The development of early maturing canola is crucial to the northern canola growing areas of western Canada. Although *B. rapa* has several advantages over *B. napus*, producers currently have very few cultivars from which to choose, and only one with resistance to blackleg. This project will ensure that producers are provided with a high yielding, disease resistant, early maturing alternative to Argentine canola.

The development of early maturing canola is important especially to the northern canola growing areas of western Canada. Although *B. rapa* (‘Polish canola’) has several advantages over *B. napus* (‘Argentine canola’), producers have very few cultivars from which to choose and only one with resistance to blackleg.

*B. rapa* matures 10-14 days earlier and the pods are more shatter resistant than those of *B. napus*, allowing the crop to be straight combined. Due to these factors *B. rapa* is also much less likely to produce green seed than *B. napus*.

With contributions from the SaskCanola, the Alberta Canola Producers Commission and the B.C. Peace River Grain Industry Development Council, canola farmers have invested in new high yielding, disease resistant, early maturing alternatives to Argentine canola.

As a result of the work by Dr. Kevin Falk and colleagues within Agriculture and Agri-Food Canada, three varieties were registered in 2009 and all are being commercialized – one by SeCan and two by Mastin Seeds. All three varieties are defined as ‘synthetics’. Synthetics are intermediate to open-pollinated cultivars and hybrids. They contain 50 percent hybrid plants (in theory, hybrids contain 100 percent) and 50 percent parent plants (25 percent from each parent in a two-parent synthetic).

One of the greatest challenges to the availability of Polish canola seed is weather cycles. These varieties tend to be popular in years with late spring conditions and those weather events are difficult to anticipate. Given the experiences over the past two years, producers will be seeking out new Polish canola seed varieties as a viable planting choice, especially for those areas most challenged by season limitations.
New Cultivars Registered in 2009

**ACS-C12** summer turnip rape (*Brassica rapa L.*) is a canola-quality, two-parent population-synthetic (Syn1) cultivar adapted to the short season growing areas of western Canada. On average, it yielded 17 percent more than the Western Canada Canola/Rapeseed Recommending Committee (WCC/RRC) checks over three years of testing and has high seed oil content. This variety has been named Synergy and will be available through SeCan members for seeding in 2012. Jim Downey of SeCan has remarked that the synthetics have better yield stability over different environments.

**ACS-C18** summer turnip rape (*Brassica rapa L.*) is a canola-quality, two-parent population-synthetic (Syn1) cultivar adapted to the short season growing areas of western Canada. On average, it yielded 17 percent more than the WCC/RRC checks over three years of testing and has high seed oil and meal protein contents.

Seed will be commercially available as ‘Early One’ in 2011 through Mastin Seeds, based in Sundre, Alberta. Bob Mastin is very impressed with the maturity of this variety. It was seeded a month later than his earliest maturity Argentine canola and it was still ready for swathing before the Argentine. Compared to the Polish canola he used 20 years ago, Mastin believes this to be far superior. He is also getting some international interest due to its non-GMO status.

**ACS-C29** summer turnip rape (*Brassica rapa L.*) is a canola-quality, three-parent population-synthetic (Syn1) cultivar adapted to the short season growing areas of western Canada. On average, it yielded 13 percent more than the WCC/RRC checks over two years of testing and has high seed oil content.

This is the first ever three-parent synthetic, which should result in greater stability. This yet to be named variety will be available through Mastin Seeds for 2012.

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Source: Kevin Falk, AAFC Saskatoon
## Table 1. Performance and quality of ACS-C12, ACS-C18 and ACS-C29 in the Western Canada Canola/Rapeseed Recommending Committee private and public co-operative trials, 2006-08.

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>Mean</th>
<th>Seed oil&lt;sup&gt;y&lt;/sup&gt; (%) whole seed</th>
<th>Protein&lt;sup&gt;y&lt;/sup&gt; (%) whole seed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACS-C12</td>
<td>33.0</td>
<td>35.2</td>
<td>41.4</td>
<td>37.5</td>
<td>49.4</td>
<td>23.2</td>
</tr>
<tr>
<td>ACS-C18</td>
<td>29.7</td>
<td>36.5</td>
<td>40.5</td>
<td>37.5</td>
<td>48.2</td>
<td>23.1</td>
</tr>
<tr>
<td>AC Parkland</td>
<td>27.8</td>
<td>26.1</td>
<td>34.3</td>
<td>30.0</td>
<td>47.8</td>
<td>23.6</td>
</tr>
<tr>
<td>AC Sunbeam</td>
<td>28.6</td>
<td>32.2</td>
<td>37.9</td>
<td>34.0</td>
<td>47.5</td>
<td>23.8</td>
</tr>
<tr>
<td>ACS-C29</td>
<td>-</td>
<td>34.5</td>
<td>39.4</td>
<td>37.2</td>
<td>49.6</td>
<td>22.8</td>
</tr>
<tr>
<td>AC Parkland</td>
<td>-</td>
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<td>47.7</td>
<td>23.3</td>
</tr>
</tbody>
</table>

<sup>x</sup> 2006 tests grown at Beaverlodge, Ft. Vermilion and Berwyn, AB; 2007 tests grown at Beaverlodge, Ft. Vermilion, Fairview and Hines Creek, AB and Fort St. John and Dawson Creek, BC; 2008 tests were grown at Didsbury, Fairview, Ft. Vermilion, Westlock, and Penhold, AB and Prince Albert and Glaslyn, SK.

<sup>y</sup> Data combined over 3 years for all but ACS-C29 which is data combined for 2 years.

Source: Kevin Falk, AAFC Saskatoon
Scientific Publications


