

2. Additional prehistoric maize from Bat Cave, New Mexico.

In a paper published in 1949 we described the prehistoric maize turned up in excavations made in 1948 by Herbert W. Dick in Bat Cave, a once-inhabited rock shelter, in New Mexico. We have recently completed an analysis of additional material from other parts of the cave turned up in a second excavation made in 1950. This analysis has produced the following conclusions:

1. The earliest maize from the second (1950) Bat Cave expedition is more primitive than any of the specimens turned up in the first (1948) expedition.
2. Maize from the lower levels of the cave is definitely a popcorn. There are several popped kernels among the prehistoric remains and other prehistoric kernels proved to be still capable of popping after having their moisture content raised.
3. The earliest maize is probably a form of pod corn. At least it has relatively long soft glumes partly enclosing the kernels which are borne on long rachillae. These are characteristics of pod corn.
4. The maize from the lowest levels has brown pericarp color and is related to the Mexican race, Chapalote. Brown pericarp color is presumably the primitive or "wild" color. Brown pericarp is replaced by red and colorless pericarp in the upper levels of the cave.
5. The occurrence of variegated pericarp in the 36-48" level shows that a mutation system similar to that involving the "modulator" factor was in existence at an early stage in corn's domestication.
6. Clear-cut evidence of the introgression of teosinte or Tripsacum or both appears in the 36-48" level of the cave and there is some evidence of introgression in the earlier 48-60" level.
7. There is an increase in diameter of the rachis of the cobs from the lower to the upper levels; this is accompanied by an increase in kernel-row number and in the length and width of the kernels. There is a slight decrease in kernel thickness.
8. The remains of the husks and other parts of the husk systems suggest that the long husks found in one of the levels of the 1948 excavations enclosed not a single ear but a cluster of ears each enclosed in its own husk.
9. Correlation of cultural characteristics with other sites and with the prehistoric maize of other sites suggests that the earliest maize from Bat Cave should be dated at not earlier than 2300 B.C. and perhaps several centuries later.

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