Sowing the seeds of resilience

FOR A MORE SUSTAINABLE FUTURE IN AGRICULTURE



GREENHOUSES

Protect your business's future and bottom line to overcome the sector's key sustainability challenges

Desjardins Business

Desjardins understands the challenges facing farmers, and we're committed to supporting our members in this important transition. Our goal is to help our members achieve long-term success and contribute to food security in our communities.

This fact sheet highlights:

- The most material[1] sustainability challenges facing the greenhouse sector.
- Practical actions farmers and their partners can take.

Market and competitiveness

The sector faces low-cost international competition, rising expectations in terms of quality and consistent supply and margin pressure linked to input volatility.

Challenge	Actions
Rising input costs	• Partner with other businesses to pool input purchases • Recirculate nutrients to reduce fertilizer purchases • Use sensors to optimize climate control, irrigation and fertilization • Use alternative pest control methods to reduce pesticide use
Market uncertainty	• Diversify market outlets • Diversify products independently or in partnership to improve market access[2] • Differentiate products using certifications (organic, CanadaGAP, B Corp, etc.) or eco-designed packaging (in French only)

DID YOU KNOW?

Starting in 2027, under extended producer responsibility regulations, greenhouse farmers will be required to implement a program to recover category 4 and 5 plastics, including plastic mulches, tunnel films, drip irrigation systems, greenhouse covers and various types of nets.[3]

Human resources

The greenhouse sector faces a labour shortage driven by rapid production growth, demanding working conditions and an ageing agricultural workforce, resulting in one of the highest vacancy rates in Canadian agriculture[4] and increasing reliance on foreign workers.

Challenge	Actions
Labour shortage	• Offer competitive employee benefits • Provide housing support • Recognize employee contributions • Provide relevant training opportunities • Automate selected tasks[5]
Working conditions	• Modify work schedules during periods of extreme heat[6] • Manage and enforce the use of appropriate personal protective equipment (PPE)

Temporary foreign workers
Desjardins has a dedicated team to support agricultural workers that includes Spanish-language assistance. Foreign workers are able to open an account remotely before they arrive.

For more information, email accompagnement-ri@desjardins.com

The Union des producteurs agricoles has a hotline for temporary foreign workers in Quebec to answer their questions about taxes, labour standards and their rights and help them report issues with their employer.

Services aux travailleurs étrangers temporaires – UPA
(in French only)

Social acceptability

The expansion of the greenhouse sector raises concerns from municipalities and local residents about harmonious integration into the landscape, potential nuisances such as nighttime lighting, traffic and water management and the preservation of agricultural land. Social acceptability depends on projects fitting well into their surroundings and demonstrating positive contributions to the community.

Challenge	Actions
Light pollution	• Install blackout curtains[7] * *Sometimes required by municipalities and may involve significant investment*
Use of agricultural land	• Verify compliance with municipal zoning and environmental regulations • Use land with lower agricultural potential

Enhancing the value of agricultural land through greenhouse

Greenhouse cultivation allows the same amount of food to be produced on a smaller area of farmland, resulting in more efficient use of agricultural land.[2,8]

Establishing greenhouses on land with low agricultural potential can be an effective way to reduce land acquisition costs while enhancing the land's agricultural value.

Water management and quality

Impacts of water supply constraints on greenhouse crops

In Quebec, agriculture accounts for around 13% of total water use, with regional peaks reaching up to 34% in Centre-du-Québec, where greenhouse irrigation for vegetables, fruits and horticultural crops puts additional pressure on potable water resources. Greenhouse crops are particularly vulnerable to water scarcity, as they do not receive natural rainfall like other crops. In some agricultural regions, increased water withdrawals have even led to conflicts between municipalities and farmers, resulting in shortages and prompting the government to introduce pilot programs to limit water use during droughts.[9, 10]

Challenge	Actions
Water use	• Maintain and repair irrigation systems to prevent water leaks • Apply precision irrigation techniques[11] • Install rainwater harvesting systems
Compliance with regulations on watercourse contamination	• Introduce natural predators to protect crops while reducing pesticide use • Recirculate nutrient solutions • Establish constructed wetlands or infiltration fields[12]

Reducing greenhouse gas emissions

There's mounting pressure to lower greenhouse gas emissions, driven by national climate policies and growing expectations from consumers and big players in the agri-food industry.

Major source of emissions	Actions
Energy production and consumption	• Transition to electric or dual-energy heating • Adopt alternative solutions like biomass or geothermal energy
Heating	• Optimize temperature control systems • Install heat recovery systems and implement insulation measures[13]
Production and use of fertilizers, liquid CO_2 and pesticides	• Install CO_2 recovery systems for injection to promote plant growth[13,14] • Recirculate nutrient solutions to reduce input requirements

DID YOU KNOW?

In Quebec, greenhouse horticultural and vegetable producers can spend up to 30% of their total costs on heating.[13] Heating energy is also responsible for an average of 68% of total greenhouse gas emissions from greenhouse.[15]



How can these actions help protect your business's future and boost profitability?

Fine-tuning climate parameters in controlled environments promotes optimal plant growth, boosts profitability and reduces the environmental footprint.

Improving infrastructure decreases heat loss and energy requirements while enabling better control of climate conditions for optimal production.

Better energy management helps adapt to temperature fluctuations while reducing the impact on electricity costs. Diversifying energy sources decreases vulnerability to rising costs.

Reducing the use of chemical inputs (through recirculation, for example) can be an effective way to lower production costs.

TEAMS DEDICATED TO SUPPORTING OUR MEMBERS

Sustainable financing

Specialized sustainability support for agricultural businesses
Desjardins members have access to a team of sustainability professionals.
Email financementdurable@desjardins.com for more information.

Financing and loans for agricultural businesses*

No matter your sector of activity or the size of your farm, our account managers are well equipped to provide financing solutions tailored to your needs. The Desjardins Agri Offer* lets you optimize your financing solutions with a structured, long-term approach.

* Terms and conditions apply. Financing is subject to credit approval by Desjardins. The Desjardins Agri Offer may be modified or cancelled without notice. Contact your Desjardins account manager for more details.

Sources:

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