

4-H Program Offers Biotechnology Curriculum

CHEVY CHASE, Md. – An innovative curriculum to boost student enthusiasm and interest in the burgeoning field of biotechnology has been launched through a partnership involving National 4-H Council, Monsanto Corporation, and Pioneer Hi-Bred International.

The new curriculum, called "Fields of Genes, Making Sense of Biotechnology," is intended for students in Kindergarten through the 12th grade.

The 96-page leaders' guide is designed to help elementary and high school teachers provide their students with a basic understanding to the biotechnology field today as well as its future direction.

"We are concerned about continuing and recent reports which show that only a small percentage of Americans have a grasp of basic scientific ideas," said Dick Sauer, president and CEO of National 4-H Council.

"We hope this new curriculum will help make science and agriculture come alive for youngsters across the country. Programs such as Fields of Genes can help American students become more 'science literate,' while also allowing them to better understand the impact of science on the food that they eat

and the world in which they live."

"Biotechnology is now an accepted part of agriculture in the United States, and gradually is being adopted by farmers in other parts of the world, because it provides wonderful tools to help feed a growing world population better food grown in a more sustainable way," said Arnold W. Donald, senior vice president, Monsanto Corporation.

"Any new technology, no matter how valuable, requires understanding before it can be used appropriately and to the full benefit of everyone. The students of today are the food producers and consumers of the future, so it is important that they understand this technology, and Fields of Genes, we believe, is a great vehicle to further that understanding."

John Soper, Ph.D., director of Sunflower Research at Pioneer Hi-Bred International, said "Biotechnology offers tremendous potential for improving the productivity of the world's agricultural producers as we move into the next millennium.

"As with many new technologies, the scientific fundamentals of biotechnology are poorly understood by many and a num-

ber of complex issues have arisen from its use. Fields of Genes explores basic scientific principles which form the foundation of biotechnology." It is our hope that Fields of Genes will equip students with an adequate scientific foundation to make better informed decisions as they deal with emerging issues regarding the use of biotechnology."

The new curriculum teaches students about the wonders and complexity of life, from the smallest one-celled protozoan to the multi-billion-celled human, in the context of agriculture and biotechnology.

Curriculum activities for students in the primary grades focus on understanding the living and nonliving parts of their world. Fields of Genes exercises help children begin to develop the knowledge base on which they will build values, skills and actions.

Middle school children continue to explore and understand genetics, biotechnology, and genetic engineering, while high schoolers are encouraged through exercises in Fields of Genes to plan environmental stewardship activities related to biotechnology and the environ-

Each chapter of Fields of Genes contains information and activities about different aspects of biotechnology, from focusing on habitats and organisms' requirements for life to applications of biotechnology and genetic engineering. Each chapter contains background information for leaders and each activity contains how-to information, such as materials needed, and time involved to complete the project.

Other aspects of the Fields of Genes curriculum include recommendations on how to adapt activities for older/younger children, relevant project ideas suitable for science, county and state fairs and groups discussion topic recommendations.

The curriculum was produced by National 4-H Council's Environmental Stewardship program, which encourages youth to make a commitment to use natural resources responsibly for the sake of their communities and the world around them.

Reporters wishing to receive a complimentary copy of Fields of Genes, Making Sense of

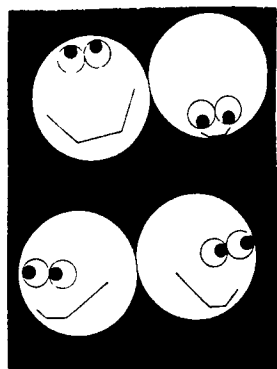
Biotechnology, should call 301-961-2833.

The public can order copies by calling National 4-H Supply Service at 301-961-2934 and asking for product number ES0046.

The cost is \$5 plus shipping and handling. Orders may also be placed by fax at 301-961-2937.

National 4-H Council is a non-profit organization that partners with 4-H, the Cooperative Extension System, and other organizations to pursue its vision and accomplish its mission... to realize the transformational power of youth and adults learning together to address life's critical challenges, and implement its strategies.

National 4-H Council provides hands-on, co-educational programs and activities that involve youth as partners, establish youth as resources in their communities, and provide leadership training and experience to ensure their success. More than 5.6 million youth, ages five to nineteen participate in the 4-H program nationwide.



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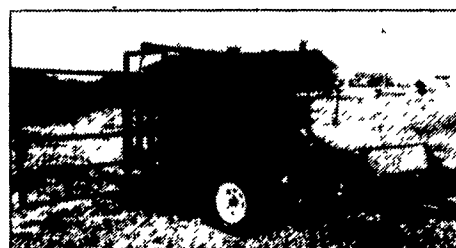
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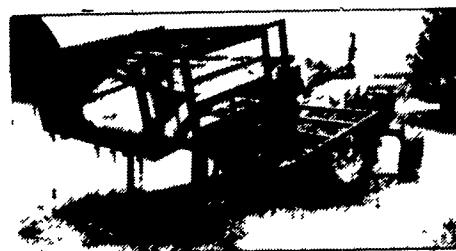
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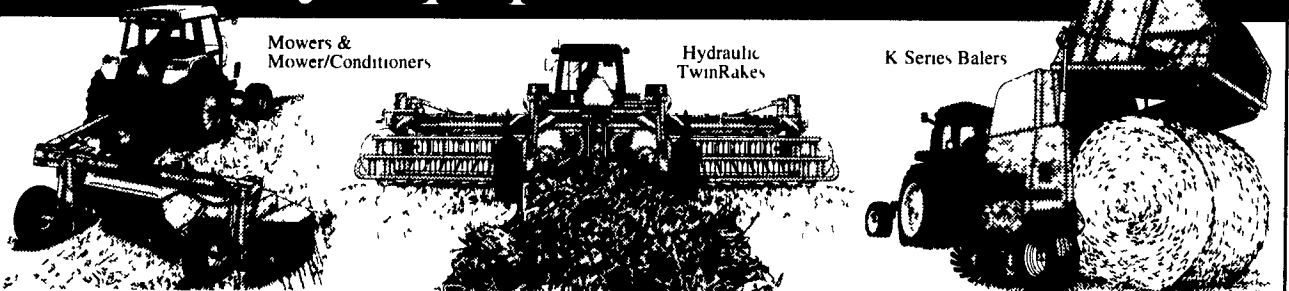
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