Corn and culture

Colleen A. Kennedy
Texas A&M University – College Station

Introduction

The Kayenta culture at 3-Up was situated at Mule Creek before the Salado population at Fornholt, less than 2 miles away, arrived. However, there is evidence that both existed contemporaneously.

Despite both cultures being closely situated and similarly, they do not seem to have had much interaction, based on the difference in physical cultural markers on both sites. Each has a ceramic style, archiectural style, and site layout of its own. Ceramic traditions like perforated plates and types like Red Moutain Ware were exclusive to 3-Up and Fornholt, respectively. The architecture at 3-Up is less "clumped" together than at Fornholt, which is also centered around a plaza-like area instead of a distinct kiva.

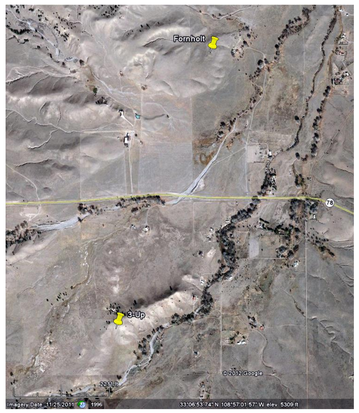
We believe that the 3-Up "Kayenta" settlement represents a continuation of Mimbres culture incorporated with some immigrant markers, and the "Salado" at Fornholt is comprised of immigrants from northern areas coalescing and forming a new cultural group in the south.

Carbonized maize has been found at both sites, and an examination of each site's maize could reveal if there was an exchange of seeds between the two groups, or if the maize is distinctly different.

Ecological data makes it more clear that maize types are more likely to grow in certain locations according to climate (van Eten 2007). However, when grown specifically by humans, maize readily takes different forms due to its relative genetic plasticity. There is also modern ethnographic evidence that certain tribes grown specific types of maize as a reflection of their ethnic identity. (Benz 2007)

Study Area

Mule Creek, New Mexico is located on NM 78, in the southwestern section of the state, known as the Upper Gila.



Methods

Samples of the maize from each site were selected by their curators and shipped to Texas A&M for analysis.

Because the samples were, at times, unobservable due to a fragmentary nature or being suspended in a delicate matrix of carbonized material, only a subset of the sample that was in better quality was measured.

Each was measured along the International Board for Plant Genetic Resources' (IBPGR) *Descriptors for maize* handbook. This was edited down to only aspects of the maize that preserved, omitting color and the plant's supporting structure.

ANNOTATED CORN PHOTO HERE W/ DIMENSIONS MENTIONED

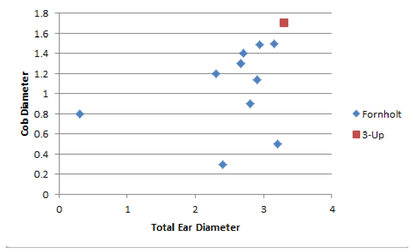
Results

Based upon the measurements taken from both sample sets, each site has a different strain of maize being consumed by the inhabitants. This is based upon differences in the size of the maize kernels, slight difference in the overall shape of the maize, and the difference in the ratio of cob to kernel.

--CORN PHOTO HERE--

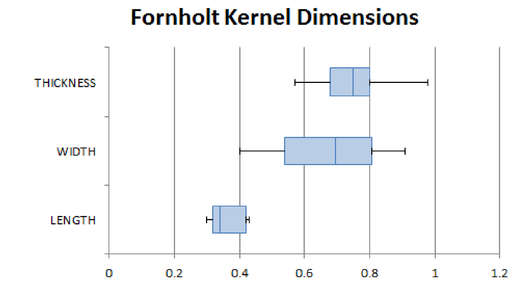
Ratio cob to kernel

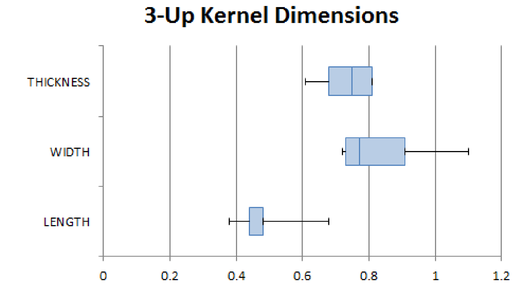
Only one full cob was available for study from the 3-Up sample. Plotted along the 10 other sampled cobs from Fornholt, it does seem to be a larger overall cob.



Kernel Dimensions

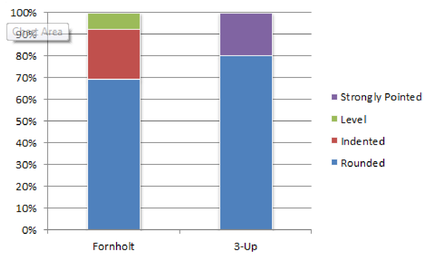
Kernels were similarly shaped, but not similarly sized. Kernels were, on average, wider at 3-Up than Fornholt, but retained similar thicknesses.





Kernel shape

The generalized kernel shape, according to the *Descriptors for maize* was accounted for. Although most kernels sampled (ones whose tops were visible) seem to be categorized as "rounded", the outliers in this data set suggest there is a slight skew in the kernel shape data, with Mule Creek appearing more "level" than the 3-Up, which more "rounded" overall.



For further information

The Kayenta and Salado migrations are currently being studied in-depth by researchers at Archaeology Southwest (formerly the Center for Desert Archaeology.)

Conclusions

Despite the close proximity and concurrent habitation of each settlement, it could not comfortably be said that each site was consuming the same maize.

This difference in maize primarily indicates another aspect of the two groups that did not mix. These slight differences in size and shape could indicate differences in cuisine, something that is a more prominent cultural marker in modern society.

Further research could be done to farther outcrops of Salado and Kayenta sites, to see if this discrepancy could be linked to a greater seed trading network between the two groups, however limited it may be.

References

International Board for Plant Genetic Resources. *Descriptors for maize*. Rome: Biodiversity International, 1991.

Benz, Bruce, Hugo Perales, and Stephen Brush. "Tzeltal and Tzotzil Farmer Knowledge in Chiapas, Mexico." *Current Anthropology* 48, no. 2 (2007): 289-300.

van Etten, Jacob, and Sytze de Bruin. "Regional and locl maize seed exchange and replacement in the western highlands of Guatemala." *Plant Genetic Resources and Charachterization* 5, no. 2 (2007): 57-70.

Acknowledgments

I would first like to thank Suzanne Eckert for her guidance and invaluable advice in this project, acting as my advisor.

The Mule Creek 2011 field school staff are owed thanks for the advice readily given to me through this process, as well as exposing to me the interesting research questions currently surrounding the Kayenta and Salado cultures, and the southwest diaspora as a whole.

Karen Schollmeyer at ASU sent me materials to complete this project.

Seth Meyers for offering to initially consulting me on maize.