Winter canola (Brassica napus L.) is related to rapeseed but has lower erucic acid and glucosinolate contents which are beneficial for human and animal consumption. Little research on varieties is available in the Southeast U.S. This variety trial focused on 23 different varieties of winter canola over 2 years.

### Benefits of winter canola

<table>
<thead>
<tr>
<th></th>
<th>Oil</th>
<th>Protein</th>
<th>Biofuel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover crop</td>
<td>Crop rotation</td>
<td>Increases wheat yield by 10-21%</td>
<td>Forage for ruminants</td>
</tr>
</tbody>
</table>

### Factors affecting yield, oil and protein content

- **Weather**
- **Fertilizer rate**
- **Crop management**
- **Planting date**

### Description of study trial

- **23 varieties in four replications**
- **Soil:** Silt loam
- **Seed treatment:** Helix
- **Fertilizer Applications:**
  - **Year 1:** Pre-plant: 17 lbs N/acre + 12 lbs K/acre + 6 lbs S/acre, March: 64 lbs N/acre
  - **Year 2:** Pre-plant: 83 lbs N/acre + 55 lbs K/acre + 33 lbs S/acre, March: 73 lbs N/acre
- **Herbicide Applications:**
  - **Year 1:** Trifluralin (2.67 lbs a.i./acre), Paraquat (4 oz a.i./acre)
  - **Year 2:** Paraquat (8 oz a.i./acre), Pendimethalin (1.4 lbs a.i./acre)

### Year 1 (2014-2015) vs. Year 2 (2015-2016)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temp</strong></td>
<td>-2 to 24°C</td>
<td>2 to 24°C</td>
</tr>
<tr>
<td><strong>Rainfall</strong></td>
<td>929mm</td>
<td>1189mm</td>
</tr>
<tr>
<td><strong>Yield</strong></td>
<td>1755 lbs/acre</td>
<td>2546 lbs/acre</td>
</tr>
<tr>
<td><strong>Oil</strong></td>
<td>45.5%</td>
<td>44.9%</td>
</tr>
<tr>
<td><strong>Protein</strong></td>
<td>22.3%</td>
<td>21.0%</td>
</tr>
</tbody>
</table>
Conclusions

Highest yield: Exp 1302, Hekip
Highest protein content: Claremore, DK Imistar CL, Riley, Sumner, Virginia, VSX-3, VSX-4, Wichita

Highest oil content: Einstein, Exp 1302, Mercedes, MHIIJ41, Popular, PX112

Best in Tennessee: Exp 1302, though not commercially available in the U.S.
Next best option: Hekip is commercially available and has high yield and oil content.

Additional information

This data has been published in the following scientific article:

Additional winter canola variety trial information can be found through the National Winter Canola Variety Trial at [https://www.agronomy.k-state.edu/services/crop-performance-tests/canola-and-cotton.html](https://www.agronomy.k-state.edu/services/crop-performance-tests/canola-and-cotton.html)

Dean – Dr. Chandra Reddy, Associate Dean for Extension – Dr. Latif Lighari