Laying the Foundations

Agricultural Research

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Abstract

- Evaluation of four fertilizers
- Observations made using soil moisture and temperature readings
- Grain samples are also being kept for further observations and planting
- This year we are working with squash
Evaluation of Fertilizing Methods

- Our goal was to replicate the same methods the Menominee people used to produce their harvest.
- We wanted to see the results from the biochar and fish emulsion as opposed to the contemporary fertilizer and no fertilizer method.
- In order to do that we placed flags for each plot and labeled them accordingly.

<table>
<thead>
<tr>
<th>Plot</th>
<th>Fertilizer Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>Synthetic Fertilizer</td>
</tr>
<tr>
<td>102</td>
<td>Fish Emulsion</td>
</tr>
<tr>
<td>103</td>
<td>Biochar</td>
</tr>
<tr>
<td>104</td>
<td>Control (Nothing added)</td>
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</tbody>
</table>

Above: Plot demonstration
Plowing the Fields & Picking the weeds
Our Fertilizer Selections

**Biochar** - which was used by the Menominee people on their crops according to Dr. Overstreet’s findings.

**Fish emulsion** - or water substance was also found in the ancient garden beds used by the Menominee people.

**Synthetic fertilizer** - is to compare traditional amendments to conventional amendments.

**No fertilizer (control)** - is being conducted for baseline results.

**Biochar & Fish emulsion combined** - to conduct a new addition to the experiment closely similar to the ancient garden beds findings.
Fish Emulsion Fertilizer Method -

Applying the fish emulsion fertilizer onto the corn and squash mounds, three times and weeding around them.
Biochar Fertilizer Method - applied biochar and mixed it into the soil and into the picked out plots we planned on observing for results.
Synthetic Fertilizer Method - for the synthetic fertilizer we used a fertilizer called Urea.

Control Method - the control plot was maintained on it’s own and used as a baseline plot.
Manual Pollination to Sustain Pure Corn and Squash Strain

We hand selected and pollinated the corn by protecting selected corn tassels with paper bags and then placing them onto a selected corn mate to decrease cross pollination.
We closed a male and female squash off by sealing it with a highlighted clothespin and then manually pollinated them and resealed the female with the clothespin to ensure a pure strain.
Soil Observational Methods

- For collecting data we took moisture and temperature readings from the soil.
- We made the observations using different tools to document the readings.
- The tools we used to determine the temperature and the soil moisture were conducted using thermometer probes and a TDR soil moisture meter.
In summary, we are still waiting for the finished results of our corn and squash and hoping that it makes a good turnout and helps us in the research that we’re doing!
Acknowledgements

We want to give thanks for Adam Schulz, Rebecca Edler, Jamie Patton, and Frank Kukta’s help with our project too!