



The IDEA-QC framework of farm sustainability indicators – Quebec

Indicator guide – version 2.0

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Introduction

This guide describes the indicators used in version 2.0 of IDEA-QC framework. This approach is mainly inspired by the French IDEA method (<https://methode-idea.org>) and research conducted in Quebec (Bélanger et al. 2012, 2015; Thivierge et al., 2014). It was developed at the initiative of Agriculture and Agri-Food Canada by a group of stakeholders with varied profiles (researchers, agricultural advisors, agro-economists, professors, psychologist), with the contribution of farmers.

In the IDEA-QC framework, indicators of farm sustainability are structured around three main priorities:

- *Ensuring farm viability and livability*, which includes indicators relating to the farm's economic viability, quality of life of farmers, management and entrepreneurship, and the eventual transferability of the farm to the next generation.
- *Preserving natural resources*, which includes indicators related to soil health, water quality, biodiversity, greenhouse gas emissions and waste management.
- *Responding to societal and territorial challenges*, which includes indicators related to the contribution of the farm to its economic, social and territorial environments.

Each of these three objectives is divided into components which are qualified or quantified by one or more indicators, as shown in Figure 1. Some of the indicators group together several items.

This guide provides the details of the calculation of each item, as well as how to assign a score to each indicator. The scores, ranging from 1 to 5, are used to identify the strengths and challenges of the farm regarding sustainability, with a view to identifying avenues for improvement. The indicators were not designed to be added together or aggregated in any way. Instead, the individual scores for each indicator are presented to and discussed with farmers.

Abbreviations:

- AOR: Agricultural Operations Regulation, Quebec;
- EFP: Environmental Farm Plan;
- FTU: Full-Time Unit;
- PSI: Phosphorus Saturation Index.

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- Agricultural Greenhouse Gas Indicator: <https://agriculture.canada.ca/en/agricultural-production/agricultural-greenhouse-gas-indicator>
- AgriShield: <https://agriclimat.ca/en>
- Canadian Nutrient File (CNF) - Search by food. <https://aliments-nutrition.canada.ca/cnf-fce/?lang=eng>
- IDEA (France): <https://methode-idea.org/la-methode-et-ses-usages/comprendre-idea4>
- PerfAlim: <http://perfalim.com/en>



The 30 IDEA-QC indicators

1. Self-financing capacity

2. Expense control

3. Debt ratio

4. Labour productivity

5. Human resource management

6. Innovation approach

7. Occupational health and safety

8. Risk management

9. Strategic management

10. Economic transferability

11. Transfer preparation

12. Job satisfaction

13. Pace of work

14. Pace of life

Economic
viability

Management and
entrepreneurship

Transferability

Quality of life

Ensuring farm
viability and livability



Preserving natural
resources



IDEA-QC

Farm sustainability

Responding to societal
and territorial challenges



Soil

Water

Air

Biodiversity

Society
expectations

Life of the
community
and local
economy

15. Soil health

16. Nitrogen management

17. Phosphorus management

18. Reduction of phytosanitary products

19. Water resource protection

20. Non-organic waste management

21. Greenhouse gas emissions

22. Production diversity

23. Biodiversity friendly landscapes

24. Production for human consumption

25. Animal welfare

26. Biosafety

27. Contribution to local economy

28. Relationships with other
farms in the area

29. Relationships with consumers
and citizens

30. Maintenance of built heritage
and landscapes

Figure 1: The indicators proposed in the IDEA-QC framework, version 2.0

1. Ensuring farm viability and livability

1.1. Economic viability

Indicator 1: Self-financing capacity

This indicator estimates the farm's self-financing capacity. The **residual balance** is an indicator that reflects the amount of money generated by the activity once all other fees and expenses have been paid (including farmer salaries and withdrawals, loan repayments, payment of taxes). The ratio between the residual balance and the farm's revenues expressed as a percentage gives us the farm's **safety margin** (Levallois, 2018). The ideal target is from 5% to 8% for dairy and field crop operations.

The **maximum repayment capacity** is an indicator that estimates how much of each dollar of gross income can be used to repay debt. This capacity is calculated by deducting all expenses from income, including wages paid to labourers, except expenses related to loan repayments (principal and interest) and by excluding depreciation from the calculations. The repayment capacity thus corresponds to the amounts remaining to pay the annual instalments (principal and interest in the medium and long term). It is interesting to compare this repayment capacity with the current number of annual installments, which gives an idea of the farm's remaining borrowing capacity.

The final score is the lowest score of items 1 and 2.

Item 1: Residual balance and safety margin

- Residual balance = income - expenses - withdrawals - salaries - income taxes - loan repayments
- Safety margin = residual balance / revenue X 100

Item 1 score

If the safety margin is less than 2%, the score is 1.

Otherwise, the farmer's safety margin is compared with the results of the group analysis of producers with the same production level. If the farmer is:

- In the top group (80th percentile): 5
- Between the 60th and 80th percentile: 4,
- Between the 40th and 60th percentile: 3
- Between the 20th and 40th percentile: 2
- Under the 20th percentile: 1

Item 2: Maximum repayment capacity (MRC)

- Maximum repayment capacity = income - expenses (including operating expenses, excluding interest)

Item 2 score

The maximum repayment capacity is compared with the annual payments (annual payments / $\text{MRC} \times 100$). If annual payments amount to:

- More than 80% of the MRC: 1
- Between 60% and 80% of the MRC: 2
- Between 40% and 60% of the MRC: 3
- Between 20% and 40% of the MRC: 2
- Between 0% and 20% of the MRC: 5

Indicator 2: Expense control

This indicator assesses the effectiveness of a farm in using its inputs and equipment efficiently to produce. The indicator is expressed as a percentage of the revenue, and it varies according to the type of production. For example, in dairy and field crops, **the percentage of expenses** should be below 60%. However, in steers, this percentage often reaches 80% to 85%. In pig farming, businesses specializing in the sale of weaning piglets should have an expense rate of between 72% and 77%, farrow-to-finish businesses between 78% and 82%, and finally finishers between 85% and 88%.

Operating expenses are defined as all variable expenses and a portion of fixed expenses, except shareholder remuneration (salaries or withdrawals), medium- and long-term interest and amortization.

Item 1: Percentage of expenses

- Percentage of expenses (PE) = operating expenses / revenues X 100

Item 1 score

- Milk and field crops:
If PE < 50%: 5
If PE is between 50% and 60%: 4
If PE is between 60% and 70%: 3
If PE is between 70% and 80%: 2
If PE > 80%: 1
- Cattle: If PE < 70%: 5
If PE is between 70% and 80%: 4
If PE is between 80% and 85%: 3
If PE is between 85% and 90%: 2
If PE > 90%: 1
- Pigs:
If PE < 60%: 5
If PE is between 60% and 70%: 4
If PE is between 70% and 80%: 3
If PE is between 80% and 90%: 2
If PE > 90%: 1

Indicator 3: Debt ratio

The ratio of total debt to total assets measures how much of the farm belongs to its shareholders/owners and how much to its creditors. The lower the ratio of total debt to total assets, the lower the risks (e.g., related to interest rate changes). In agriculture, this ratio should be below 40%.

The focus on the value of **machinery** assets highlights situations where these investments are too high relative to the farm's assets, since this type of asset depreciates quickly.

The final score is the score for item 1, with item 2 being for information purposes only.

Item 1: Debt ratio (DR)

- Debt ratio = total debt / total assets

Score of Item 1:

- If DR is less than 19%: 5
- If DR is between 19% and 31%: 4
- If DR is between 31% and 48%: 3
- If DR is between 43% and 58%: 2
- If DR > 58%: 1

These thresholds are based on the analysis of more than 50 IDEA-QC diagnostics conducted between 2020 and 2022 in Quebec.

Item 2: Value of machinery park over total assets (threshold to be adapted to the sectors)

- Machinery expense = value of machinery / total value of assets × 100

Indicator 4: Labour productivity

The productivity of the hours worked on a farm can be assessed in different ways. For scoring purposes, we will calculate the ratio of gross revenues (the total of the farm's revenues) to the number of full-time units (FTUs), considering that one FTU corresponds to 3,000 hours of work. To calculate the number of FTUs on the farm, the hours worked by employees and shareholders must be added together.

This indicator is higher on highly mechanized farms where tasks are automated (e.g., milking). In the current context of labour shortages and full employment, this is often a goal of farmers.

The indicator score is based on item 1, with item 2 being for information purposes only.

Item 1: Labour productivity (LP)

- Labour productivity (in \$/FTU) = Total Gross Output / Total FTUs

The labour productivity obtained for the farm is compared with the averages obtained by type of farm from the group analysis.

Item 1 score

- If LP is greater than \$360,000: 5
- If LP is between \$360,000 and \$272,500: 4
- If LP is between \$272,500 and \$243,500: 3
- If LP is between \$243,500 and \$173,500: 2
- If LP is less than \$173,500: 1

Item 2: Main production

For information purposes, the marketed quantity of the farm's key product can be related to the number of FTUs. For example, for a potato farm, this could be the tonnage of potatoes per FTU, for a dairy farm, the number of liters of milk per FTU, or in general the number of people fed per FTU (see indicator of feeding potential - indicator 24).

1.2. Management and entrepreneurship

Indicator 5: Human resource management

This indicator reports on management practices on the farm. The first item on **employee management** evaluates the means used by the farm to ensure that it has a qualified workforce and to retain it. The second item assesses the quality of **teamwork**.

Final score: For each item, the minimum score obtained for one of the questions is retained. Scores for the two items are then averaged to obtain the score for the indicator.

Item 1: Employee management

What are the human resource management methods used by the farm?

- ☐ Advancement training
- ☐ Benefits
- ☐ Insurance
- ☐ Additional days off
- ☐ Other, specify:

Item score: 5 if at least two items are checked; 3 if one item; 1 otherwise.

How would you characterize the employee turnover rate on your farm (excluding one-time work such as rock removal)? The average turnover rate in Quebec for agriculture is 33% (one employee out of three leaves the farm during the year).

- ☐ Very low (5)
- ☐ Low (4)
- ☐ Medium (3)
- ☐ High (2)
- ☐ Very high (1)

Item 2: Teamwork and frequency of exchanges

To the statement, “Teamwork is a characteristic of working on my farm,” you answer:

- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)
- ☐ Moderately agree (3)
- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

To the statement, “Each member of the organization (family and employees) is able to discuss their concerns and needs directly with other members, without intermediaries,” you answer:

- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)

- ☐ Moderately agree (3)
- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

How often do you meet with all the staff on the farm to discuss issues related to planning, responsibilities or to inform others of the farm's current status?

- ☐ Very often: every week (5)
- ☐ Often: every two weeks (4)
- ☐ From time to time: every month (3)
- ☐ Rarely: a few times a year (2)
- ☐ Never (1)

Indicator 6: Innovation approach

Innovative producers are constantly looking for information on new practices that will allow them to move forward. They seek information from various sources, such as social media, activities organized by advisory clubs or other information-sharing networks, continuing education activities, or specialized reading.

Final score: The scores of the different items are averaged to obtain the final score for the indicator.

Item 1: Consultation of documents on the Internet or social media

How often do you consult specialized documents on the Internet, on social media or elsewhere that concern innovative practices?

- ☐ Very often: every week (5)
- ☐ Often: every two weeks (4)
- ☐ From time to time: every month (3)
- ☐ Rarely: a few times a year (2)
- ☐ Never (1)

Item 2: Participation in information-sharing and experimentation networks, and continuing education

How many times per year do you participate in continuing education events? (Examples of continuing education events are seminars, farm tours, trainings, information days or internships)

- ☐ More than 10 times a year (5)
- ☐ 6 to 10 times per year (4)
- ☐ 3 to 5 times per year (3)
- ☐ 1 to 2 times per year (2)
- ☐ Never (1)

Item 3: Support at the farm

Who are you supported by on the farm?

- ☐ Agrologist/agronomist
- ☐ Animal feed consultant
- ☐ Financial advisor / management consultant
- ☐ Engineer
- ☐ Tax specialist
- ☐ Other
- ☐ None

Item score: 5 if at least two items are checked, 3 if one item, 1 otherwise.

Item 4: Types of support sought

What do you use the services of these professionals for?

- ☐ Strategic planning
- ☐ Technical advice
- ☐ Regulatory obligations
- ☐ Current management
- ☐ Training and further education
- ☐ Adapting to climate change
- ☐ Other:

Item score: Score of 5 if at least two items are checked, 3 if one item, 1 otherwise.

Indicator 7: Occupational health and safety

This indicator aims to evaluate the risk prevention measures implemented on the farm. The indicator is divided into types of production.

The final score is obtained by averaging the score of each item relevant to the farm.

Major crop production risks

Item 1: Risks related to farm machinery

Are all your farm tractors equipped with the following?

- ☐ Cab or anti-roll bar (ROPS, rollover protective structure) AND power take-off (PTO) and driveshaft guards (5)
- ☐ Cab or anti-roll bar (ROPS, rollover protective structure) only (3)
- ☐ Power take-off (PTO) and driveshaft guards only (3)
- ☐ Seatbelt only (2)
- ☐ Any of the previous (1)

Score of Item 1: The score of the item corresponds to the score in brackets of the checked item minus 1 if the equipment is not systematically present or used on every farm tractor.

Item 2: Pesticide risks

When handling and applying pesticides, what protective equipment do you use?

Skin protection (handling)

- ☐ Chemical-resistant gloves
- ☐ Long clothing
- ☐ Coveralls over long clothing
- ☐ Chemical-resistant coveralls over long clothing

Skin protection score: no items checked: 1; 2 items: 3; gloves and chemical resistant coveralls: 5

Respiratory protection (handling and application)

- ☐ Mask or helmet with organic vapour-removing cartridge (magenta pink and black or magenta pink and gold) for handling
- ☐ Tractor with activated carbon filter changed at least once a year before the first spraying or mask / helmet with cartridge during application

Respiratory protection rating: no item checked: 1, 1 item: 3, 2 items: 5

The score of Item 2 is the minimum value obtained for skin and respiratory protection.

Item 3: Fall-related hazards

What protective equipment do you use when working at heights?

- ☐ Harness and lifeline (5)
- ☐ Harness without lifeline (3)
- ☐ None of the above (1)

The score of Item 3 corresponds to the score in brackets of the checked item minus 1 if the equipment is not systematically used.

Main risks in animal production

Item 1: Protective gear when handling animals

What protective equipment do you use when handling animals?

- ☐ Steel-toed boots
- ☐ Anti-slip soles
- ☐ Shield when guiding
- ☐ Restraining (squeeze) cage
- ☐ Handling chute
- ☐ Other: specify

Score of Item 1: No item checked: 1; some applicable items not checked: 3; all applicable items checked: 5

In high-risk situations (handling bulls, mating and calving periods), do you handle the animals in teams?

- ☐ Yes
- ☐ No

Adjustment to item 1: If no teamwork in high-risk situations, subtract 1 from the score of Item 1.

Item 2: Risks related to confined spaces (silage bunker, pre-pit and slurry pit)

After filling and closing the silo, how long do you wait before returning to it?

- ☐ Less than 4 weeks (1)
- ☐ More than 4 weeks (5)

Do you ventilate the silo before and during work inside?

- ☐ No ventilation (1)
- ☐ Ventilation before entering the silo but not during the work (2)
- ☐ Ventilation less than 30 min before entering the silo and ventilation during work (3)
- ☐ Ventilation for more than 30 minutes before entering the silo and ventilation during the work (5)

When working in a silo, what equipment do you use?

- ☐ Harnesses without lifeline only (2)
- ☐ Harnesses with lifeline only (3)

☐ Multi-gas detector only (3)

☐ Air supply device only (3)

☐ None of the above-mentioned equipment (1)

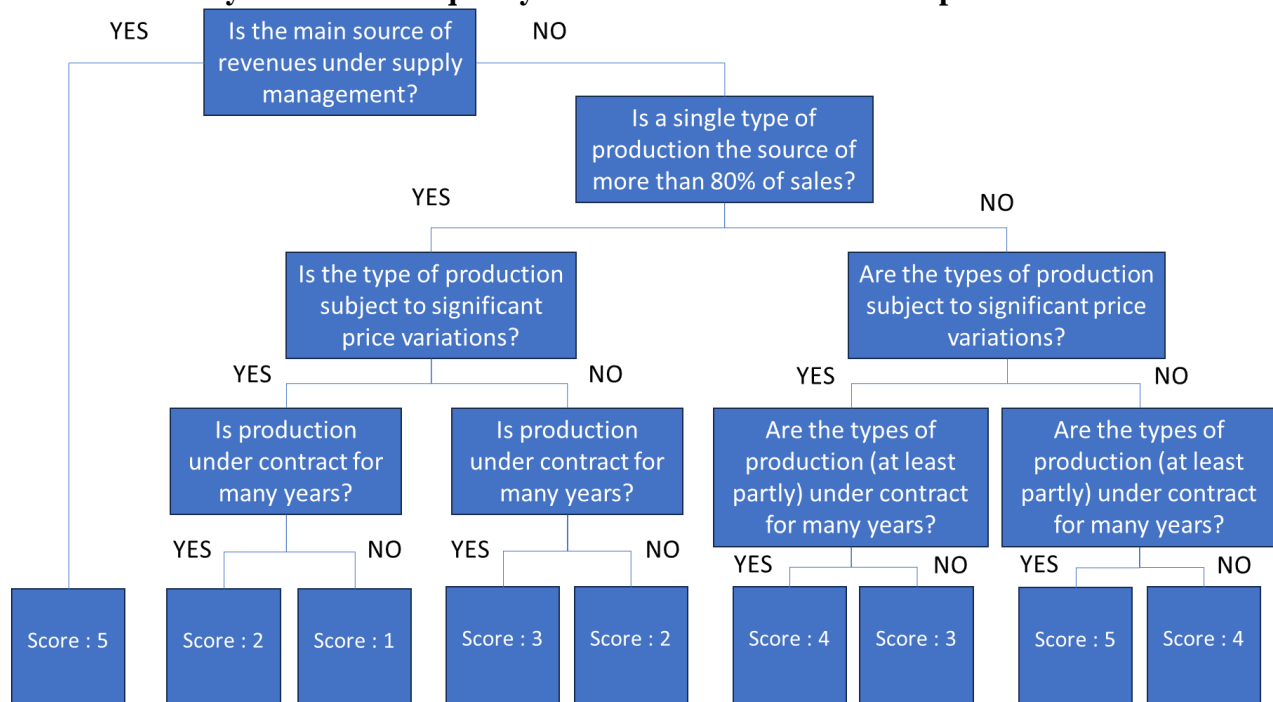
The score corresponds to the score in brackets of the checked item. For a combination of a harness with lifeline AND a multi-gas detector; 4. For a combination of a harness with lifeline AND an air supply device; 5.

Indicator 8: Risk management

Farm businesses face multiple risks. Price variations, risks related to government policies, financial risks (changes in interest rates, for example), technological and human risks, or the climate and its impact on production are risks inherent to a farm. Farmers can protect themselves from some of these risks by taking action. This indicator evaluates the level of sensitivity and preparedness to certain risks for which it is possible to have a quick first approach. Depending on the farm's interests, other tools could be used to further this analysis: AgriShield (<https://www.myagrishield.ca/EN>) and Agriclimat (<https://agriclimat.ca/en>) diagnostic approaches.

The final score for the indicator is obtained by averaging the score for each item.

Item 1: Diversity of clients and quality of the contractual relationship



Item 2: Frequency of supply problems

Are you experiencing supply problems for any of your inputs?

- ☐ Never (5)
- ☐ Rarely: a few times a year (4)
- ☐ From time to time: every month (3)
- ☐ Often: every two weeks (2)
- ☐ Very often: every week (1)

Do these supply problems affect one product / several products? (for information purposes only).

Item 3: Protection of managers/owners

Have the following documents been completed (if required)?

- ☐ Shareholders' agreement (if more than one shareholder)
- ☐ Financial planning for retirement
- ☐ Last will and testament

Are there any insurance arrangements in place?

- ☐ Life insurance
- ☐ Accident/wage insurance

Score: 5 if more than 2 items are checked; 3 if 2 items checked; 1 otherwise.

Indicator 9: Strategic management

This indicator aims to assess how farm leaders anticipate and prepare for the future, with a view to aligning strategic decisions with their future vision of their business. The first item concerns the development of a future vision for the business, an essential step in a strategic management process. The second item allows for the presence of a written document that can help formalize this vision in terms of objectives, deadlines and steps.

Score: If the vision is not clear (item 1): 1; if the vision is clear (item 1) but there is no written plan (item 2): 3; if the vision is clear and there is a written document (items 1 and 2): 5.

Item 1: Vision of the future

Do you have a clear idea of the business you would like to have in 5 to 10 years?

☐ Yes

☐ No

Item 2: Detailed planning of the farm's evolution

Does your farm have a written document (e.g., a development plan) that expresses its vision/vision, goals and resources?

☐ Yes

☐ No

1.3. Transferability

Indicator 10: Economic transferability

This indicator aims to evaluate to what extent the farm would be easily transferable from an economic point of view considering the value of the assets to be transferred and its current profitability. By calculating at item 1 the ratio between the total value of the assets and maximum repayment capacity (MRC, see indicator 1 for calculation), you can estimate the number of years that a successor who would buy the farm at its market value would take to repay it, if they managed to maintain its profitability, and considering that they would finance it at 0% interest. The higher the number, the more difficult it is to transfer the farm.

The second item seeks to assess whether, in the context of a related or unrelated transfer, the transferors are willing to donate a portion of the value of the farm to the next generation to facilitate the transfer. A farm may have a high ratio of asset value to maximum repayment capacity and yet be transferable because the transferors are willing to donate a portion of its value.

Final score: The scores of the different items are averaged to obtain a final score for the indicator.

Item 1: Value of assets to be transferred over maximum repayment capacity

- Number of years = Total market value of assets / Maximum repayment capacity (MRC)

Score

If less than 20 years old: 5

Between 20 and 26 years old: 4

Between 26 and 40 years old: 3

Between 40 and 66 years old: 2

Over 66 years old: 1

These thresholds are based on the analysis of more than 50 IDEA-QC diagnostics carried out between 2020 and 2022 in Quebec.

Item 2: Possible financial compromises from transferors to promote the transfer

Select the question that applies to your relief situation:

To the statement, “I am willing to make financial compromises to ensure that my farm is transferred to a **family succession**,” you answer:

☐ Strongly agree (5)

☐ Somewhat agree (4)

☐ Moderately agree (3)

☐ Somewhat disagree (2)

☐ Strongly disagree (1)

OR

To the statement, “I am willing to make financial compromises to ensure that my farm is transferred to **a non-family succession**,” you answer:

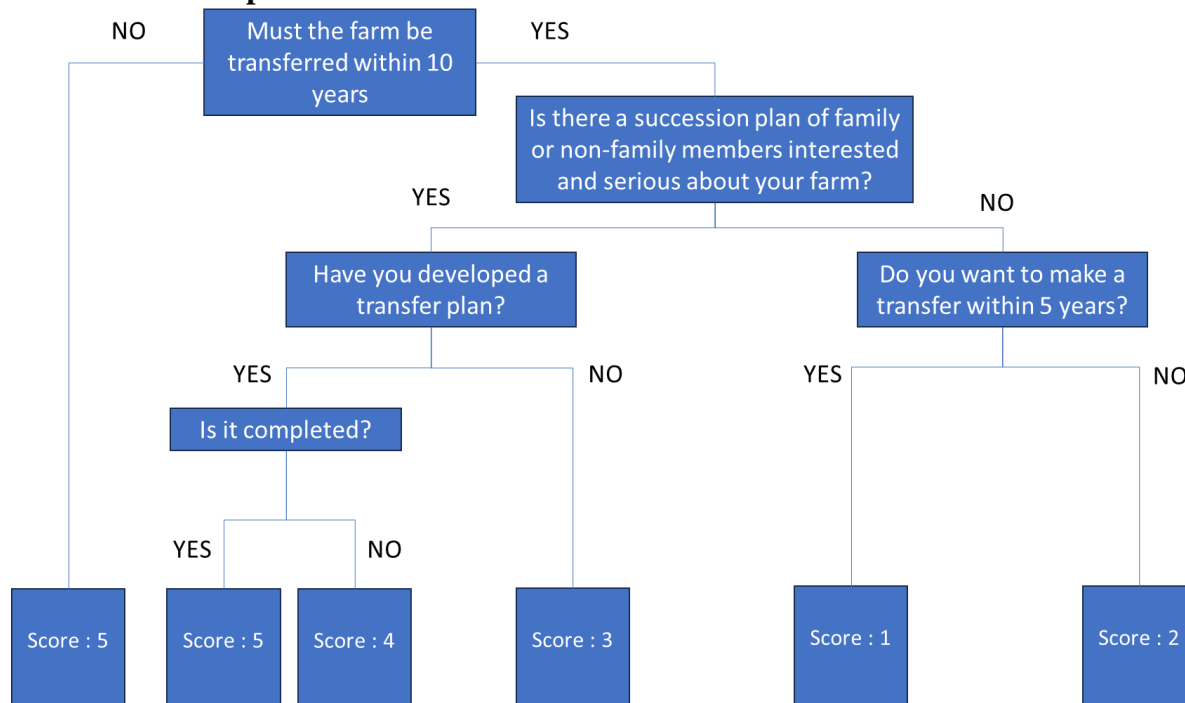
- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)
- ☐ Moderately agree (3)
- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

Indicator 11: Transfer preparation

Depending on the stage in the life cycle of the farm and the shareholders (installation, growth, transmission), the issue of the presence and integration of the next generation of entrepreneurs may be crucial to the business being a going concern. In this indicator, we look at whether a successor has been identified, and to what extent they have already been integrated into the farm's operations, in terms of shareholding and decision-making. Just as the presence of a successor is essential, the preparation of the transferors for their life after the business is also crucial to ensure a smooth transition between the farm's shareholders.

Final score: the scores of the different items are averaged to obtain the final score of the indicator.

Item 1: Transfer plan



If there are no plans to transfer the farm within 10 years, items 2 and 3 below are optional and can be excluded from the average for this indicator.

Item 2: Preparing the transferors

Among the actions and means of preparing for the transfer listed below, check the one(s) that correspond to your situation on the farm:

- ☐ Financial planning for retirement
- ☐ Clear definition of a potential role on the farm after the transfer
- ☐ Idea for other jobs to pursue in retirement
- ☐ Idea of activities and hobbies to do in retirement
- ☐ Other (please specify)

Score

- More than 3 items: 5
- Three items: 4
- Two items: 3
- One item: 2
- No items: 1

Item 3: Preparing the successors

Have you identified the skills you already have and those you need to improve to run the business? If so, what are the ways you will improve these skills?

- ☐ Mentoring of parent, leader, or internal employee
- ☐ Technical training
- ☐ Support from a management consultant specializing in business transfers
- ☐ Seminars
- ☐ Symposiums
- ☐ Conventions
- ☐ Mentoring other farmers
- ☐ Support from Québec Emploi
- ☐ Other (please specify)
- ☐ None

Score

- More than 3 items: 5
- Three items: 4
- Two items: 3
- One item: 2
- No items: 1

1.4. Quality of life

Indicator 12: Job satisfaction

With this indicator, we seek to qualitatively evaluate the satisfaction that farmers derive from their daily work. The first item aims to evaluate the farmers' level of **satisfaction** with their employment activity, characterized by their enjoyment of the tasks to be performed, their freedom of action and the variety of the tasks. The second item concerns the **feeling of work overload**, which can reduce the satisfaction one gets from one's work. Finally, the feeling of **recognition of the quality of the work done** by the farmer is also a source of satisfaction, evaluated by the last item.

Final score: For each item, the minimum score obtained for one of the questions is retained. Scores for the three items are then averaged to obtain the indicator score.

Item 1: Satisfaction at work

To the statement, "I enjoy the tasks involved in my job," you answer:

- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)
- ☐ Moderately agree (3)
- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

To the statement, "I have the freedom to decide how I do my job," you answer:

- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)
- ☐ Moderately agree (3)
- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

To the statement, "My job requires me to perform a wide variety of tasks," you answer:

- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)
- ☐ Moderately agree (3)
- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

Item 2: Feeling of work overload

To the statement, "I have enough time to do my job," you answer:

- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)
- ☐ Moderately agree (3)

- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

To the statement, “I have time, interest and energy left after work,” you answer:

- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)
- ☐ Moderately agree (3)
- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

Item 3: Recognition of the quality of the work done

To the statement, “The quality of the work I do is recognized for what it is worth on the farm,” you answer:

- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)
- ☐ Moderately agree (3)
- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

To the statement, “The quality of the work I do is recognized at its fair value by society,” you answer:

- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)
- ☐ Moderately agree (3)
- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

Indicator 13: Pace of work

Farms are usually managed by one person or a management team (e.g., couple, family, partners). Problems with the operators' health and well-being can impact the sustainability of the business. We assess this issue in terms of the pace of work, which, if too intense, can be a threat. We estimate the average **working time**, as well as the peak working time, and compare it in the first case with the standard for agriculture (3,000 hours per year per FTU) and in the second case to the amount of 10 hours per day. The **frequency of stress** is a second indication of work-related stress, which may indicate that the pace of work is too high.

Final score: For each item, the minimum score obtained for one of the questions is retained. Scores for the three items are then averaged to obtain the indicator score.

Item 1: Work time

- Total hours worked per year per FTU =
Number of weeks in peak work period × number of hours per week in peak work period
+ Number of normal work weeks × number of hours per normal week

Item score: The number of hours is compared with the standard in agriculture of 3,000 hours per FTU.

- If $\leq 3,000$, score of 3, 4, or 5 (according to the farmer)
- If $> 3,000$, score of 2 or 1 (according to the farmer).

Ultimately, it is the farmer who chooses their score to represent their satisfaction with their work time.

Item 2: Frequency of stress

In the past 12 months, have you felt stressed?

- ☐ Never (5)
- ☐ Rarely (4)
- ☐ From time to time (3)
- ☐ Often (2)
- ☐ Very often (1)

Item 3: Time for leisure

To the statement, "I have enough time for myself, for my family and to enjoy my hobbies," you answer:

- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)
- ☐ Moderately agree (3)
- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

Indicator 14: Pace of life

In connection with the previous indicator, this indicator seeks to account for the farmer's quality of life outside work by considering quality of rest, vacations and the farmer's overall feeling.

Final score: For each item, the minimum score obtained for one of the questions is retained. Scores for the three items are then averaged to obtain the score for the indicator.

Item 1: Sleep management

- Indicate the average number of hours slept per night:
(*Compare with the reference of 7 hours per night which is a vital need*).

To the statement, "I have enough time to rest at night," you answer:

- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)
- ☐ Moderately agree (3)
- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

Over the past 12 months, I have experienced intense fatigue:

- ☐ Never (5)
- ☐ Rarely (4)
- ☐ From time to time (3)
- ☐ Often (2)
- ☐ Very often (1)

Item 2: Holidays and vacations

- Number of days off per year other than weekends.
(*Compared with the legal minimum of two weeks per year*)
- Number of days off in a row.
(*Compared with the five days it takes to disconnect from work*)
- Number of weekends off per month.
(*Compared with four per month*)

To the statement, "I take enough vacation time," you answer:

- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)
- ☐ Moderately agree (3)
- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

Item 3: Quality-of-life assessment

To the statement, “In general, I am satisfied with my social and professional life,” you answer:

- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)
- ☐ Moderately agree (3)
- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

2. Preserving natural resources

2.1. Soil

Indicator 15: Soil health

Soil health is a fundamental element of the sustainability of a farm since most crop production activities depend on it. Soil health can be broken down into various aspects: erosion control, which is a common problem in Quebec, organic matter management practices, soil compaction issues, and maintenance of biological life in soils. For each of these items, the aim is to evaluate the implementation of best practices by farmers and possibly to make farmers aware of the risks associated with them.

For each item, a score from 1 to 5 is set based on the farmer's answers, and the final score is obtained by averaging the score of the four items.

Item 1: Erosion control in the fields

- What proportion of the area shows evidence of soil erosion, for example, during snowmelt or heavy summer rainstorms?
- What is the proportion of the area where at least one of these practices is in place?
 - No deep tillage in the fall
 - Fall plowing perpendicular to the slope
 - Winter soil cover
 - Intercropping
 - Perennial crops

Score

- If 100% of areas without erosion and practices are in place: 5
- If few areas of erosion, and if practices are in place on 100% of areas: 4
- If few areas of erosion, and if practices are in place on part of areas: 3
- If several areas of erosion, and if few practices are in place: 2
- If several areas of erosion, and no practices are in place: 1

Item 2: Soil organic matter management

- Proportion of areas cultivated with cover crops
- Proportion of areas cultivated with no or minimum tillage
- Proportion of areas where crop residues are returned to the soil
- Proportion of areas receiving organic matter inputs each year

Score

The proportion of areas with at least one of these favourable practices is:

- 100%: 5
- Between 75% and 100%: 4

- Between 50 and 75%: 3
- Between 25 and 50%: 2
- Between 0 and 25%: 1

Item 3: Soil compaction

- What percentage of your land do you suspect has soil compaction problems?
- Do you implement practices to limit these risks? (e.g., balancing tractors, limiting the weight per axle, double tires, low pressure, reducing the number of passes, drainage, levelling).
- Do you conduct soil profiles to assess the compaction of your soils?

Score

- If **no** compaction is present and **practices** are implemented: 5
- If **no** compaction is present and **no** practices are implemented: 4
- If **compaction** is present and **practices** are implemented: 3
- If **compaction** is present and **no** practices are implemented: 1
- +1 to the item score if soil profiles are conducted on the farm, -1 otherwise.

Item 4: Biological life of soils

- Percentage of cultivated area that is either in:
 - Perennial crops
 - Cover crops that survive the winter
 - Fall cereals
 - No tillage

Score

The proportion of areas with at least one of these favourable practices is:

- 100%: 5
- Between 75% and 100%: 4
- Between 50 and 75%: 3
- Between 25 and 50%: 2
- Between 0 and 25%: 1

2.2. Water

Indicator 16: Nitrogen management

In order to protect water resources, you need to practise sound management of inputs, and in particular of nitrogen. The four items of this indicator concern the nitrogen supply, its split application, the proportion of nitrogen supplied in the form of organic fertilizers, and the incorporation of organic fertilizers (item 3).

The final score is obtained by averaging the four items.

Item 1: Nitrogen supply adjusted to crop needs

- Adjusted supply = proportion of area where nitrogen supply does not exceed crop requirements, or exceeds by less than 10 kg/ha.

Use the Environmental Farm Plan (EFP) as the basis for this estimate.

Score

The proportion of areas with a nitrogen supply adjusted to crop needs is:

- 100%: 5
- Between 75% and 100%: 4
- Between 50 and 75%: 3
- Between 25 and 50%: 2
- Between 0 and 25%: 1
- +1 if application is at a variable rate.

Item 2: Nitrogen split application

- Fractionation: proportion of areas where the nitrogen application is either split or applied as a slow-release fertilizer.

Score

The proportion of areas with one of these favourable practices is:

- 100%: 5
- Between 75% and 100%: 4
- Between 50 and 75%: 3
- Between 25 and 50%: 2
- Between 0 and 25%: 1

Item 3: Incorporation of organic fertilizers

- What is the average time between manure application and its incorporation into the soil through tillage?

Score

- If less than 12 hours: 5
- If between 12 and 48 hours: 3
- If not incorporated but applied on a growing crop: 2
- If otherwise: 1

Item 4: Proportion of nitrogen supplied in organic form

- What is the proportion of nitrogen supplied in organic form?

Score

- If 100% of the inputs are in organic form: 5
- If more than 50% of the inputs are in organic form: 3
- If otherwise: 1

Indicator 17: Phosphorus management

Phosphorus is a non-renewable resource whose utilization should be limited. Moreover, if inputs to the soil are too large, phosphorus can end up in surface waters resulting in the eutrophication of the environment.

The final score is obtained by averaging the two items.

Item 1: Soil phosphorus saturation

- Percentage of crop area with a phosphorus saturation index (PSI) below the threshold established under the Agricultural Operations Regulation (AOR) for the soil type concerned.

$$\text{PSI} = [\text{phosphorus concentration (kg P}_{\text{M-3}}/\text{ha)} / \text{aluminum concentration (ppm Al}_{\text{M-3}} \times 2.24 = \text{kg Al}_{\text{M-3}}/\text{ha)}] \times 100.$$

Phosphorus and aluminum have to be extracted using the Mehlich-3 method. Concentrations expressed in ppm or in mg/kg can be converted to kg/ha by multiplying the value by a factor of 2.24.

Score

The proportion of areas with a PSI below the regulation threshold:

- 100%: 5
- Between 75% and 100%: 4
- Between 50 and 75%: 3
- Between 25 and 50%: 2
- Between 0 and 25%: 1

Table 1. Example of how to calculate the proportion of areas meeting the AOR threshold.

Field	Area (ha)	Soil type	AOR threshold (%)	Field PSI (%)	Threshold met?
1	7.5	Sand	13.1	11.2	Yes
2A	5.2	Loamy sand	13.1	9.0	Yes
2B	4.5	Clay	7.6	11.1	No
3	12.1	Loamy sand	13.1	7.8	Yes
4	6.4	Loam	13.1	13.4	No
5	8.8	Clay loam	7.6	5.7	Yes
Total	44.5				

In this example (Table 1), four fields meet the regulatory threshold, totalling 33.6 ha out of a total cultivated area of 44.5 ha. Consequently, 75.5% of the fields meet the criterion, and the farm

obtains 4 points.

Item 2: Percentage of phosphorus inputs in organic form

- Proportion of phosphorus inputs in organic form = $\text{kg of phosphorus from manure and other organic matters} / (\text{kg of organic phosphorus} + \text{kg of mineral phosphorus})$

Score

The proportion of phosphorus inputs in organic form:

- 100%: 5
- Between 75% and 100%: 4
- Between 50% and 75%: 3
- Between 25% and 50%: 2
- Between 0% and 25%: 1

Indicator 18: Reduction of phytosanitary products

Plant protection products are the subject of numerous controversies, including their impact on the environment and unintended impacts on wildlife, applicator health, and human health in general. The indicator evaluates the practices adopted by the farmer to reduce the use of these products, and therefore the related risks.

Item 1: Implementation of integrated pest management actions to reduce risks related to pesticides

- ☐ Product selection based on risk indices;
- ☐ Choice of products to limit the risk of resistance development;
- ☐ Lengthening and diversification of rotations;
- ☐ Mechanical weeding;
- ☐ Varietal choices;
- ☐ Decision tree for pesticide application;
- ☐ Localized application;
- ☐ Intercropping cover crops;
- ☐ Untreated seeds for annual crops;
- ☐ Fields without herbicides or with herbicides after field screening and herbicide group rotation;
- ☐ Fields without insecticides or fungicides, or with insecticides or fungicides after field screening and reaching threshold of insects' presence before treatment;
- ☐ Biological control;
- ☐ Use of anti-drift practices: anti-drift nozzles, windbreaks, tower or tunnel type sprayer (for orchards, vineyards, raspberries, Christmas trees), spray mixture adjuvant aimed at reducing the risks of drift.

Score

- 5 or more items checked: 5
- 4 items: 4
- 3 items: 3
- 2 items: 2
- 0 or 1 item: 1

Indicator 19: Water resource protection

Farms use water for many activities, whether for cleaning machinery, spraying, watering animals or crop irrigation. Even though water is available in sufficient quantities in Quebec, this is not the case everywhere. Some areas are experiencing difficult situations, especially during the summer when water uptake from rivers is concerned. Locally, tensions can also be observed when wells dry up. It is therefore necessary to implement practices on farms to limit water withdrawals.

Final score: The final score is obtained by averaging the scores of the three items.

Item 1: Knowledge of water consumption

- Do you use surface or groundwater? Do you know your water consumption?

Score

- Knowledge of sources and quantities: 5
- Knowledge of sources only: 3
- Otherwise: 1

Item 2: Practices to limit the impact of water withdrawals

- If surface water, when do you draw from it? Do you have a storage basin? Have you implemented measures to reduce the quantities used?

Score

- If **no** summer surface water withdrawals and **reduction** measures for groundwater withdrawals (or other optimal situations): 5
- If **no** summer surface water withdrawals and **no** reduction measures for groundwater withdrawals: 3
- If summer **surface** water withdrawals and **reduction** measures: 3
- If summer **surface** water withdrawals and **no** reduction measures: 1

Item 3: Practices to limit contamination

- Do you have a wash water treatment basin for your:
 - Sprayers;
 - Slurry/fertilizer application equipment.
- Do you have other practices in place to limit the release of contaminated water into the environment?

Score: if water treatment basin, 5; if other practices to limit the release of contaminated water, 3; otherwise, 1.

2.3. Air

Indicator 20: Non-organic waste management

Various types of waste are generated on a farm, including non-organic waste. The production and management of these wastes are not always the focus of producers' attention, so this indicator aims to check their practices regarding this issue.

- Do you generate the following types of waste? If so, how do you manage it?

Waste	Produced on the farm?	Treatment?
Twines and nets		
Plastic waste, including silage wraps and sugar bush tubing		
Scrap metal		
Tires		
Batteries		
Used oil		
Phytosanitary product packaging and seed bags		
Drugs and packaging		
Packaging of cleaning products		

Score

- If little waste is produced and totally recycled (when possible): 5
- If a lot of waste is produced and totally recycled: 4
- If little waste is produced and some is sent to ultimate waste: 3
- If a lot of waste is produced and some is not recycled: 2
- If some waste is buried or burned: 1

Indicator 21: Greenhouse gas emissions

Agriculture emits greenhouse gases, notably through the use of fertilizers that emit nitrous oxide and require a lot of energy to manufacture, as well as through the enteric fermentation of animals and during the storage of manure. In addition, a farm consumes energy for such things as fieldwork, heating livestock buildings or drying grain. This energy comes mostly from three sources: electricity which, in Quebec, is mainly from renewable sources (hydraulic and wind power), fuel for machinery, and gas for heating greenhouses and buildings and for drying grain.

Item 1: Greenhouse gas emissions in CO₂ equivalent tons

The French IDEA simplified evaluation grid, adapted with references from the province of Quebec (see Excel file), can be used to calculate the greenhouse gas emissions, especially for dairy and/or cash crop farms. Other greenhouse gas calculators could also be used (e.g., Holos).

Total emissions are divided by the crop area (t CO₂ eq/ha/year), as is the case for the Government of Canada's Agricultural Greenhouse Gas Indicator (<https://agriculture.canada.ca/en/agricultural-production/agricultural-greenhouse-gas-indicator>). Farm emissions could also be expressed in terms of the quantity of food produced by the farm (t CO₂ eq/kg food) or the number of people the farm helps to feed (t CO₂ eq/person fed).

Unlike the Government of Canada's Agricultural Greenhouse Gas Indicator, the IDEA-QC emissions calculation takes into account emissions from the combustion of fossil fuels by farm machinery, and so few reference data were available to establish the scoring. We therefore used the greenhouse gas emissions produced by 50 farms from Quebec that had already benefited from an IDEA-QC diagnosis to define the scoring scale proposed here. It should be noted that greenhouse gas emissions associated with the production of livestock feed imported to the farm are not currently accounted for.

Score

- If ≤ 2 t CO₂ eq/ha/year: 5
- If between 2 and ≤ 4 t CO₂ eq/ha/year: 4
- If between 4 and ≤ 6 t CO₂ eq/ha/year: 3
- If between 6 and ≤ 8 t CO₂ eq/ha/year: 2
- If 8 t CO₂ eq/ha/year or more: 1

To make the results easier to understand, it may be useful to compare the farm's total production of greenhouse gases with something more tangible, such as the number of cars on the road or the number of planes flying to a given destination. For example, a farm's emissions could correspond to:

- **115 cars travelling 20,000 km per year** ($461 \text{ t CO}_2 \text{ eq/year} \times 1000 \text{ kg/t} \div 0.2 \text{ kg CO}_2/\text{km} \div 20,000 \text{ km/year}$).
- **1.2 full-capacity aircraft making the Montreal-Cancun round trip** ($461 \text{ t CO}_2 \text{ eq/year} \times 1000 \text{ kg/t} \div 0.223 \text{ kg CO}_2/\text{km/seat} \div 300 \text{ seats} \div 5920 \text{ km for a Montreal-Cancun round trip}$).

Item 2: Share of renewable energy in the farm's energy consumption

- What is the proportion of energy consumed that originates from renewable sources?

Score

- 100% renewable energy: 5
- Between 75% and 100% renewable energy: 4
- Between 50% and 75% renewable energy: 3
- Between 25% and 50% renewable energy: 2
- Between 0 and 25% renewable energy: 1

2.4. Biodiversity

Indicator 22: Production diversity

Maintaining biodiversity in crops and livestock is a major issue in order to ensure a landscape mosaic that can host natural flora and fauna. For perennial forage crops or pastures, each species in the mixture count as a crop.

The final score is the average of the scores of the first three items. Item 4 is a bonus.

Item 1: Number of crops and proportion of each crop

Score

		Percentage of surface area	
		Two main crops cover less than 80% of the cultivated area.	Two main crops cover more than 80% of the cultivated area.
Number of crops	More than 5	Score: 5	Score: 4
	2 to 5	Score: 3	Score: 2
	2 or less	NA	Score: 1

Item 2: Proportion of areas with diversified rotations

- What is the proportion of the cultivated area that is cropped with a rotation including 4 (or more) crops, never with the same crop two years in a row?

Grasslands count as a different crop each year. Cover crops, if not destroyed in the fall, count as a half crop.

Score

The proportion of areas with diversified rotations is:

- 100%: 5
- Between 75% and 100%: 4
- Between 50 and 75%: 3
- Between 25 and 50%: 2
- Between 0 and 25%: 1

Item 3: Genetic diversity

- Number of varieties (cultivars, hybrids) grown for each crop.

Score

- More than 2 varieties for each crop: 5
- 2 varieties for each crop: 4
- 2 varieties for several crops: 3

- 2 varieties for 1 crop: 2
- Otherwise: 1

Item 4: Genetic diversity in animal productions

- Are you breeding animals of local race? Are there different breeds on the farm?

Score: Bonus of 1 to the score of Indicator 22, if local breeds, or if many breeds, are present on the farm.

Indicator 23: Biodiversity friendly landscapes

In terms of biodiversity friendly practices, the natural and semi-natural infrastructures surrounding cultivated plots are of great importance as they often host a high diversity of animal or plant species.

The final score is the average of the three items.

Item 1: Riparian strips along streams and ditches

- Enriched or expanded riparian strips: percentage of riparian strips enriched with trees or shrubs or expanded beyond current regulations.

Score

Proportion of riparian strips enriched with trees or shrubs or expanded beyond current regulations:

- 100%: 5
- Between 75% and 100%: 4
- Between 50% and 75%: 3
- Between 25% and 50%: 2
- Less than 25%: 1

Item 2: Field windbreaks

- Length of windbreaks (m) / cultivated area of the farm (ha)

On the basis of the average length of windbreaks present on farms that have already benefited from an IDEA-QC diagnosis, we were able to calculate average hedge lengths, which were used to define the scoring scale proposed here.

	Score
More than 30 m of hedges per ha	5
From 23 m to 30 m of hedges per ha	4
From 15 m to 23 m of hedges per ha	3
From 7 m to 15 m of hedges per ha	2
Less than 7 m of hedges per ha	1

Item 3: Preservation of a wooded area

- Is there a wooded area (not fragmented) on the farm of a minimum of 5 ha?

Score: yes: 5; if woodland less than 5 ha: 3; if no woodland: 1.

3. Responding to societal and territorial challenges

3.1. Society expectations

Indicator 24: Production for human consumption

In Quebec, most of the cultivated area is used for food production. The need to produce food to feed the population of the province, and more broadly the planet, is unanimous. The farm's contribution to this objective is evaluated by means of this indicator.

Item 1: Nurturing potential for humans

This item is adapted from the methodology used in the PerfAlim tool (<http://perfalim.com/en>), using proteins as unit.

Steps for calculation:

- 1) For each plant or animal product **intended for human consumption**, a quantity of proteins produced over a year is estimated (see Table 2 below).
- 2) For each plant product **intended for animal consumption**, the quantity of proteins produced over a year is first estimated (see Table 2). Then this quantity is multiplied by a food conversion coefficient to determine the share of proteins that will actually be used to feed humans (average of 8% in North America; Shepon et al., 2016).
- 3) Finally, based on the daily protein requirements of a human (average of 51 g; Health Canada, 2024), the number of people who could be fed for one year by the farm's production is calculated.

Note: In the absence of reference data specific to our local conditions, we have used data collected on 50 farms from the province of Quebec that had already benefited from an IDEA-QC diagnosis to define the scoring scale proposed here.

Score

- If ≥ 4000 people/year: 5
- If between 3000 and 4000 people/year: 4
- If between 2000 and 3000 people/year: 3
- If between 1000 and 2000 people/year: 2
- If < 1000 people/year: 1

Table 2. Quantity of protein (g) produced per 100 g or per 1 ton of product sold by the farm. The Canadian Nutrient File (CNF) provides references for hundreds of agricultural products:

<https://aliments-nutrition.canada.ca/cnf-fce/?lang=eng>

Plant products	Protein (g/100 g)	Protein (g/1 t)	Animal products	Protein (g/100 g)	Protein (g/1 t)
Apples	0,26	2,600	Pork	15,03	150,300
Barley	12,48	124,800	Poultry meat	14,72	147,200
Blueberries	0,74	7,400	Cow milk	3,28	32,800
Buckwheat	13,25	132,500	Hen eggs	11,8	118,000
Cranberry	0,39	3,900	Beef boneless	14,97	149,700
Dry peas	29,65	296,500			
Lettuce	1,36	13,600			
Oats	16,89	168,900			
Potatoes	2,14	21,400			
Raspberries	1,2	12,000			
Rye	14,76	147,600			
Strawberries	0,67	6,700			
Sweet corn	3,27	32,700			
Wheat	10,69	106,900			

Indicator 25: Animal welfare

Animal welfare is a growing concern for both civil society and farmers. The objective of this indicator is to evaluate the level of familiarity and the farmer's approach to ensuring animal welfare.

Final Score: The final score for the indicator is the score for the lowest item.

Item 1: Absence of hunger and thirst

- Do your facilities give all animals access to clean water and feed at all times?

Score: 1 if no; 5 if yes.

Item 2: Absence of fear and distress

How do you limit aggressive behaviour towards animals?

- ☐ Educate employees on best management and handling practices
- ☐ Leave the premises and take a break at times of risk
- ☐ Enter the building with a calm and positive attitude
- ☐ Call for help in risky situations

Score

- No aggressive behaviour: 5
- Some aggressive behaviour: 3
- Aggressive behaviour is present and tolerated: 1

Item 3: Absence of physical or heat stress

How often do your animals suffer from heat and cold?

- ☐ Frequently
- ☐ From time to time (occasional)
- ☐ Rarely (infrequent)

How often do you clean the facilities your animals use?

- ☐ Frequently
- ☐ From time to time (occasional)
- ☐ Rarely (infrequent)

Score

- Infrequent heat stress and frequent cleaning: 5
- Infrequent heat stress and occasional cleaning: 4
- Occasional heat stress and frequent cleaning: 4
- Occasional heat stress and occasional cleaning: 3
- Frequent heat stress or infrequent cleaning: 2
- Frequent heat stress and infrequent cleaning: 1

Item 4: Absence of pain, lesions, disease

Do you follow the practices below on the farm?

- ☐ Beak conditioning without pain control
- ☐ Caponizing
- ☐ Nail removal
- ☐ Defeathering
- ☐ Dehorning as an adult
- ☐ Castration without pain control
- ☐ Tailing
- ☐ Ear notching

Do you take measures to limit pain during risky procedures?

- ☐ Performing essential procedures only
- ☐ Performing the procedure at an appropriate age
- ☐ Carrying out the procedure by a competent person
- ☐ Less painful methods used
- ☐ Use of pain control (sedative, anesthetic, analgesic)
- ☐ Follow-up of handled animals

How often do you inspect the physical condition of the animals (looking for lesions, sick animals, dead animals, lameness and estimated body condition of the animals)?

- ☐ Frequently
- ☐ From time to time
- ☐ Rarely

Score

- No prohibited practices performed on the farm, presence of measures to limit pain and high inspection frequency: 5
- No prohibited practices performed on the farm, presence of measures to limit pain and average inspection frequency: 4
- No prohibited practices performed on the farm, presence of measures to limit pain and low inspection frequency: 3
- No prohibited practices performed on the farm, no measures to limit pain: 2
- If prohibited practices are performed on the farm: 1

Item 5: Freedom to express normal behaviour

Do you have infrastructure or equipment that allows your animals to express their natural behaviours? e.g., perch, litter, brush, habitat-enrichment items, exercise area, access to pasture.

Score

- If the infrastructures and equipment allow the animals to express their natural behaviours: 5
- If some elements are present on the farm: 3
- If no elements are present on the farm: 1

Indicator 26: Biosafety

Knowledge of biosafety issues and the implementation of practices to limit risks are growing in animal and plant production companies. Through this indicator, we can evaluate the farm's practices with respect to these issues. Given the diversity of practices that can be implemented on farms, we offer a list of actions to be checked off according to the type of risk to which the farm is exposed.

Item 1: Implementation of biosafety practices

Visitors

- ☐ Locked buildings
- ☐ Visitor's register
- ☐ Hand washing
- ☐ Washing of boots or wearing of plastic boots

Animal purchase (if applicable)

- ☐ Register of animals
- ☐ Quarantine area
- ☐ Screening before entering the herd
- ☐ Regular consultation with a veterinarian

Moving of machinery or equipment (e.g., in the context of contract work)

- ☐ Cleaning and disinfection of equipment before and after use

Indicator score

- If all applicable actions are checked: 5
- If more than one applicable action per risk type is checked: 4
- If one applicable action per risk type is checked: 3
- If fewer than 3 applicable actions are checked: 2
- If one action is checked, or none: 1

3.2. Life of the community and local economy

Indicator 27: Contribution to local economy

One of the contributions of farms to the sustainable development of communities is through the exchange of goods and services with various local institutions and businesses. These exchanges can be linked to the purchase of inputs, the valorization of waste produced, the provision of services or the use of services available in the community.

The final score of the indicator is obtained by averaging the first 3 items. Item 4 is a bonus.

Item 1: Valorization of the productions in short or proximity circuits

- Share of sales made through short or local circuits

Not applicable in case of collective marketing.

Score

- 100%: 5
- From 75% to 100%: 4
- From 25% to 75%: 3
- From 0 to 25%: 2
- 0%: 1

Item 2: Local sourcing of farm inputs

- What is the proportion of inputs for which your supplies are local (within 50 km of the farm)?
If applicable: animal feed, organic fertilizers, purchase of animals

Score

- If totally: 5
- Partially: 3
- None: 1

Item 3: Use of local services

Of the economic partners in your rural community listed below, check the one(s) you do business with for your family and home:

- ☐ Service station
- ☐ Auto garage
- ☐ Convenience store
- ☐ Village grocery store
- ☐ Insurance
- ☐ Snow removal
- ☐ Daycare
- ☐ Financial institutions
- ☐ Village restaurant
- ☐ Other (please specify) _____

Score

- More than 4 checked items: 5
- 4 checked items: 4
- 3 checked items: 3
- 2 checked items: 2
- No checked items: 1

Item 4: Circular economy

- Are you a link in a circular economy chain? For example, do you use co-products from other companies in the region, or do you supply co-products from your main productions that are recovered by other companies? For example, the recovery of brewers' or spent grains on ranch businesses, the composting of organic matter.

Item score: bonus of 1 to the score of Indicator 27 if the answer is yes.

Indicator 28: Relationships with other farms in the area

With this indicator, we assess the level of integration of the farm into the wider community, and the cohabitation with farmer and non-farmer neighbours. This relationship can be at different levels, notably through the sharing of resources, or through support in labour-intensive operations.

Final score: The scores of the various items are averaged to obtain the final score of the indicator.

Item 1: Solidarity in the community

To the statement, “I feel that there is solidarity in my rural community,” you answer:

- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)
- ☐ Moderately agree (3)
- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

To the statement, “I feel appreciated by my community,” you answer:

- ☐ Strongly agree (5)
- ☐ Somewhat agree (4)
- ☐ Moderately agree (3)
- ☐ Somewhat disagree (2)
- ☐ Strongly disagree (1)

Score for item 1: the lowest score of the two questions.

Item 2: Collective management of work: mutual aid and group of employers

- Do you trade time or share employee(s) with other farm businesses?

Score

- Very often: 5
- Sometimes: 3
- Never: 1

Item 3: Material sharing: equipment, buildings, services, farm machinery cooperative (CUMA) and others

- Do you share materials and/or equipment with other farms (e.g., exchange of services, machinery cooperative)?

Score

- Very often: 5
- Sometimes: 3
- Never: 1

Indicator 29: Relationships with consumers and citizens

Territorial integration, relationship with consumers and local purchases allow the development of a relationship of trust with consumers and citizens. In particular, the trust that consumers have in the products they buy is a key issue for agriculture. To bring producers and consumers closer together, it is important that producers communicate about their practices and be transparent about the quality of what they produce.

Final score: The scores of the 5 items are averaged to obtain the final score of the indicator.

Item 1: Transparency approach

- What is the percentage of production that is certified by a public quality label or that meets specifications verified by a private certification [Organic Agriculture, Canada Gap, identity-protected soybean (IP), no-input breadmaking wheat] or that follows any other transparency process?

Score

- Between 80% and 100%: 5
- Between 60% and 80%: 4
- Between 40% and 60%: 3
- Between 20% and 40%: 2
- Between 0 and 20%: 1

Item 2: Access policy to roads that cross the farm

- Are the farm roads that cross the farm territory accessible to public? For example, roads for snowmobile, for pedestrians, bikes or horses.
- Are you voluntarily performing maintenance work to facilitate public access to these roads?

Score

- Access to the entire farm: 5
- Access to roads only on a part of the farm: 3
- No access to farm roads: 1
- +1 (bonus to the score of Item 2) if the farm business performs maintenance work on roads to facilitate public access

Item 3: Carry out awareness-raising or exchange actions with consumers

From the list below, which of the following consumer awareness or exchange actions do you carry out?

- ☐ welcome at the agritourism farm
- ☐ educational farm
- ☐ presentations in schools
- ☐ recipe sharing
- ☐ salons
- ☐ collective work on the farm (e.g., planting hedges)
- ☐ educational website
- ☐ other, specify

Score

- Three checked items: 5
- Two checked items: 4
- One checked item: 3
- No checked items: 1

Item 4: Participation in social life

Are you involved in:

- ☐ associative structures (e.g., sports associations, churches, solidarity)
- ☐ elective structures (e.g., municipality)

Score

- If significant involvement in at least one structure: 5
- If participation (with limited involvement) in one structure: 3
- Otherwise: 1

Item 5: Practices and services with the neighbourhood

Which of the following practices do you implement (if applicable)?

- ☐ Informing neighbours of application dates
- ☐ Spreading in accordance with the municipality's prescribed dates
- ☐ Concern for the overall appearance of the farm (cleanliness, flowers, maintenance)
- ☐ Odour reduction
- ☐ Noise reduction
- ☐ Planting of windbreaks
- ☐ "Conscientious" movement of machinery
- ☐ Snow removal
- ☐ Brush clearing
- ☐ Composting of green waste
- ☐ Other (specify)

Score

- Four (or more) checked items: 5
- Three checked items: 4
- Two checked items: 3
- One checked item: 2
- No checked items: 1

Indicator 30: Maintenance of built heritage and landscapes

Farming generates numerous externalities, including positive side effects linked to the various heritages it creates and engenders. These include heritage buildings with the presence in certain regions of ancestral barns with their particular architecture, the maintenance of landscapes, the preservation of local knowledge (e.g., in connection with the processing of certain products) or the preservation of old varieties.

The final score is obtained as follows:

- If more than one element in each item: 5
- If at least one element in each item: 4
- If more than one element in one item: 3
- If only one element in one item: 2
- If no element: 1

Item 1: Preservation of specific elements of the farm

- Does your farm have any elements that have heritage value? If so, do you seek to preserve them? For example, you may have old barns, calvaries, covered bridges and other elements that bear witness to the past.

Item 2: Landscape quality

- Are there any landscape features that you value and seek to preserve? For example, trees, hedges, streams, woodlands, open views.