Indianapolis, Hudson also has offices in Washington, D.C., Montreal, and Brussels.

For more information about this report or the institute, please contact Patricia Scherschel, Hudson's Director of Communications, at the Herman Kahn Center in Indianapolis by calling (317) 545-1702.

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Hudson Institute
Executive Briefing

BIODIVERSITY:

Saving Species with

Biotechnology

Dennis T. Avery