Factors affecting canola water use

• Mother nature
  • Climate
  • Soil depth, type, and other soil productivity factors
• Management decisions
  • Tillage regime
  • Fertility program
  • Planting date
My research projects

- Okanogan (11.9 in/yr)
- Ritzville (11.8 in/yr) 4 planting dates
- Pomeroy (17 in/yr)
- Asotin (15.6 in/yr)
Photos taken 11-Nov
Vegetative season water use and winter survival
2013 Ritzville, WA

Average Total Water Use (in)

10-Jun
26-Jun
5-Aug
12-Aug
Fallow

Planting Date

% Winter Survival

Soil Water Extraction
Precipitation
% Winter Survival
Total water content as a function of depth to bedrock
2014 Asotin, WA

\[
y = 1.59x + 4.44
\]
\[
R^2 = 0.97
\]
<table>
<thead>
<tr>
<th></th>
<th>Initial soil water content (in)</th>
<th>Fall precipitation (in)</th>
<th>Fall dry biomass accumulated (ton/ac)</th>
<th>Total fall water use (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pomeroy</td>
<td>19.42</td>
<td>2.14</td>
<td>9.02</td>
<td>5.89</td>
</tr>
<tr>
<td>Okanogan</td>
<td>8.62</td>
<td>2.54</td>
<td>3.79</td>
<td>0.87</td>
</tr>
</tbody>
</table>
Volumetric water content in soil profile over time
2014 Pomeroy, WA

Average Volumetric Water Content (% by volume)

Sampling Date
- 19-Aug
- 6-Oct
- 22-Oct
- 4-Nov
- 20-Nov

Depth (ft)