

12. Some World-wide Results of the County Farm Corn Demonstrations

Two Point-IV Type Programs
Undertaken before World War I

THE INFLUENCE of the County Farm corn demonstrations begun in Iowa in 1903 soon reached out into other states and other countries.

RUSSIA

It was about 1908 that officials of Bessarabia, a province of southwestern Russia, invited Professor Holden to come and show them how to grow more corn. Corn was their most important food and feed cereal.

Professor Holden was only just getting the Iowa Extension Service in Agriculture and Home Economics well started and it did not seem desirable for him to go. However, he did agree to send one of his assistants, Louis G. Michael, who had been at the Iowa college for five years as Experiment Station chemist.

Michael in 1958 wrote to me about his experiences in Russia as follows:

"Professor Holden was in the initial stages of his corn program when I arrived at the Iowa State College to take over the professorship of Agricultural Chemistry. At his request I was one of the group that accompanied him on the trip of the "Seed Corn Special Train" in 1904 and 1905.

"The message of the Holden corn gospel spread beyond the confines of the United States. The local government of Bessarabia (Russia) invited Professor Holden to

come over and show them how to grow more corn. Since he could not go he asked me to substitute.

"Armed with the *A. B. C. of Corn Cultivation*, the illustrations of which showed very clearly how to "do it yourself," I arrived in Kishinev, the capital of Bessarabia, in early 1910.¹

"The peasants were not keen to follow the principles laid down in the 'Azbuká,' as the Russian translation of the *A.B.C.* was called. They had two major objections: (1) It was flying into the face of providence. They said, 'All is as God wills. If he wants us to have a better harvest, He will give it to us.' (2) The die-hards said, 'We don't want to grow more corn in the land we have. We want more land.' Also, they preferred to follow local customs; that is, to broadcast corn on the unplowed land and then to plow it under.

"But we were able to organize boys' and girls' clubs with the help of some of the more enlightened school teachers and village priests. The children followed "Azbuká" and selected ears from their fathers' home cribs which were tested for germination. Each child planted a row on fall-plowed land and tended his own row until harvest time. The comparative results were astounding. Then came the formerly-skeptical peasants saying, 'Why don't you show *us* how to do this thing? Why do you waste your time on children?'

"So we organized young men's clubs and they were coached into rational procedures that in some cases doubled their production.

"We had some twenty odd varieties of nothern grown American corn sent over but they didn't do well. The best results were obtained with three varieties: Italian, Chin-quanxino; Hungarian, Orangaway; and a local variety from Bessarabia. All were flint corns.

¹This paper-bound book, *The A.B.C. of Corn Cultivation*, by P. G. Holden, had about 200 pages and was well illustrated. It had wide distribution in the Corn Belt. It was translated into Spanish and 50,000 copies distributed in Mexico. See page 121.



Fig. 12.1. Members of a Boys' Club at Ackerman, Bessarabia, Russia, standing at the ends of their individual rows of corn in 1913. The boys were of German decent.

"From this start in the spring of 1910, mass selection was begun with these flint corns. This was followed by ear-to-row planting and the detasselling of alternate rows. No hand pollination was practiced.

"Everything was progressing satisfactorily — boys' and girls' clubs, young men's clubs, village participation, a central breeding station on the Tzar's estate at Rominestie — when war was declared. Most of my staff of 60 young men, all members of the young men's clubs, and many of the teachers went to the front. I departed in 1916.

"I revisited Bessarabia in the early 1920's. I was told that the seed stocks which I had left at Rominestie had been fed to the hogs. In some places corn was being planted in rows, but otherwise there was no trace that I had passed that way.

"In the early 1930's I again visited Bessarabia and was told that the government had, on the basis of my work, decided that Chinquanxino, Orangaway, and the local Bessarabia were the best varieties suited to Bessarabia conditions."

Although the project on which Louis G. Michael spent six of the best years of his life ended in apparent failure, it undoubtedly had indirect, if not direct, influence on



Fig. 12.2. Louis G. Michael, right, and M. L. Mosher meet in 1947 to talk over their experiences in Russia and Mexico nearly forty years earlier.

many Russian people. He continued to spend much of his life in active government service in the countries of eastern Europe and in Russia, as a representative of the USDA. He was Agricultural Attache in Moscow during World War II. At the time of his retirement in 1947 he was a special agent of the State Department.

During a visit in 1947 (see Figure 12.2) Mr. Michael and I compared our early experiences in carrying agricultural education to foreign countries.

MEXICO

Early in 1908, a letter was received at the Iowa State College from Sr. Luis Gorozpe of Mexico City asking for information that would help them to grow more and better corn in Mexico. Corn was then and is now the major food

grain of the Mexican people. Sr. Gorozpe was a prominent lawyer in Mexico City, who was closely associated with the long-time president, Porfirio Diaz, and with his son, Porfirio Diaz, Jr. The latter owned a 4,000-acre hacienda of good corn land near Toluca, about 50 miles west of Mexico City in the state of Mexico. Sr. Gorozpe was also heir and manager of the Hacienda de Tuzamapam, a 45,000-acre cattle and sugar hacienda near Jalapa, the capital of the state of Vera Cruz. This hacienda was only 25 or 30 miles from the Gulf of Mexico.

The letter was brought to Professor Holden's attention and he sent a collection of bulletins and books about corn. Among the publications was Holden's book, *The A.B.C. of Corn Cultivation*. This was the book that Louis G. Michael referred to as the basis of his program in Russia.

Shortly after receiving the publications, permission was asked for translating *The A.B.C. of Corn Cultivation* into Spanish for distribution by the government of Mexico. It was also asked that Professor Holden come to Mexico and help them to grow more and better corn for their people.

Professor Holden declined the invitation to go to Mexico, but recommended that I, then Crops Specialist in Iowa's newly organized Extension Service, go to their assistance. I spent one and one-half years in Mexico working on the two haciendas: Sr. Gorozpe's Hacienda de Tuzamapam near the Gulf of Mexico and near Jalapa in the state of Vera Cruz, and Sr. Diaz's Hacienda de Pate on the high central plateau near the city of Toluca, in the state of Mexico.

Corn growing on the two haciendas was as different as one can imagine. Conditions at Tuzamapam were tropical. Frost was unknown. Sugar cane was the major commercial crop. Pineapples, mangoes, coffee, and rice were common. Some strains of corn grew so tall that I was able to reach the highest ears only by standing in the stirrups of my saddle.

In contrast, all corn in the area around Toluca, which is 7,000 to 8,000 feet above sea level, was very short and the ears small. A kind of dent corn was grown but most ears showed dented kernels only near the butt of the ear. Most kernels looked more like popcorn than like the dent corn of the Corn Belt of the United States. It was the custom to plant the short-stalked, small-eared corn very thick, with as many as 20,000 to 30,000 kernels per acre. Yields of up to 60 and 70 bushels per acre were obtained on some of the experimental plots.

The average yields of all test plots planted on the two haciendas in 1909 were 36 bushels per acre at Tuzama-pam and 27 at Pate.

It seemed to me that very little of lasting benefit was accomplished through my efforts. Most of the 1908 season was spent studying the language and becoming familiar with conditions. Some assistance was given to the young man who was translating the book, *The A.B.C. of Corn Cultivation* and who also served as interpreter. This man is pictured standing on the right in Figure 12.4.

I accompanied Sr. Gorozpe to the United States in the fall of 1908. Several of the Midwest Experiment Stations were visited and a few days spent at the National Corn Exposition in Omaha, and at the International Livestock Exposition at Chicago. While in Omaha hearings of the Country Life Commission, appointed that year by President Theodore Roosevelt, were attended.

Having been married in December, 1908, I returned to Mexico with my bride in January, 1909.

Work at the Hacienda de Pate

March is corn planting time on the high plateau in the state of Mexico. The selection of seed for the 1909 crop was a serious problem because of a freeze that had completely destroyed the 1908 crop.

Several weeks were spent visiting other haciendas in a radius of 10 to 20 miles of Pate, selecting and testing



Fig. 12.3. Local boys helping me select seed corn from the crib in a Point-IV type of project for the Hacienda de Pate owned by Porfirio Díaz, Jr., in 1909.

seed from corn kept over from the 1907 crop. Seed for several hundred acres was selected and tested. At Pate nearly 1,000 carefully selected ears were planted in March by the ear-to-row method. Such ears were selected from seed obtained on three haciendas and included two varieties grown at Pate. Other seed had been selected from two other haciendas, which was not planted ear-to-row. There was the same wide range in yield and quality of the crop produced from the seed obtained from different haciendas as was found in the farmers' variety tests in Iowa. There were also great differences in time of maturity. Selecting seed for the 1909 crop is shown in Figure 12.3.

Work at the Hacienda de Tuzamapam

Corn planting at Tuzamapam is delayed "until the rains come" in June. The difference in planting seasons made it easy to supervise work at the two haciendas.

The land at Tuzamapam used for growing corn was literally covered with rocks, from small pebbles to some rocks too large for one or even two men to lift. Because of this only the typical "wooden plows of the ages" could be used to advantage.

Much of the same program of ear-to-row planting of selected ears of seed was followed at Tuzamapam as at Pate. Time-of-planting, thickness-of-planting, and method-of-cultivation tests were also made. Comparison plots of the old and the new methods are shown in Figure 12.4.

A corn breeding program by the ear-to-row method was begun. Seed from the higher yielding, better quality rows was saved and carefully stored for use in 1910.

Grain weevils were very bad in that part of Mexico. Knowing that I would not be back the next year, I left



Fig. 12.4. Demonstration plots at Hacienda de Tuzamapan in 1909 showing corn raised by suggested new methods (left) and by the common method (right).

careful directions for the care of the seed to protect it from weevils and for the planting of the selected ears in order to make further improvements in the seed stocks.

I gave a series of five lectures and demonstrations in seed selection and corn growing in June of 1909. Giving these lectures in poor Spanish to illiterate Mexican Indians was about the toughest assignment in public speaking I ever had.

Return Visit to Mexico in 1951

Early in the spring of 1951 my wife and I returned to Mexico for a brief visit to the Haciendas de Tuzamapam and Pate, and found the extensive hacienda buildings at Pate had been completely demolished during the revolutions. One small section of one outside wall was still standing. One window in the standing wall opened into the room in which we had begun housekeeping in February, 1909.

I was much surprised when showing some old-time pictures taken at Hacienda de Tuzamapam in 1908 and 1909 to a small group of the hacendados to see one old man's face light up as he said, "I remember you! You gave some talks about corn in that building over there."

We were much pleased to learn that Sr. Gorozpe and his wife were still living. A brief visit with them in their apartment in a suburb of Mexico City was the high spot of the visit to Mexico. Sr. Gorozpe reported that they had "lost everything during the revolutions." He spoke about the work that had been done with corn and repeated it in a letter written a short time later. He said, "Certainly you were a good teacher for my workers and they obtained more corn every year because of your experiments in the fields." He was very liberal in his commendation of the work which I had looked upon for 42 years as a failure. The cordial reception of both Sr. and Sra. Gorozpe did much to counteract that keen sense of failure.

THE "TAIL THAT WAGGED THE DOG"

There is an old-time saying, "The tail wagged the dog," that has been used when an unimportant part of a larger project proves to be of more worth than the main project itself. Such was the case in this Point-IV type of project with corn improvement in Mexico. The "tail" that wagged the "corn dog" was the development of the citrus fruit industry in the area of Mexico in which the Hacienda de Tuzamapam is located.

This is what happened. During the summer of 1909 my wife and I visited the Alaska-Yukon-Pacific Exposition at Seattle and friends in California. Sr. Gorozpe asked for two things. One was to collect for him all of the literature handed out at the exposition exhibits. Two large suit cases filled with pamphlets were sent him. The second was to go to southern California and hire a mature, experienced orange grower to come to Tuzamapam and develop a commercial orange business along the lines of the California orange industry. Citrus fruits were common in that part of Mexico but were of uncertain quality and were grown only for local consumption.

H. F. Bradburne of Ontario, California, was so employed. Mr. Bradburne went to Tuzamapam and worked there with Sr. Gorozpe and others for about five years. (See Figure 12.5.) He was then forced to leave Mexico with his wife and small son because of the unpleasant relations between the governments of Mexico and the United States.

When I returned to Mexico in 1951, I found that a very thriving orange business had developed in that area, with several packing houses and one orange juice factory located at Coatepec, near which the Hacienda de Tuzamapam was located.

Inquiry revealed the fact that a multimillion dollar citrus industry had developed with some export as well as home markets. The Agricultural Attache in Mexico City said it was second or third in importance in all of Mexico.



Fig. 12.5. H. F. Bradburne from Ontario, California, planting citrus seeds in 1909 in a Point-IV type of project on the Hacienda de Tuzamapam in the state of Vera Cruz.

By mere chance I met a Mr. Hedin, who had purchased the first orange grove planted by Mr. Bradburne. During this interview with Mr. Hedin I expressed surprise to find the large commercial citrus industry where there had been none when I left the area in 1909. The answer came as a distinct shock; it was, "Back several years before World War I a man named Francisco Bradburne came down from California and got several orchards started. It all came from his work."

Mr. Hedin was no less surprised than I had been, when told my part in bringing Mr. Bradburne to Mexico. "Man alive!" he said, "if the Commercial Club of Coatepec had known that the man who selected Francisco Bradburne to come to Mexico was to be in town, they would have met him with a brass band and given a banquet in his honor."

It was a happy day for my wife and me to realize that I had had a small part in what proved to be a very worthwhile Point-IV type of program.

While these stories of the Point-IV type programs in Russia and Mexico may appear widely separated from the early Iowa Corn Yield Tests they, as well as the programs

discussed in Chapters 7 to 11, did lead directly from the work which the people of Sioux County began in 1903 under the inspiration and leadership of Professor Perry G. Holden.