

Title Page & Abstract

An Interview with Robert Fraley

Part of the Abraham Lincoln Presidential Library
Agriculture in Illinois Oral History project

Interview # AI-A-L-2020-022

Robert Fraley, a pioneering plant geneticist who worked for Monsanto from the early 1980s until 2018, was interviewed on the date listed below as part of the Abraham Lincoln Presidential Library's *Agriculture in Illinois* Oral History project.

Interview dates & location:

Date: Feb 5, 2020 Location: St. Louis, Missouri

Interview Format: Digital audio

Interviewer: Craig Moots, ALPL volunteer

Transcription by: _____

Edited by: _____

Total Pages: _____ Total Time: 2:34 / 2.57 hrs

Accessioned into the Abraham Lincoln Presidential Library Archives on November 17, 2020.

The interview is archived at the Abraham Lincoln Presidential Library in Springfield, Illinois.

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Abstract

Robert Fraley, Agriculture in Illinois, AI-A-L-2020-022

Biographical Information Overview of Interview: Robert Fraley was born on January 25, 1953 in Danville, IL and grew up on a typical 300-400 acre central Illinois grain and livestock farm close to Hoopeston, Illinois. Robb graduated from Wellington High School and attended the University of Illinois receiving a degree in Biology. He remained at Illinois for a Ph.D. in Dr. Kaplan's lab where his research was on photosynthetic bacteria. While in school, he met his future wife Laura; they were married and moved to University of California-San Francisco where Robb accepted a Post-doctorate position. California at that time was a hot bed of biotech activity with universities such as Stanford and UCSF and startup pharmaceutical companies like Genentech all conducting biotech research.

After completion of his Post-doc work, Robb was looking for a position in either industry or academia where he could pursue his interest in developing a gene transfer system in plants. He accepted a position with Monsanto in St. Louis where they were in the early stages of building a plant biotech program. A team was formed at Monsanto with members that had expertise in different areas, Robb in gene delivery, Steve Rogers in gene cloning and Rob Horsch in tissue culture. The plant species they began with was the petunia due to its ability to regenerate plants from single cells and flower color genetics that helped identify the location of the inserted gene. At the same time, several other labs were also working to develop gene transfer techniques in plants. In 1982 Monsanto's team was successful in inserting a kanamycin antibiotic resistance gene into a petunia cell and generating plants that were fertile, with the inserted trait being stable. Once gene transfer was demonstrated, the company moved to developing Roundup resistance in commercial crops, including soybeans, cotton and corn, and insect protection in cotton and corn. Roundup Ready soybeans and Bt cotton were both commercially launched in 1996.

Robb discusses two controversial internal decisions that in retrospect were very important for the transition of Monsanto to a biotech traits and seed company. The first was to broadly license new biotech traits to other seed companies, even competitors. The second was for Monsanto to purchase over thirty seed companies, including Asgrow, DeKalb and Holden's. The acquisition of seed companies and broadly licensing biotech traits allowed rapid trait penetration into the marketplace. In 1999 Monsanto merged with Pharmacia, was purchased by Pfizer and then the agriculture business went through an Initial Public Offering (IPO). Robb was one of the senior executives that helped with roadshows to obtain financial support for the successful IPO of the new startup company. The negative reaction and misinformation, especially in social media, to genetically modified organisms (GMO's) is discussed. Fraley believes that companies developing and selling GMO varieties could have been more active in communicating the benefits of the new technology and products and combating the fear of GMO's by refuting the misinformation. Robb also discusses his friendship with Nobel prize winner Norman Borlaug and their shared belief that technology, including gene editing and data analytics, will be needed if the world's growing population is to be fed.

Dr. Fraley retired in 2018 as Monsanto's Executive Vice President and Chief Technology Officer. He received numerous awards for his achievements in agricultural biotechnology including the National Medal of Technology from President Bill Clinton in 1999, the World Food Prize in 2013. He was named a Laureate of the Lincoln Academy of Illinois in 2020.

Subject Headings/Key Words: Photosynthetic bacteria; liposomes; Recombinant DNA; Agrobacterium; Antibiotic resistance markers; Roundup herbicide; EPSP gene; Roundup Ready soybeans; Bt traits; Bollgard cotton; EPA; Norman Borlaug; USDA; FDA; Monsanto; Pharmacia; Pfizer; Genetically modified organism (GMO); transgenic plants; Plant breeding; Climate Corporation; University of Illinois; University of California San Francisco;

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