The Crop Development Centre (CDC) at the University of Saskatchewan develops new crop varieties that bring value to the agriculture sector, through the development and application of scientific knowledge and technologies, in partnership with stakeholders across the agriculture value chain. It generates a return on investment to its major stakeholder groups – producers, industry and government.

The CDC is a world-class crop improvement centre that delivers crop genetics for the benefit of society. A combination of crop improvement expertise, facilities and land—all in one place.

A recent economic assessment of the CDC has revealed substantial economic returns from research, and significant local, regional and international impact through research outputs and market share of CDC varieties in western Canada.

**ECONOMIC IMPACT**

- **500+ CROP VARIETIES** released since 1971
- **$6.4 BILLION** contributed to the Western Canadian economy
- **5,900 JOBS** supported from CDC’s impact

**APPLIED RESEARCH IMPACT**

- **1,500+ SCIENTIFIC ARTICLES** published
- **10 DIFFERENT CROP KINDS**

**ALUMNI IMPACT**

The connection of the CDC to the College of Agriculture and Bioresources supports strong undergraduate and graduate training programs in crop improvement. In addition to training undergraduate students, CDC faculty have trained over 380 graduate students, many of whom have worked or continue to work as leaders in the agriculture industry. Training the next generation of plant breeders is essential to meet the demands of a hungry and growing world.
The CDC’s research and crop development programs are supported by many stakeholders across the value chain, including Government, Producer Groups, and the Private Sector.

**INVESTMENT ANALYSIS**

<table>
<thead>
<tr>
<th>Investment</th>
<th>Return to Growers</th>
<th>Return on Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>$3.8 BILLION</td>
<td>$12</td>
<td>$44</td>
</tr>
<tr>
<td>increase in producer profitability 1991-2015</td>
<td>for each $1 invested in plant breeding</td>
<td>for each $1 invested in pea, lentil, chickpea, and dry bean breeding</td>
</tr>
</tbody>
</table>

**BRINGING A NEW CROP VARIETY TO MARKET**

It can take 10-12 years to release a new variety to be grown on farmers’ fields. The CDC crop development programs combine conventional and state-of-the-art technologies and processes to support crop development, including use of genomic, digital phenotyping and computational decision-support technologies.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line development</td>
<td>5 years</td>
</tr>
<tr>
<td>Field testing</td>
<td>3 years</td>
</tr>
<tr>
<td>Variety release</td>
<td>1 - 3 years</td>
</tr>
<tr>
<td>Farmer Field</td>
<td></td>
</tr>
</tbody>
</table>

**COMMERCIALIZATION**

The CDC partners with seed companies to commercialize new varieties. In return, the Centre receives royalties that are invested directly back into its research and breeding activities.

**RE-INVESTMENT OF ROYALTIES**

**PLANT PATHOLOGY**

Sustainable Production Systems

SK leads the world in exporting of pea, lentil, and chickpea staple foods in fast-growing countries such as India, China, Bangladesh, and northern Africa.

$100 MILLION in exports of Canary seed

Developed the first hairless Canary seed which helped make SK the world’s leading producer and exporter of Canary seed.

50-60% global durum wheat exports

Canada is the world’s largest single producer and export of durum wheat.

Grains Innovation Laboratory

A state-of-the-art facility that supports testing of end-uses, quality and nutritional content.

**BE WHAT THE WORLD NEEDS**