



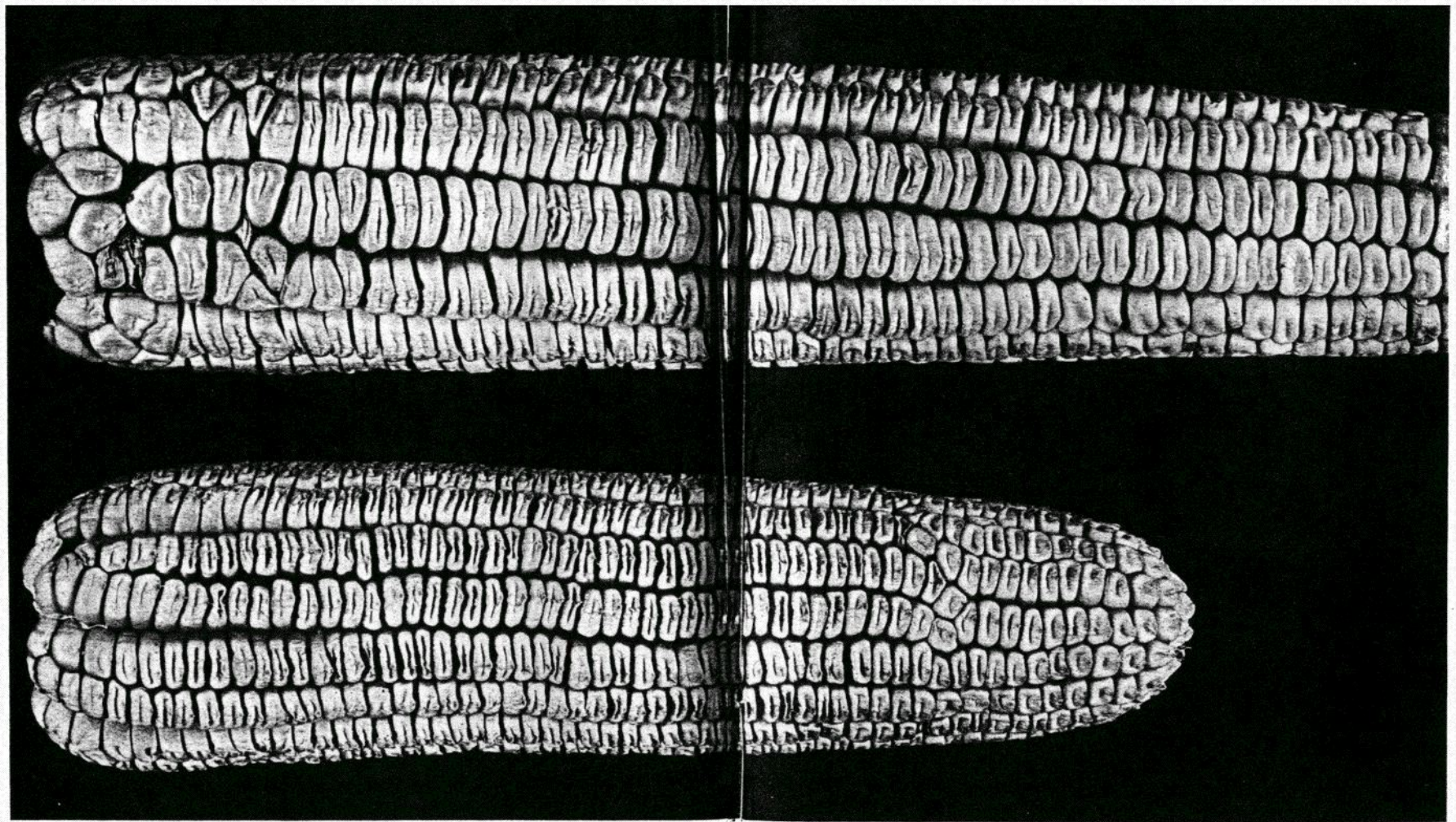
SKYSCRAPER CORN

FIGURE 13. A field of Jala maize, showing plants from which the leaves and tops have been removed for fodder. This photograph was made in October and while the ears were fully grown they were still far from mature. The corn is planted in April and is not ready to be harvested until November.



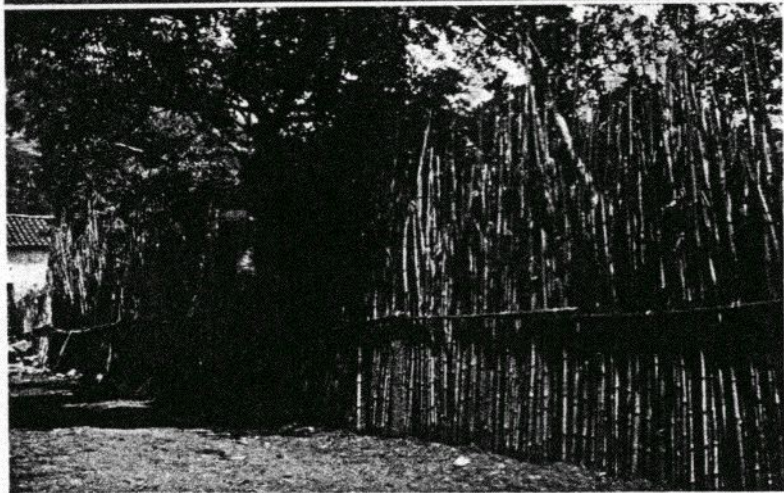
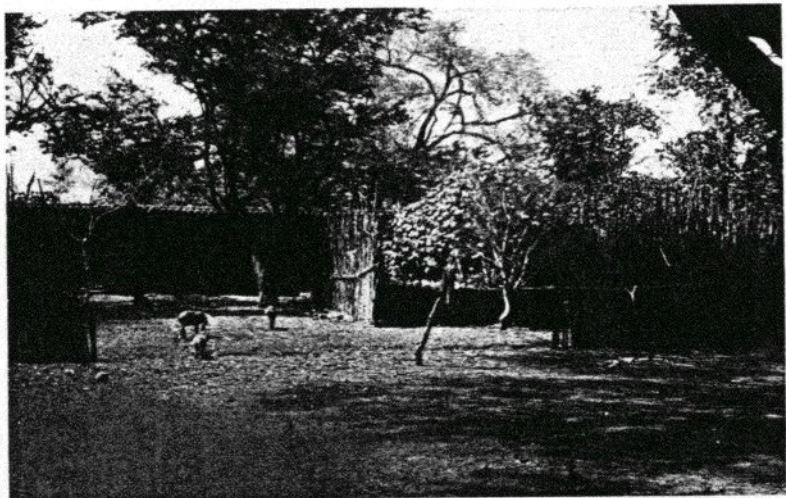
JALA MAIZE IN MARYLAND

FIGURE 14. The season at Lanham, Maryland, was far too short to mature a crop, but in unusually favorable years the plants reached a height of twenty feet and flowered before frost. The gigantic size of this variety is evidently inherent, and is not due to unusually favorable conditions for growth.



PART OF AN EAR OF JALA MAIZE—NATURAL SIZE

FIGURE 15. For comparison is shown an ear of Boone County White, a standard variety in the Middle West. Probably the yield of Jala maize per acre is equalled or exceeded by the better varieties grown in our Corn Belt, but for tropical countries, with a long growing-season, this giant maize might be of great value.



FENCES MADE FROM CORN STALKS

FIGURE 16. Fences made from the stalks of Jala maize are strong enough to confine the ubiquitous Mexican pigs, several of which are shown in the upper photograph.



ROAD THROUGH FIELD OF JALA MAIZE

FIGURE 17. The ears are at such a height that they can just be reached comfortably from the saddle.

in the state of Nayarit on the west coast of Mexico, from which place we had obtained as early as 1907 a truly gigantic type of maize, the largest ears of which were twenty-two inches in length.

In the course of a recent journey through Mexico we have had the opportunity to visit the exact locality where this variety of maize is grown. The culture of this gigantic variety centers about the small town of Jala, sixty miles southeast of the city of Tepic and a few hours' journey by mule-back from the rail line now under construction by the Southern Pacific of Mexico.

The town of Jala is situated in a narrow valley at the foot of an extinct volcano. The very fertile soil is of a light porous nature common in volcanic regions, and the cultivation of maize has been continuous for a period of several centuries. The area devoted to maize, which is practically the only cultivated crop, does not exceed seven or eight hundred acres, the larger part being in a single block of about 640

acres. While this acreage is handled as a single tract, the field is in reality a community affair, with very small individual holdings. The general impression of the entire culture is one of unusual uniformity, with the ears just comfortably within reach from the saddle. The corn is planted in rows about three feet each way with an attempt to have two plants in a hill. It is planted in April and harvested in November. With a rainfall of forty to fifty inches, the water requirements of the plants spaced in this manner seem fairly well met. At the time of our visit in October, many of the leaves had been stripped or the plants topped, and while the ears were full size they were still far from mature.

Size of Plants

This maize is known locally simply as *mais de humido* and it seems fitting to give it the designation *Jala* from the town which it surrounds. The plants will average twenty feet in height and the ears about twenty inches in length and nine inches in circumference,

though it is possible to find individual specimens two feet in length and stalks over twenty feet high. In the number of seeds on an ear, the Jala variety does not differ materially from some of those grown in our Corn Belt. The number of seeds ranges from 700 to 1000 from which it naturally follows that the individual seeds are very much heavier than those of our mid-western dents. The mean weight of a single seed is over .6 grams, while on ears having but twelve rows the weight of a single seed often exceeds .8 grams. These weights may be compared with .3 grams for Boone, .33 grams for Laguna or 1.1 grams for Cuzco, the largest-seeded variety known. The leaves, tassels and diameter of the stalks are in proportion to the height. Indeed, the stalks furnish very suitable material for fencing in a region where other material for this purpose is scarce. While some of the varieties of maize from Guatemala have ears as long as those from Jala, they are smaller in circumference and the plants are less majestic in appearance.

That the size of this Jala type of maize is not merely the result of its favorable situation is shown by its behavior in this country. In the vicinity of Washington, D. C., it attains a size almost as great as that of its native habitat, though, of course, the season is far too short to mature

seed. In Southern California, with a growing period of nine to ten months, this variety matures normally, though its great size does not seem so unusual under irrigation culture where gigantic plants are expected.

Neither is its size the result of a doubling in chromosome number, so often the case with other unusually large varieties of plants, as is shown by the studies of Dr. Longley, who finds that, as in most maize varieties, its haploid chromosome number is ten. We have made use of the divergence in size between this variety and some of the smaller pop-corns such as Tom Thumb to study the inheritance and particularly the correlation between size characters. Hybrids with smaller varieties are perfectly fertile and the possible range of height in maize is from less than one foot to over twenty feet.

While this type of maize is of little, if any, value to the corn growing region of the United States, it is of interest in demonstrating the great size that this species can attain, though in yield per acre *Jala* is doubtless equalled, if not exceeded, by our best varieties of the corn belt.

For tropical countries with a long growing season, there undoubtedly are possibilities inherent in this variety which would justify the careful attention of breeders.