A Farmer’s Fight

When Texas A&M professor Dr. Norman Borlaug first set out to battle starvation in the world, the world doubted his chances. Decades later, many of the hungry have been fed, the skeptics are silenced, the planet is thankful ... and Borlaug? He’s still battling.

By David Ferrell ’02
Dr. Norman Borlaug displays some of the many awards he has received for his life's work, including, in his left hand, the 1970 Nobel Peace Prize.
Texas A&M established the Norman Borlaug Institute for International Agriculture in the fall of 2006. Housed on the eastern edge of campus, the organization hopes to emerge as a worldwide leader of agricultural development through teaching and scientific initiatives.

So what? Institutions often attach lofty mission statements to new programs. Such declarations sound good in theory, but they don’t really guarantee an ability to do anything as quixotic as change the world—especially through a discipline as humble as agriculture.

But this isn’t empty rhetoric. And it isn’t about glamour. The people behind this endeavor have a seriousness that matches their commitment. More important, they have a legitimate capability to meet their goals and impact the human race. After all, the institute’s namesake has quietly made that a personal habit of his for more than 60 years.

If, by chance, you are not familiar with Dr. Norman Borlaug, you are sadly not alone. For some reason, aging scientists don’t register easily within our cultural conscience, no matter how influential they are. And in terms of positive influence, there are few individuals in the history of mankind who have been greater. Norman Borlaug is no doubt a legendary name, even if it isn’t a household one.

His career took root in the earth’s most unforgiving terrain, worlds away from America’s amber waves of grain. When Borlaug’s work began taking shape in the mid-1940s, the planet’s population was reeling under the cruel forces of famine. Starvation had already claimed 160 million lives over the course of 100 years, and there was no reason to expect anything to curb that statistic.

But then this hard-working farmer from the heartland began leading a slow yet steady global crusade against food shortage. Amazingly, after years of balancing relentless experiments with gentle diplomacy, something incredible happened—people began eating again.

Borlaug and his team created a new method for breeding high-yielding wheat varieties that stood up to disease, climate variations and other factors, making it possible to grow the crop in developing countries that, until that time, had been unable to adequately do so on their own.

The wheat first appeared in Mexico, then in Asia and eventually in Africa. That genetically engineered wheat is now widely credited with saving more than a billion lives—greater than one out of every seven people alive today. The movement was dubbed the Green Revolution, and Borlaug was championed as its “father.”

So while mainstream America might shrug at the mention of Borlaug’s name, knowing citizens are quite familiar with the meaning that it carries. As widespread fame eludes him, recognition has been justifiably dramatic.

He won the Nobel Peace Prize in 1970, just one of countless accolades that he has garnered over the years. He has also been presented with the two highest civilian honors bestowed by the U.S. government—earning the Presidential Medal of Freedom in 1977 and the Congressional Gold Medal last year. Borlaug is just the fifth person in history to collect all three of those awards. You might have heard of the others: Martin Luther King, Jr.; Mother Teresa; Nelson Mandela; and Elie Wiesel.

As Dr. Elsa Murano, A&M System vice chancellor and dean of agriculture and life sciences, will attest, it’s difficult to assess her colleague’s life and fully explain what it’s meant to human history.

“Scientist, teacher, humanitarian, Nobel laureate, Father of the Green Revolution—these terms describe Dr. Norman Borlaug,” said Murano. “However, these words can’t begin to capture the magnitude of his accomplishments and impact globally.”

As he excitedly indicates from the living room of his home in a quiet north Dallas neighborhood, there is still a great deal to fight for. And at age 93, he continues to lead the way, carrying the torch he picked up long ago. >>

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Above and Above

Left: Borlaug has taught one semester at Texas A&M every year since 1984 as the university’s Distinguished Professor of International Agriculture.

Left: In recent years, Borlaug has worked to end malnutrition in Africa by implementing his proven agricultural technology there.
Planting the Seeds

Norman Ernest Borlaug was born to Norwegian-American parents in the spring of 1914. Raised on a small farm in northeast Iowa, Borlaug grew up intrigued by the ways in which nature could affect everyday life.

“The biological world, as it impinged on agricultural production and farming methods, just seemed interesting to me,” said Borlaug.

He keenly watched as animals would hibernate or fly south for the winter and, ultimately, return in the spring. He saw firsthand how to plant, grow and harvest crops. And he marveled at the distinct differences between each of the individual seasons.

But in addition to witnessing the natural beauty of an agricultural life, Borlaug was also forced to experience the dark social and economic realities that plagued it during the Great Depression. Borlaug—a teenager by that point—saw local banks crumble, farmers lose their land and markets fail under the strain of those difficult times.

As Borlaug puts it simply, “I saw the plight of the farm people in that part of Iowa.”

For him, that part of Iowa was all he knew. The man who would eventually leave a green thumbprint on the rest of the world was, at that time, a boy who had scarcely traveled more than a few miles away from his rural upbringing. Yet that environment was all he needed to discover his destiny.

Borlaug learned the value of education early on in his town’s one-room schoolhouse. In addition to being exposed to the foundations of science, attending school in that place and time instilled in him an appreciation for community and cooperative behavior.

It was during school that he also developed a passion for something else that now seems slightly ironic for a Nobel Peace Prize winner—wrestling. He loved the sport, and he still credits it for teaching him to always give his
As he pursued a bachelor’s degree in forestry, Borlaug worked at a coffee shop and made money parking cars on campus. His big break came during the summers, though, when he got a job as a ranger with the U.S. Forest Service—something he truly enjoyed and planned to pursue full-time after graduation, until fate changed those plans.

As he approached graduation, Borlaug learned that, due to financial constraints, there would be no job available in the Forest Service for a few months. While he waited, Borlaug figured he would attend some extra classes on the Minnesota campus, including a lecture by Dr. Elvin Stakman, head of the school’s plant pathology department.

The lecture focused on a fungus that attacked several varieties of plants and trees. While that likely wouldn’t capture most people’s interest, Borlaug was entranced by the subject matter.

Stakman spoke dramatically about the potential for science to “eradicate the miseries of hunger and starvation from this earth.” Borlaug instantly made the decision. He abandoned the plan for the Forest Service and instead enrolled in Minnesota’s graduate program for plant pathology.

It would prove to be a critical turning point, both for Borlaug and for the entire world.

Against the Grain

In 1942, after earning both a master’s degree and a doctorate, Borlaug worked briefly for the DuPont de Nemours Foundation before being recruited to oversee a slow-moving project in rural Mexico.

The Mexican government and the Rockefeller Foundation were attempting to aid the struggling wheat farmers of the nation—something that was easier said than done. At that point, disease prevented farmers from raising even half of the wheat required to feed the country’s population. Borlaug quickly realized that such a drastic situation would require bold action.

He wanted to apply progressive scientific methods to the problem, but his new ideas faced uncertain resistance. After all, he was a hotshot American who had no direct experience with the Mexican struggle and who didn’t even speak the language.

Eventually, though, his commitment and work ethic convinced others to buy into his methods. It took several years and countless experiments, but by the mid-1950s, Mexico had tripled its production by growing a new, high-yielding wheat variety that could resist disease and breaking. By all accounts, it was a magnificent success.

But Borlaug was far from finished. He next looked to take his discovery to an Asian continent that was rapidly succumbing to the effects of poverty. To make his concept globally viable, Borlaug began teaching agricultural scientists from around the world how to implement his practices. Borlaug enjoyed instructing young students who were unexposed to institutional bureaucracies and open to new ideas.

“We’re going to teach you to be rebels,” he would tell them on the first day of training. “Not with guns and daggers, but with science and technology.” Borlaug and his associates needed that rebellious spirit to have any hope of success in Asia. It was difficult enough to gain momentum with wheat production in Mexico, but the nations of India and Pakistan posed an even greater challenge. The two feuding countries were facing tragic deficits in food supply and had a tremendous cultural aversion to emerging western technologies. Many observers considered any effort to restore wheat production there to be a lost cause.

Borlaug maintained faith in his techniques, however, and he worked >>

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diligently with the two governments to secure their faith as well. The results were staggering. Wheat production nearly doubled in both India and Pakistan during the late 1960s, and Borlaug’s innovations were quickly introduced throughout the Middle East and North Africa.

The events led William Gaud, then director of the United States Agency for International Development, to famously coin a phrase in 1968 that described what was unfolding.

“These and other developments in the field of agriculture contain the makings of a new revolution,” said Gaud. “It is not a violent Red Revolution like that of the Soviets, nor is it a White Revolution like that of the Shah of Iran. I call it the Green Revolution.”

Borlaug maintains that it was this point in his career that he considers his proudest moment—when increased production was apparent in India and Pakistan and the fruits of his labor were sparking change. The world’s experts agreed and moved to honor Borlaug accordingly.

On Oct. 20, 1970, a gentleman from Borlaug’s ancestral home of Norway called the agricultural scientist’s residence in Mexico City at 4 a.m. to deliver some news. Borlaug, of course, wasn’t home. By that time, he was already out working in the fields, 40 miles away from the city.

His wife, Margaret, received the call and immediately darted out to relay the information—that he had been selected to receive the Nobel Peace Prize. Upon hearing this, Borlaug flatly told his wife that there must have been some sort of mistake or that she had misunderstood. He retreated to the fields without giving it another thought. It wasn’t until local reporters arrived shortly thereafter that things began to sink in.
Receiving the Nobel Peace Prize was, as expected, a pivotal moment in Borlaug’s career—one that would define his work forever. When asked how his life has changed since that day, Borlaug of course expresses gratitude and pride. But then his emotions take a turn.

“It’s been miserable,” he jokes, before emphasizing how the award has instilled a responsibility in him to move ahead. “I have to do a lot of important things that need to be done for the continuation of rapid change in agriculture and food production.

“In a country such as ours, where less than 1.5 percent of the total population is out there producing the food that we need—along with being the largest exporter in the international market—it’s important to use your knowledge and experience to try to influence the well-being of the people of the world.”

That sentiment led Borlaug to Texas A&M, where his knowledge and experience have indeed continued to influence new generations of students.

The World’s Teacher

After decades of living in the Third World, Borlaug and his wife were ready to move on. In 1983, Borlaug wrapped up his work with the Rockefeller Foundation and moved from Mexico. They relocated to Dallas, where their children were living.

Around that same time, Texas A&M University President Frank Vandiver indicated an interest in bringing a Nobel laureate to the faculty. As a school that has always embraced its agricultural roots, it seemed only fitting to target Borlaug.

Administrators first approached Borlaug at a conference in his native state of Iowa, but ongoing commitments prevented him accepting an offer from Texas A&M at that time. Undeterred, they approached him again shortly thereafter at a meeting in West Texas. This time, he agreed to come to College Station, based in large part on his fondness for the atmosphere there.

“The Spirit of Aggieland is something that I enjoy,” says Borlaug. “It starts with the first word—howdy. And it’s embodied by the people you see on campus.”

He joined the faculty in 1984, and he has taught one semester every year since that time. He started out giving graduate students a sweeping view of agricultural development but quickly settled into special lecture series regarding food and conservation.

Teaching is what he always intended to do, even as a teenager in Iowa. In the midst of his distinguished career, teaching was always his favorite endeavor. And students at Texas A&M have benefitted greatly from that passion.

“Dr. Borlaug is very intelligent, and he prides himself as a teacher of young people who are less rigid in their approach to science and technology adoption,” says Dr. Ed Runge, senior advisor of the Borlaug Institute. “He is a problem solver and has had more influence on agriculture than anyone who has ever lived, in my opinion.”

“It influences anyone to be around him,” says Dr. David Baltensperger, head of the department of soil and crop sciences. “His energy and enthusiasm for teaching is what he always intended to do, even as a teenager in Iowa. In the midst of his distinguished career, teaching was always his favorite endeavor. And students at Texas A&M have benefitted greatly from that passion.

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Borlaug is a man accustomed to receiving recognition for his work, but this time, he says, he felt especially moved.

“This one has special meaning,” Borlaug says. “I have more than 50 honorary doctorates, but this one in Aggieland has special significance. I hope it is an expression that I’ve had something of value to pass on to the students.”

It is doubtful that anyone would disagree with that. In addition to imparting the wisdom gained from years of scientific exploration, Borlaug is eager to share the life lessons he’s learned. He stresses the importance of simple tenets, such as always doing your best. And he emphasizes that in taking on any great challenge, it is important to think creatively and have good people on your side.

“If I’ve done something it’s been as a leader of a team. I couldn’t have done anything alone,” says Borlaug. “There are, I suppose, thousands of students from many different countries who participated in developing information and data. My students passed this on and made it an ongoing thing.”

And Borlaug will quickly tell you that his fight is certainly ongoing. It has to be, for the sake of the world. While the level of hunger has dropped precipitously since the dawn of his innovations, there are still hundreds of millions of starv-