MATHEMATICAL MODELING OF DRYING OF NATIVE MAIZE DRYING

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Importance of corn in Mesoamerican culture

In the past it was a food highly appreciated by indigenous peoples, inclusive was a reason for religious worship.

- Refreshing, digestive and gluten-free, Rich in carotenoid, manganese, phosphorus, magnesium, zinc and iron, vitamin B1, B6, B5, pantothenic acid, folic acid, provitamin A and E
Experimental design

- Grinding and alkaline treatment

- Initial moisture measurements, weight.

- Drying in:
  - Indirect solar dryer
  - Direct solar dryer
  - Conventional oven at 65°
Experimental Data

**Indirect Dryer**

Average temperature: 66° C

**Direct Dryer**

Average temperature: 62° C
### Fitting models

<table>
<thead>
<tr>
<th>Tecnology</th>
<th>Fitting model</th>
<th>R²</th>
<th>Page</th>
<th>Modified</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oven at 65° C</strong></td>
<td>Logarithmic</td>
<td>0.9921</td>
<td>Page</td>
<td>0.9912</td>
</tr>
<tr>
<td><strong>Indirect solar drying</strong></td>
<td>Wang and Sing</td>
<td>0.9923</td>
<td>Page</td>
<td>0.9902</td>
</tr>
<tr>
<td><strong>Direct Solar Drying</strong></td>
<td>Wang and Sing</td>
<td>0.9909</td>
<td>Page</td>
<td>0.9906</td>
</tr>
</tbody>
</table>

**INITIAL AND FINAL HUMIDITY AND WATER ACTIVITY GETS S DRYING METHODS (AVERAGE)**
In general, the color of the maize obtained with the two solar drying technologies was preserved in the same way as using the conventional furnace with controlled conditions, as shown in the following photos.
Conclusiones

• The technical feasibility of solar drying of maize was demonstrated
• Cabinet-type solar drying achieves a significant energy economy, contributing to the reduction of the environmental impact and do not affects significantly antioxidants in native corn.
GRACIAS