



# The Rockefeller Foundation's 25 Years in Mexico

Twenty-five years ago, scientists from the Rockefeller Foundation went to Mexico to assist in government efforts aimed at reducing the nation's chronic and costly food deficit. From this start developed a cooperative research program that was to make Mexico self-sufficient in wheat and corn and that was to train thousands of young scientists and serve as an example to other developing nations of the world.

So great has been the progress fostered by the Foundation that Mexico today has its own research organization—the National Institute of Agricultural Research (INIA); Chapingo, the recently inaugurated headquarters of this organization, is the largest teaching, research, and extension complex in Latin America. Though no longer involved in its original program, the Foundation retains a strong interest in Mexico and currently has scientists assigned to another of its offspring—the International Maize and Wheat Improvement Center at Chapingo.

## Wheat development outstanding

From the start, the Rockefeller Foundation concentrated on Mexico's basic food crops like wheat, corn, and potatoes, obtaining results in many cases that were far beyond expectations.

Take wheat production, for instance.

At the beginning of the Foundation's program, Mexico was importing nearly half its wheat needs—a tremendous foreign exchange drain on the economy. Average yields from the domestic crop were only about 10 bushels per

acre and static, as subsistence farmers continued to cultivate land in much the way as their ancestors; and commercial wheat output was limited. Handicaps were such problems as wornout soil; use of varieties which suffered from lodging when fertilized; and untold losses each year from the devastating "rust" fungus.

The Foundation attacked these problems through its so-called package approach—that is, while working to improve soil fertility, it was also developing better varieties, improving seedbed preparation, and seeking more effective disease- and pest-control measures.

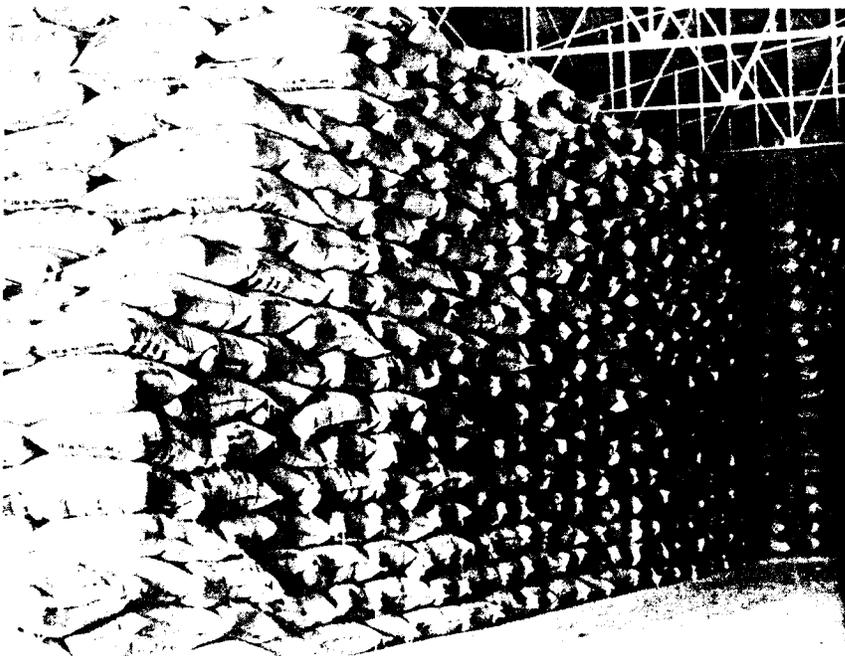
Much of the work was unrewarding at first. It took 10 years to develop widespread use of fertilizer. The big breakthrough in varieties was a long time in coming. And the Foundation suffered numerous setbacks in its program to control "rust."

By the 1960's, however, Mexico with the Foundation's help, had developed dwarf varieties of wheat that seemed to answer all its needs, had improved and expanded the irrigation facilities, and had sold farmers on the importance of using fertilizer. Government price supports had made wheat growing profitable and led to expanded commercial output. Average yields in 1966 were more than triple those of 1943; and in the fertile irrigated regions of Sinaloa and Sonora, they were among the highest in the world at 100 bushels per acre and over. And this one-time importer of wheat was taking steps to reduce its high price supports and to drop subsidized wheat exports far below the record 643,000 tons of 1965-66.

The corn and potato stories are similar. Improvements in varieties, measures against "tassel smut" disease, and increased use of fertilizer led to a doubling of corn production. This product, like wheat, became a major export



*Left, Dr. D. S. Athwal (c.) of India's Punjab Agricultural University inspects improved varieties of Mexican wheat with Drs. Charles F. Krull and Normal E. Borlaug of International Maize and Wheat Improvement Center. Below, Mexican seed wheat for export to India.*



item, also prompting government efforts to reduce producer price supports and exports. Production of potatoes, long cut by the ravages of late blight, has tripled in the last couple decades as a result of expanded commercial production and higher yields; work is now underway to develop more frost-resistant varieties for the Andean region of Latin America.

Besides these products, Mexico with the Foundation's help has made good progress in expanding production of forage crops and broiler and egg production.

Currently, the Foundation is backing Mexican research into improved grain sorghum varieties, as well as into such hybrids as "triticale"—a promising food crop obtained from crossing wheat and rye.

### Thousands of scientists trained

The Foundation views as one of its greatest accomplishments the training of thousands of young scientists during its stay in Mexico. Over 700 young men and women have received training from Foundation scientists, making it possible for Mexico in 1960 to take over the research program. Moreover, students from all over the world are drawn to the International Center in Mexico to find ways of improving and expanding grain production in their own countries.

Indeed, the Mexican program today reaches around the world. Thousands of wheat lines have been sent to other countries. India, for instance, purchased 18,000 tons of improved Mexican seed wheat in 1966; along with varieties from the previous domestic harvest, this seed allowed India to plant some 990,000 acres to dwarf wheat. Many types of Mexican corn are preserved in germ plasm banks in Mexico, Colombia, and Brazil, where they are at the service of plant breeders.

Full-scale grain research programs similar to the one in Mexico and aided by the Rockefeller Foundation are now underway in Chile, Colombia, Ecuador, and other Latin American countries; in India, Pakistan, and Thailand; and in other nations of Asia and of Africa.



*Among the other countries getting agricultural assistance from the Foundation is Colombia. Below Criollo beef cattle at Colombian experiment station; above, harvesting Mayo 64 wheat in Valle del Yaqui.*



*Below, seed bank at Chapingo. Right, Dr. Edwin J. Wellhausen, Director of the International Maize and Wheat Improvement Center, examines corn in experimental plot. Photos courtesy the Rockefeller Foundation.*

