

# Cooking in a Lost Kitchen

## Cooking the Lost Crops of the Eastern Agricultural Complex

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### Introduction

How were the crops of the Eastern Agricultural Complex (EAC) processed and consumed? There is little historic record to show how these crops were prepared for consumption. Using experimental archaeology and modern cooking gear, I attempted to recreate possible food stuffs from the lost crops of the EAC.

### Methods and materials

*Chenopodium* sp., *Iva annua*, and *Polygonum erectum* seeds were used for all experiments in this project.

The seeds were cleaned for consumptions by threshing by hand using 2mm and 1mm geological sieves. They were then winnowed using a winnowing machine. This process was repeated until there was minimal chaff left. This process took approximately two days to complete (Figures 1-4).

Tea was made from *I. annua* chaff using tea bags made from embroidery floss and coffee filters (Figure 5).

To cook, the seeds were boiled until soft, and then ground using a coffee grinder. The ground seeds were added to flour to make bread. Eleven small loaves of bread were made to test using the *Iva* and *Polygonum* (Figures 6, 7).

Two bread-cooking methods were used to cook *Iva* and *Polygonum*. In the first method, flour, water, and seeds were mixed and boiled, resulting in patty in a similar method to the Iroquois method for corn bread described by Frederick Waugh (1916) (Figure 8). The second method used the same ingredients, but the bread was grilled on a lightly oiled pan instead (Figure 9).

*Chenopodium* was not used to make bread. Instead, it was prepared like quinoa by boiling in a small, covered pot. Once cooked, the *Chenopodium* was ground. *Iva* and water were added to the *Chenopodium* to then make a soup.

### Acknowledgements

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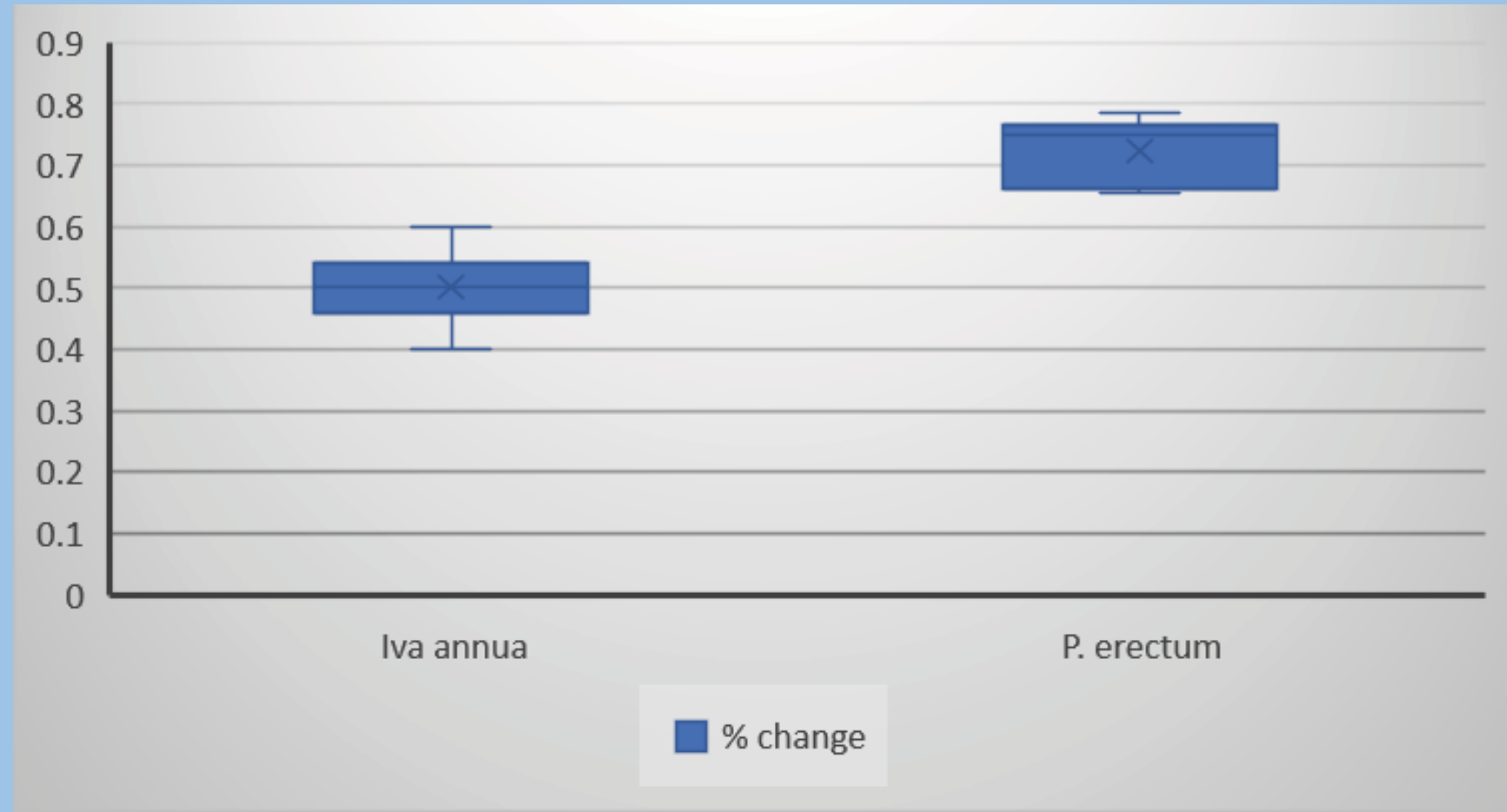


Figure 1. Percent of seed retained after processing



Figure 2. Processing *Iva*



Figure 3. Winnowing machine



Figure 4. *I. annua* and *P. erectum* drying

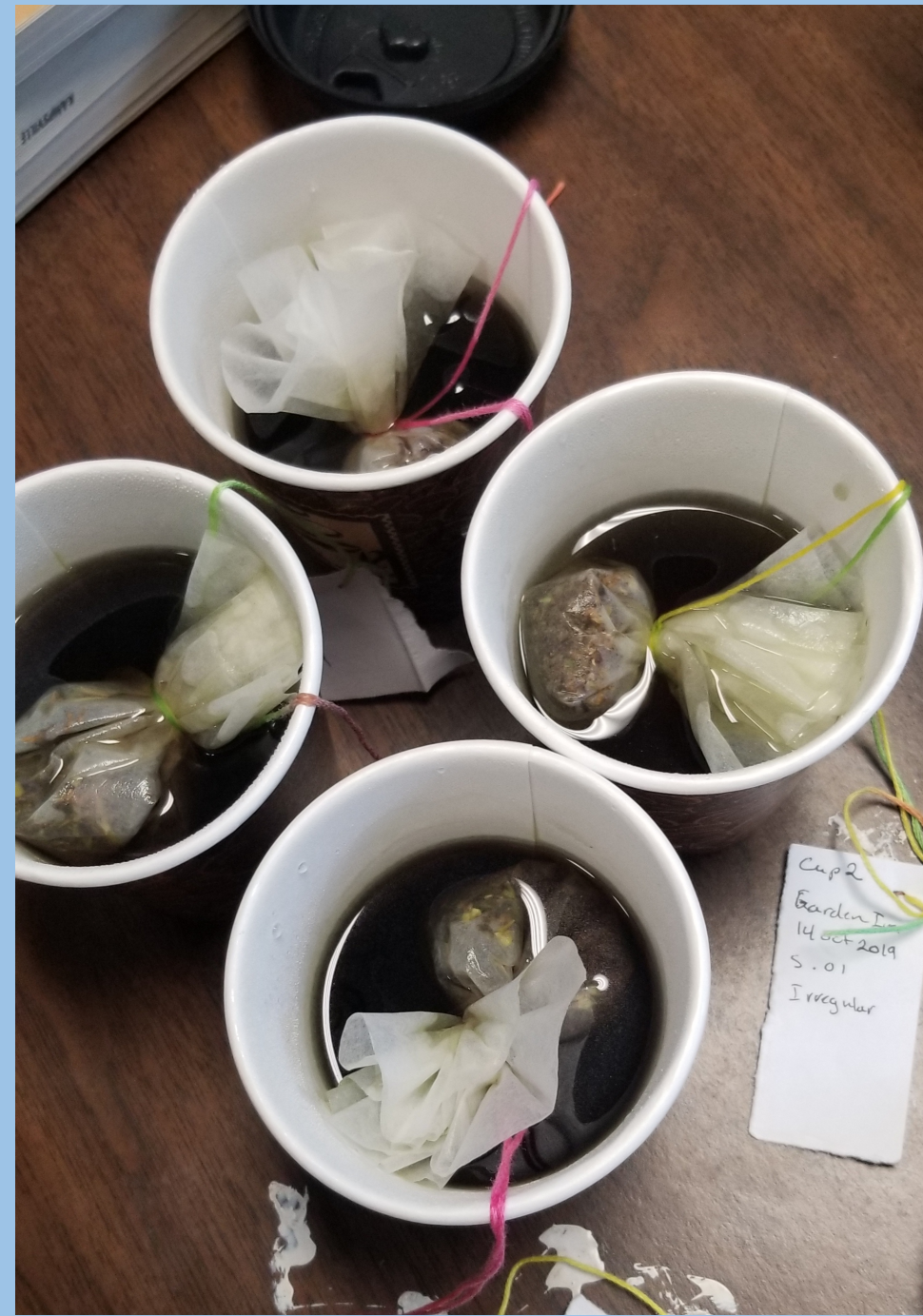


Figure 5. *Iva* tea



Figure 6. *I. annua* boiling



Figure 7. Boiled *Chenopodium*



Figure 8. *I. annua* boiled bread



Figure 9. Boiled and grilled *Iva* and *Polygonum* bread



Figure 10. Oil on the surface of the boiled *P. erectum*



Figure 11. Dyed coffee filters soaked in left over water from the boiling process.

### Results

*I. annua* is a very bitter seed crop, but becomes less bitter when cooked. The tea was overly bitter to most tastetesters when steeped for longer than one minute and more palatable if steeped for less. *P. erectum* is also very bitter but is less bitter than *I. annua*.

These preliminary tests show that *I. annua* and *P. erectum* were possibly used as additives in larger dishes due to their strong flavors.

*Chenopodium* was most likely a meal food that could have been eaten like quinoa. *Chenopodium* tastes like crunchy quinoa but could easily be cooked for longer or ground to combat the somewhat unappealing texture. When mixed with the *I. annua* to make soup the texture was more appealing, most likely because of the grinding of the *Chenopodium*.

There were some interesting byproducts from boiling *I. annua* and *P. erectum* including oils, a bitter tea from the chaff, and slightly pigmented dyes.

When boiled, *Polygonum* produced a thick film across the surface of the water that was easily skimmed off (Figure 11). The oil created was thicker than the oil created by the *Iva* and more pigmented. *Polygonum*'s pericarp is known to have an insignificant amount of wax within them (Yurtseva 2001). These experiments show that this waxy substance creates a significant amount of oil that can be collected when cooked.

### Future

In the future more work can be done with using EAC crops and other plants used by ancient people. For example, experimentation with acorn or cattail flour to make breads or with natural sweeteners such as maple syrup. Byproducts such as *I. annua* and *P. erectum* oil that can be collected to learn more about their potential uses, such as the pigmented oil and dyes.

### References

Waugh, F. W. (1916). Iroquois foods and food preparation. Ottawa: Government Printing Bureau.

Yurtseva, O. V., (2001).Ultrasculpture of achene surface in Polygonum section Polygonum (Polygonaceae) in Russia, Nordic Journal of Botany, 21(5), 513-528.