## **GENOMICS FOR AGRI-FOOD**

Genomics is helping Canada's agri-food sector develop innovative products and processes to increase global market share.

**GENOMICS:** The science that aims to decipher and understand the entire genetic information of an organism.

# **AGRI-FOOD SECTOR:** a pillar of the Canadian economy\* OF TOTAL GDP **SINCE 1997** Figures from Agriculture and Agri-Food Canada, 2011 EXPORTER OF AGRI-FOOD PRODUCTS















# CHALLENGES FACING THE AGRI-FOOD SECTOR IN CANADA

#### EFFECTS OF CLIMATE CHANGE

Severe weather, disease and pests are threatening production and food quality.

#### **COMPETITIVENESS AND RISING COSTS**

Costs of production are rising faster than gross margins for crops.

Consumer demand for non-conventional agricultural practices is driving up costs and lowering production volume.

#### **OUTDATED REGULATIONS**

Outdated regulations slow the adoption of new technologies and products, and can lead to local supply shortages.

#### IMPACTS ON THE ECONOMY AND HEALTHCARE SYSTEM

Food consumption trends are associated with increasing rates of obesity, high blood pressure,

#### SUSTAINED FUNDING

Longer-term public funding is needed to support industry commercialization and attract more private investment and top talent.

#### **EDUCATION AND AWARENESS**

Societal misconceptions about the use of new technologies as they relate to food production and traceability can slow their uptake and effectiveness.



### **GENOMICS**

Generating competitive production systems and innovative products

#### **GENOMICS IS HELPING TO:**

- · Improve food quality.
- Increase yields.
- · Decrease food waste.
- Produce hardier crops and livestock.
- · Improve human and animal health.

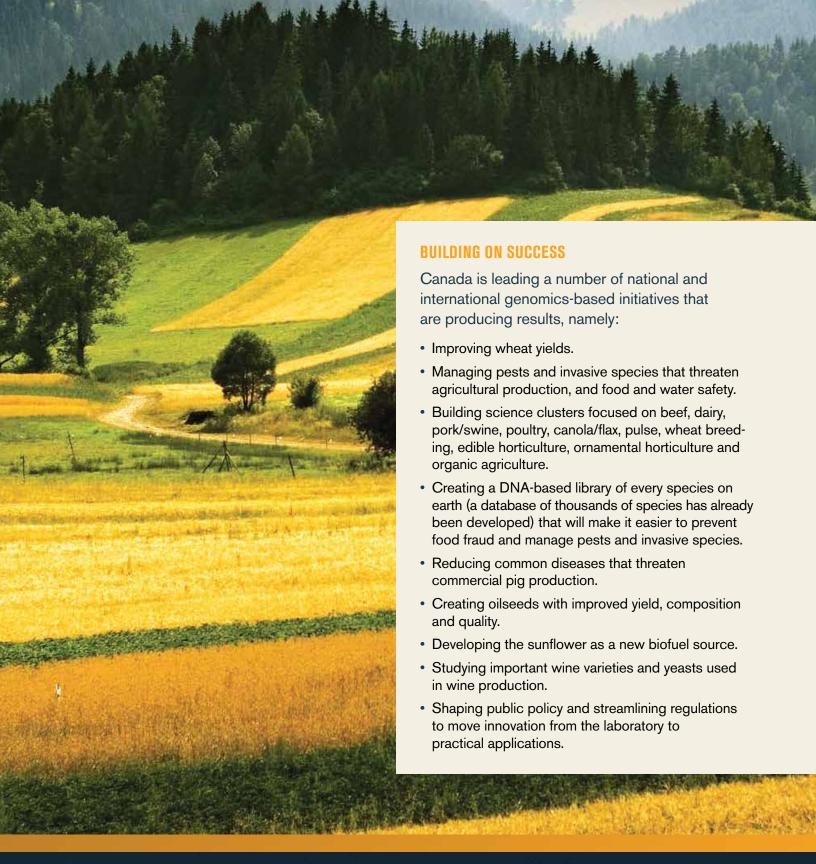
#### WHY CANADA CAN LEAD IN AGRI-FOOD GENOMICS:

- ✓ Canada boasts extensive and varied research capacity (people, infrastructure and technology) in agriculture, food, and biotechnology across the country in both public and private institutions.
- ✓ Industry partners are leading or supporting research in many areas.
- ✓ Canada has a regulatory system that is generally well-regarded internationally.

"Genomics is key to a healthy, safe food supply and to maintaining a vibrant, profitable and sustainable farming industry in Canada."

- John Webb, Director of Emerging Science, Maple Leaf Foods Inc.





#### Canada's Opportunity

Genomics opens the door to new opportunities for Canada's agri-food sector to remain globally competitive through innovation. Opportunities for the sector are detailed in the recent strategy paper *The Opportunity for Agri-Food Genomics in Canada:* Ours for the Making available on Genome Canada's website at www.genomecanada.ca/en/sectorstrategies.

