### **Executive summary**

The Canadian food and agriculture sector is for the most part competitive and export-oriented. Although the challenges and opportunities faced by the Canadian agriculture sector can vary significantly between regions, primary agriculture benefits from an abundance of natural resources and faces limited environmental constraints. Canada differs from many other agricultural net exporting countries in that agriculture accounts for a much smaller share of land and water use, reflecting its climate and geography. The negative environmental impacts of agriculture relate mainly to local water pollution by agricultural nutrients. Productivity growth, resulting from innovation and structural change, has driven production and income growth without significantly increasing pressure on resource use. The capacity to innovate is crucial for the export-oriented Canadian sector to take advantage of the growing and changing demand for food and agricultural products at the global level.

The economic conditions and general policy environment are conducive to investment needed to improve productivity growth. The food and agriculture system benefits from stable macroeconomic fundamentals and good governance, well-developed regulations that ensure competition, and largely open trade in goods and capital that facilitates access to factors and participation in the international trading system. Tax rates for corporate profits are relatively low, there is good infrastructure and services, including in rural areas, and a well-educated population.

The overall policy environment for innovation to increase productivity and sustainability could be further improved, however, in a number of areas. The federal and provincial governments are currently in the process of simplifying and modernising regulations to better respond to future needs, including through trade facilitation measures. While there continues to be a certain mismatch between labour supply and demand, this is being tackled through improvements to education, skills development, retraining, and immigration systems. The sector has access to credit but little access to venture capital, which is particularly important for innovative firms; as such, the government has taken steps to support the development of venture capital markets. The corporate tax rate is relatively low at the OECD median, but lower rates for small firms may act as a disincentive to firm growth. Research and Development (R&D) tax rebates benefit primarily large, innovative firms and better targeting could improve the effectiveness of this incentive. Public services are widely available in rural areas, although the use of information and communication technology could be further developed.

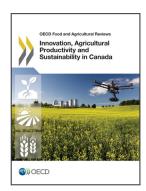
Direct incentives to innovation have increased in recent agricultural policy frameworks. These incentives focus on promoting cooperation between the public and private sectors and fostering adoption of innovation by the food and agricultural sector. The general approach to agricultural policy remains highly focused on risk management and investment support. Other aspects of agricultural policies, such as price pooling arrangements that do not reward innovative farmers and supply management schemes that control production and prices, can act as disincentives to adjustment and innovation. This in turn may limit productivity growth and a greater focus on new product and export market opportunities. Removing these impediments to structural adjustment could potentially facilitate growth in these sectors.

The agricultural innovation system performs relatively well. Canada is a strong contributor to agricultural innovation at the world level, and to international co-operation, as measured by the number of patents and scientific publications. Innovations are widely adopted at the farm level, the availability

of training and extension is diverse, and services are widely accessible. Specific programmes focus on facilitating adoption, including business management advice. And although the agricultural innovation system includes a wide range of actors, with differences across regions, there are various coordination mechanisms in place to improve the collective understanding of how federal, provincial and territorial governments use different methods to fund, support and encourage innovation. In addition, stakeholders are widely consulted. Public investment in agricultural R&D has declined, but R&D intensity remains high by international comparison. The knowledge infrastructure, including institutions, networks and databases, is well developed but will require stable funding in order to maintain current capacity. Intellectual Property Rights are strong in general, but intellectual property protection for plant breeding is currently lower than in partner countries; this could potentially restrict the availability of new, high-yielding varieties. Legislation is being discussed to reinforce plant breeders' rights. Collaboration and partnerships in research and innovation between public and private actors are increasingly encouraged, but there remains room for improvement in the level of private investment.

**Policy recommendations** encompass the following four key areas:

- Further improve incentives for private investment including by: continued efforts to ensure macroeconomic stability; an increased focus on reducing unnecessary costs associated with regulatory frameworks, both between provinces and internationally; further development of venture capital markets; review the impact of corporate tax incentives for small firms; and reform of the SR&ED tax credit.
- Improve capacities and services for innovation, including through better integrating education, skills, on-the-job training, and job search systems, and by further opening key service sectors, such as telecommunications, both across provinces and at the national level.
- Remove unintended impediments to innovation through reform to agriculture policy support instruments that impede structural adjustments or investments and can reduce the incentive to innovate
- Strengthen direct incentives to innovation in food and agriculture, for example by: increasingly incorporating innovation as a core element of future agriculture policy frameworks and evaluating current and new policy proposals through the lens of the expected impact on productivity growth and sustainable resource use; simplifying the plethora of existing incentive measures, including by establishing a single window for industry to identify available assistance measures; examining alternative public and private sources of funding and possible public-private partnership arrangements in order to not just maintain but to enlarge innovation infrastructure; strengthening plant breeders' rights and continually examine the balance between intellectual property rights, and widespread and timely knowledge diffusion.



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