**Motivation**

- Moisture level is a crucial factor in cracking and shelling process.
- Pecans' mechanical attributes are significantly influenced by their moisture content.
- Develop a model to generate moisture-specific conditioning recipes.

**Design Of Experiment**

- These are the min and max level for conditioning to find a pattern for moisture content to assess cracking and shelling, process and provide reliable and statistically robust data for subsequent analysis.

<table>
<thead>
<tr>
<th>Factor</th>
<th>MIN Level</th>
<th>MAX Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature (°F)</td>
<td>180</td>
<td>210</td>
</tr>
<tr>
<td>Time (min)</td>
<td>3</td>
<td>21</td>
</tr>
</tbody>
</table>

**Equipment**

- Aqualab 3 moisture analyzer used for accurate single-sample measurements.
- Moisotech suitable for larger-scale moisture level assessments.
- Both devices help ensure precise moisture content evaluation in pecans.

**Experimental Process**

1. Measure raw pecan moisture content (Shell & Kernel)
2. Conditioning with different combination of time and temperature
3. Measure moisture content after conditioning shell and kernel
4. Using statistical methods to analyze the data

**Sponsor/Client: USDA**