

The Genetic Origin and Remnants of the Historical Giant Ear Length of Maize

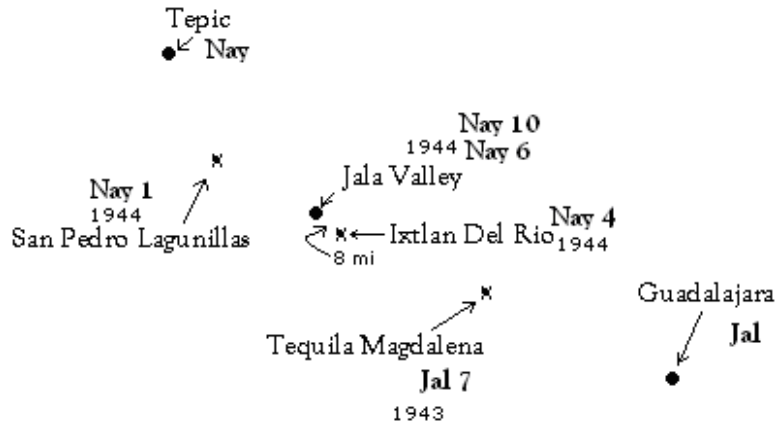
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USA, New York, Allegany

Karl, J

jrk36@cornell.edu

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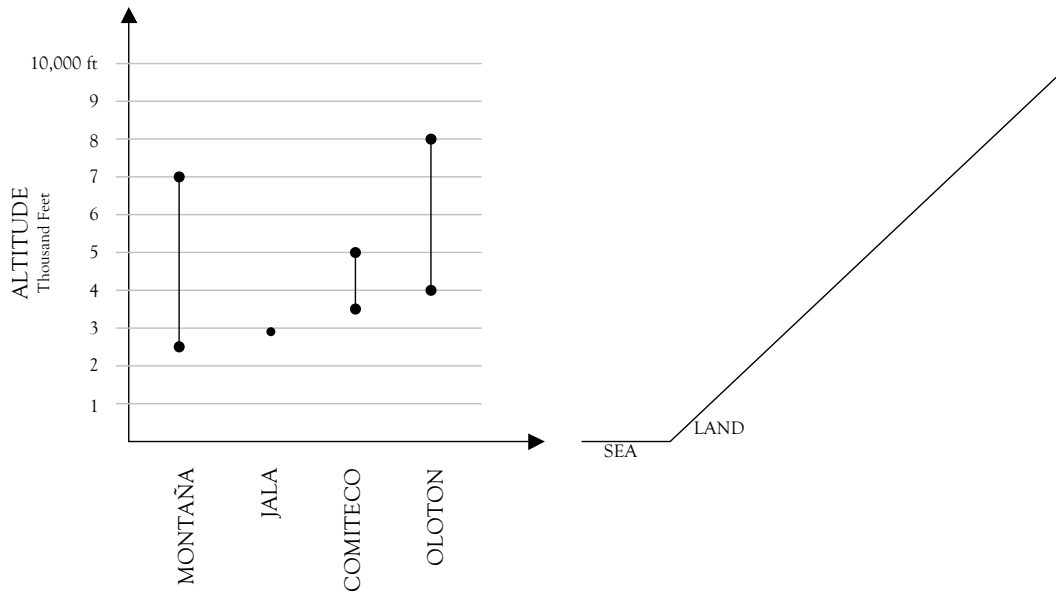
Apparently the **earliest available** collection of the Jala maize race is Jalisco 7, which was made in 1943 in Tequila Magdalena, which is located directly between the towns of Jala and Guadalajara, halfway between them, roughly 40 miles southeast of Jala. Apparently it was made just as the Rockefeller collection began, as Wellhausen's group made their way to the Jala Valley. Its plant and ear seems small. The earliest available collection from the *valley* was made in New Year 1944. It entails two accessions, Nay 6 and 10. These accessions at CIMMYT have been increased 3 and 2 times respectively, as of 2004. These earliest collections were not made before Tampiqueno had shrunken this former Kempton's Jala. Soon after, in the 1950's, Tuxpeno was next to show up in the valley and contaminate Jala.

PHYLOGENY

The Jala race came from the introgression of Tabloncillo into Comiteco. Its long ear came through Comiteco from Oloton - and through Oloton from Montana, tracing a rogue chromosome knob from Chiapas through the mountains of Central America. Comiteco had made it to the Jala location where Tabloncillo occurred. Comiteco could have been brought to Nayarit immediately, directly from Chiapas, or gradually and indirectly and then perchance died-back to its home at the southern border of North America. So Jala was made: a Comiteco-height plant with hallmark long internodes from Tabloncillo and a monstrously big ear birthed from the ear polymorphism of Comiteco.

Jala, Comiteco, Oloton, and Montana each reigned with largest ears in their territories (and the world). *Mexican Comiteco* is larger than Guatemalan Comiteco, *Guatemalan Oloton* larger than Mexican Oloton, and *Ecuadorian Montana* larger than Columbian Montana. The race monographs cite the average ear length of these races at the grow-out stations: disregarding the smaller version of each of the three races, Oloton was shortest at 21cm, Montana quite longer 26.6, Comiteco 28.7, and Jala 30.5. Thus it is idiosyncratic that Oloton ears reached the second longest of all maize in the literature, simply due to cultivation environment. Oloton grows at 4,000 - 8,000 ft altitude, Montana lower at 2,500 - 7,000, Comiteco 3,500 - 5,000, and Jala 3,000.

ALTITUDES OF LONGEST-EAR MAIZE RACES



Sources:
EB Rice, personal communication
Races of Maize books
MM Goodman