2015 Top 100 Founders

Whether it’s in plant breeding or business, policy or marketing, sales or education, leadership in the seed industry takes many forms. Meet the most transformational men and women in the seed industry during the past 100 years. From all across the globe, they shape your world.

**B.R. Barwale**

*Founded Maharashtra Hybrid Seed Company*

After getting access to some high-yielding okra seeds, Barwale was impressed with the improved performance of the new hybrids and decided to start Maharashtra Hybrid Seed Company, known as Mahyco, in India. More than 50 years after Barwale sold his first batch of okra seeds to his neighbors, his company contracts with more than 100,000 growers. Since then, seed distribution in India has grown 40-fold. In 1998, he received the World Food Prize award and invested that money into research programs for hybrid rice varieties.

**Henry Beachell**

*Creator of IR8 Rice*

Today, most of the rice grown in the world comes from plants that build on Beachell’s work. From 1931 to 1963, he worked for the U.S. Department of Agriculture to improve rice varieties in the United States. Upon retirement, he took a position at the International Rice Research Institute where his breakthrough IR8 rice variety revolutionized the crop in the 1960s. Instead of 1 to 2 tons of grain per hectare, growers started averaging 4 or 5 tons, and some saw as much as 10 tons. Beachell worked all his life, consulting with Rice-Tec, the first company to commercialize hybrid rice seed in the United States.

**Norman Borlaug**

*Father of the Green Revolution*

He devoted his life to crop improvement. It was on research stations and farmers’ fields of Mexico that Borlaug developed successive generations of wheat varieties with broad and stable disease resistance, broad adaptation to growing conditions across many degrees of latitude and with exceedingly high-yield potential. These new wheat varieties, and improved crop management practices transformed agricultural production in Mexico during the 1940s and 1950s and later in Asia and Latin America, sparking the Green Revolution. Because of his achievements and efforts to prevent hunger, famine and misery around the world, it is said that Borlaug has saved more lives than any other person who has ever lived.

**Kent Bradford**

*Launched the Seed Biotechnology Center*

Through workshops and courses, the Seed Biotechnology Center at the University of California, Davis, has kept more than 2,000 professionals connected to the latest scientific advances that affect the seed industry. One of the most prominent is the Plant Breeding Academy, which hosts workshops in the United States, Asia, Europe and Africa, training seed industry personnel to become plant breeders and filling a shortfall in the profession.

**Robert Chandler Jr.**

*Supported the Green Revolution*

Chandler lead the International Rice Research Institute and rounded up prominent scientists to lead a portion of the Green Revolution. During his decade at IRRI, several new rice varieties were developed, including Henry Beachell’s IR8, lauded as “miracle rice.” IRRI increased rice production by two-thirds in Asia, outpacing population growth.

**Mary-Dell Chilton**

*Helped Create the First Transgenic Plant*

Best known for producing the first transgenic plant in 1983, Mary-Dell Chilton’s achievement has furthered the field of scientific research and continues to drive innovation in the seed industry.

These are the individuals who have provided leadership during trying times, insight to complex issues, and a commitment to something larger than self.

The 100 founders of the seed industry that we’ve chosen to represent the dramatic changes during the past century have all left a tremendous mark — be it in plant breeding, technology, business or the policy arena — that impacts the seed industry. As a group, they represent the industry’s diversity and hail from all over the world.

We know the progress and advancements realized today have not been accomplished by just 100 people. It has required hundreds of thousands of dedicated individuals throughout this rich and highly textured industry, as well as the creativity, drive and fortitude of people like you.
Robb Fraley
Helped Create the First Transgenic Plant
After leading groundbreaking molecular research on how plant bacterium could be adapted as a tool to insert genes from another organism into plant cells, Fraley led the commercial launches of the first genetically modified crops, Roundup Ready soybeans and Bollgard insect-protected cotton.

David Garst
Owner, Garst Seed Company
Under Garst’s direction, the brand flourished and went on to bring many innovative corn solutions to the market. It led the way in developing herbicide-tolerant hybrids, including the first (HI) corn. It also was among the first seed companies to offer European corn borer (Bt) control and herbicide tolerance together in one corn hybrid. Garst was acquired by Syngenta in 2004.

J.C. Hackleman
“Soybean’s Greatest Missionary”
Hackleman was responsible for explosive growth of soybean as a crop in Illinois, as well as educating count less farmers on methods for increasing their yields.

Monty Jones
Bred NERICA Rice Varieties
As head of the West Africa Rice Development Agency’s Upland Rice Breeding Program, Jones was among the first agricultural scientists to understand that Africa needed to do its own research and develop technologies adapted to its specific conditions. In 1994, he and his team succeeded for the first time in producing fertile progenies — “New Rice for Africa,” later dubbed NERICA. Thanks to NERICA’s ability to increase farmers’ harvests by 25 to 250 percent, Africa was catapulted almost overnight from relative obscurity among the international rice research and development community into the limelight.

Gurdev Khush
Creator of IR36 Rice
Mentored by Henry Beachell, Khush was head of plant breeding at the International Rice Research Institute and built IR36 off of IR8. IR36 is considered the most widely planted food crop in the world. Since its creation, rice production increased from 257 million tons to 686 million tons per year. Khush is considered one of the fathers of the Green Revolution.

Yuan Longping
“The Father of Hybrid Rice”
Longping, born in Beijing, is responsible for developing the genetic materials and technologies essential for breeding high-yielding hybrid rice varieties. He was the first scientist to successfully alter the self-pollinating characteristics of rice and facilitate large-scale production of hybrid rice, which has 20 percent more yield than elite varieties. His research institute has trained more than 3,000 scientists from more than 50 countries and farmers around the world continue to benefit from his techniques with the spread and adoption of hybrid rice throughout Asia, Africa and the Americas.

Marc Van Montagu
Helped Create the First Transgenic Plant
From 1996 to 2013, global farmer income gained from biotech crops was an estimated $133.5 billion, according to PG Economics.

Owen Newlin
Industry Leader
As senior vice president of Pioneer Hi-Bred International

Global Reach. Local Touch.
From the world market to the farmer’s market, we breed, produce, and sell vegetable seeds to growers in every corner of the planet. Combining global expertise with local experience, we continue to lead the development of the highest quality seeds in the world.

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Inc., Newlin served as a champion for the industry and gave farmers a voice, helping to establish checkoff programs in eight key-corn producing states. He served on numerous boards and raised infinite amounts of money for various agricultural projects.

Elsa Reinoet
Pioneer of Inoculants
Reinoet and her team are responsible for the creation of products such as Vault HP, Integral and Flo Rite that are available in the United States.

Bernice Slutsky
Leader in Biotech Policy
She’s been influencing policy and how biotech events are handled from the time they receive regulatory approval for commercial use to how regulatory approvals are to be handled and/or maintained once an event’s patent expires.

O.J. Sommer
Founder of Sommer Brothers Seed Company
An innovative seedsmen who tested new selection and drying methods through his company, he was selected to be the first president of the newly formed Illinois Crop Improvement Association in 1922. He led the group that had played, for nearly a century, a significant role in preserving the purity of seed and certifying seed throughout the state.

Harry Stine
Owner, Stine Seed Company
Stine started one of the first soybean breeding programs outside of the university and was one of the first to patent the genetics of soybean seeds in the industry. As a businessman, he negotiated deals licensing the genetics to companies such as Monsanto and DuPont. It’s reported that more than 80 percent of the soybeans planted in the U.S. can be traced back to Stine’s germplasm. Today, the company employs nearly 400 people in 16 states with a focus on corn and soybean genetics.

M.S. Swaminathan
Facilitated Adoption of Improved Wheat Varieties
He converted a generation of farmers in India to new plant technology and high-yielding crop varieties. Having learned of Norman Borlaug’s new dwarf Mexican wheat varieties, Swaminathan invited him to India to help develop varieties that would work there. He set up test plots to bring farmers up to speed. After four crop seasons, wheat production grew from 12 million to 23 million tons, ending the need for grain imports.

Surinder Vasal
Co-Creator for Quality Protein Maize
Combining cereal chemistry and plant breeding techniques, Vasal worked with Evangelina Villegas to combine conventional maize with genetic modifiers. Throughout the 1970s, they produced and analyzed germplasm at an astonishing rate, sometimes processing up to 25,000 samples a year. By the mid-1980s, the team had produced a QPM germplasm with hard kernel characteristics and taste similar to the traditional grain, and with much higher nutritional content.

Evangelina Villegas
Co-Creator for Quality Protein Maize
Along with Vasal, Villegas was charged with developing a quality protein maize germplasm with much higher nutritional value than conventional maize. In the 1990s, the International Maize and Wheat Improvement Center gained the international support and funding to promote the QPM maize variety in Africa. Since then, QPM has also saved lives in China, Mexico and Central America.

Henry Wallace
Introduced the Concept of Hybrid Vigor
He developed the first commercial hybrid corn in 1925. Confident that hybrid seed corn was the future, Wallace went on to form the H.B. Wallace Corn Company in Des Moines, Iowa, in 1926. By the early 1930s, farmers were taking notice—about 1 percent of the corn planted in Iowa came from Wallace’s hybrid seed. By the mid 1960s, almost the entire U.S. corn crop came from hybrid seed corn. The company is what we know today as DuPont Pioneer.

James Watson and Francis Crick
Determined the Structure of DNA
The discovery did not immediately revolutionize agriculture, but it did eventually lead to modern methods of selecting desirable traits. SW