



Corn Genome

Overview

In 1997, the National Corn Growers Association (NCGA) spearheaded the creation of a major plant genome research effort, resulting in the National Plant Genome Initiative (NPGI). Managed by the National Science Foundation (NSF) and supported by the Interagency Working Group on Plant Genomes, this initiative has led to an unprecedented increase in the understanding of the genomics and genetics of plants. The ultimate goal of the initiative is to understand the structure and function of all plant genes at all levels. This initiative has changed the way research is conducted in plant biology, attracted a new generation of scientists and contributed new insights and knowledge into plant genomics and biology.

A major milestone was reached in 2008 with the completion of the \$32 million draft sequencing of the corn genome. This accomplishment lays the foundation in the next paradigm of corn genetics. As a result, corn growers will be able to plant varieties of corn that are better able to withstand drought and other environmental stresses and are better suited to market and environmental needs. Consumers will benefit from a more sustainable, nutritious and abundant food supply.

The NPGI released its new five-year plan for the program in 2009. The plan includes objectives that will translate the sequence data into useful information regarding the structure and function of corn's genes. Continuation of this program is critical to successfully utilizing the last decade's investment and will ultimately improve the profitability and efficiency of corn production.

Other benefits include:

- Increased efficiency of public and private corn breeding programs
- Quicker delivery of new, beneficial traits
- Enhancement of drought tolerance and pest resistance traits in corn
- New efficiencies to be gained in utilization inputs such as nitrogen
- Attraction of quality students and researchers to plant genomic and genetic fields
- Creation of a model to complete other major crop genome sequences

Action Needed

- Funding for the National Science Foundation as authorized
- Support funding increases for the National Plant Genome Initiative