



# Seed School



Mini-Documentary: [Seed School](#)

## Seeds of Change

India is home to the most farmers in the world, with nearly half of its 1.2 billion population employed in agriculture.<sup>1</sup> Yet, farming accounts for only 17% of India's total economy.<sup>2</sup>

Frequently, the farmers in India are farming small plots of land and face problems like poor irrigation and drainage, low-quality soil and inefficient tools. Technologies available to farmers in other countries are sometimes slow to reach India's remote farming villages. Due to these and other challenges, the farmers can have lackluster crop yields with little to no profitability.

Turning science into solutions, DuPont Pioneer India collaborated with the Ministry of Agriculture for the State of Uttar Pradesh to develop a program that would provide farmers with scientific and practical expertise to help increase yields, productivity and profitability. The result of that collaborative effort is the basis of the two-minute documentary, "Seed School."



Local farmers attending Seed School in the village of Azamgarh in the Indian state of Uttar Pradesh

Like the story told by Himanshu Verma, the farmer featured in "Seed School," many families throughout Uttar Pradesh farm their land generation after generation, using the same traditional methods used by their forefathers, often resulting in poor or inconsistent crop yields. The dilemma facing the collaborators was how to deliver the science and technologies to the farmers in a way that would be beneficial and productive for all and help them embrace new concepts and practices.

<sup>1</sup> <https://www.cia.gov/library/publications/the-world-factbook/geos/in.html>

<sup>2</sup> <http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS>



### GLOBAL FOOD SECURITY

STRENGTHS & CHALLENGES

GLOBAL POPULATION IS EXPECTED TO REACH **9 BILLION BY 2050**

TO MEET OUR NEEDS, GLOBAL FOOD PRODUCTION **MUST INCREASE UP TO 70%**

2012 2050

**1 BILLION** PEOPLE SUFFER FROM CHRONIC HUNGER

**1 IN 6** CHILDREN DO NOT HAVE ENOUGH FOOD

**1.4 BILLION** PEOPLE LIVE ON LESS THAN \$1.25 PER DAY

At DuPont, we believe food security exists when all people at all times have physical, social and economic access to sufficient and nutritious food that meets their dietary need and food preferences for a healthy and active life.

### THE MOST FOOD SECURE / INSECURE COUNTRIES

The Economist Intelligence Unit's Global Food Security Index considers the three issues of food availability, accessibility, and quality across a set of 115 countries.

Score (1-100 food assessment)

- Score 80 to 100
- Score 70 to 80
- Score 60 to 70
- Score 50 to 60

### KEY FACTORS THAT AFFECT FOOD SECURITY

#### AFFORDABILITY

Ability of consumers to purchase food, their vulnerability to price shocks, and presence of programs and policies to support consumers when prices spike

Spending on food as a share of all household spending by region

Compared to other regions, Sub-Saharan Africa and South Asia spend more of their income on food.

#### AVAILABILITY

Sufficiency of the national food supply, risk of supply disruption, national capacity to disseminate food, and research efforts to expand agricultural output

Calories per person per day

The food supplies in advanced countries averages **1200 calories** more per person per day than in low-income economies.

#### QUALITY & SAFETY

Variety and nutritional quality of average diets, as well as the safety of food

Quality & Safety vs. Overall rank

The best food secure nations do not rank as the top for food quality and safety.

## Give a man a fish, feed him for a day. Teach a man to fish, feed him for a lifetime

Much like that age-old adage, the collaborators needed to develop a program that would provide the technologies and educational programs necessary for the farmers of Uttar Pradesh to modernize their farming and create a more sustainable future. In order to meet the local needs with local solutions, they reached out and utilized the resources of the regional agricultural authorities to help identify the villages that needed their help. The collaborators needed a process that would enable them to share agronomic knowledge and technologies with the farmers in these remote villages. Determining that the best way to disseminate knowledge over the vast area was for the farmers to learn from fellow local farmers, they designated a local graduate farmer as the Achiever Farmer, or teacher, of the Seed School. An Achiever Farmer would farm one hectare (2.47 acres) of his own land utilizing Pioneer® brand hybrid rice seeds and technologies for the benefit of the Seed School trainees. This hectare would become the Seed School classroom, used throughout the growing process, with trainee farmers learning firsthand the latest methods of seed cultivation and hybrids to boost productivity.

## Eight Easy Steps

The training program broke down hybrid rice cultivation into eight easy steps, known as Rice 8 Step, demonstrated during the three stages of cultivation. In the initial phase, the sowing stage, they learned about seeding, transplanting and spacing. During the second phase, the flowering stage, the program focused on the benefits of potash (a potassium-based plant nutrient), the use of LCC (leaf color chart) for balanced fertilization practices as well as training in effective insect and pest management practices. Finally, at the harvesting stage, the trainee farmers were taught how to time their harvest to maximize yield for greatest profitability.

Seed School poster "8 Easy Steps of Hybrid Rice Cultivation"

## Science is Universal, but Solutions are Local

Although science provides universal answers, solutions must be local, due to wide variations in a number of environmental factors, including climate, soils and pests, as well as cultural traditions and issues surrounding transportation/distribution infrastructures. To that end, DuPont collaborates with farmers, communities, local businesses, governments and non-governmental organizations (NGOs) who know the "facts on the ground," and with global corporations with specialized expertise to help solve specific problems. However, the key to success is for the science to be integrated with local wisdom, brought to people and places that need it most, as seen in "Seed School." This global-local collaboration helped ensure that the farmers of Uttar Pradesh will be able to yield more crops, providing food security for their families, the region, and, ultimately, India as a whole.