

Agricultural Water Survey, 2018

Confidential when completed

Si vous préférez recevoir ce questionnaire en français, veuillez composer le 1-800-461-1662.

Please verify the business or organization name, contact person and address for this questionnaire and correct where needed.

Legal name

Operating name

First name

Last name

Title

Address (number and street)

City

Province, territory or state Postal code or ZIP code

Country

Information for the respondent

Authority

This is a voluntary survey conducted under the authority of the *Statistics Act*, Revised Statutes of Canada, 1985, Chapter S-19. Your cooperation is important to ensure that the information collected in this survey is as accurate as possible.

Survey purpose

The Agricultural Water Survey is conducted to gather information on water use, irrigation methods and practices, and sources and quality of water used for agricultural purposes.

This survey is part of the Canadian Environmental Sustainability Indicators (CESI) program. The data collected will be used in CESI's reporting activities and to inform water use policy and development of programs for Canadian irrigators. Statistics Canada will also use the survey results to report on total water use by sector in Canada. Your information may also be used by Statistics Canada for other statistical and research purposes.

Confidentiality

Statistics Canada is prohibited by law from releasing any information it collects which could identify any person, business, or organization, unless consent has been given by the respondent or as permitted by the *Statistics Act*. Statistics Canada will use the information from this survey for statistical purposes.

Record linkage

To enhance the data from this survey and to minimize the reporting burden, Statistics Canada may combine it with information from other surveys or from administrative sources.

Data-sharing agreements

To reduce respondent burden, Statistics Canada has entered into data-sharing agreements with federal, provincial and territorial government organizations, which have agreed to keep the data confidential and use them only for statistical purposes. Statistics Canada will only share data from this survey with those organizations that have demonstrated a requirement to use the data.

Section 12 of the *Statistics Act* provides for the sharing of information with federal, provincial or territorial government organizations. Under **Section 12**, you may refuse to share your information with any of these organizations by writing a letter of objection to the Chief Statistician and returning it with the completed questionnaire. Please specify the organizations with which you do not want to share your data.

For this survey, there are **Section 12** agreements with Agriculture and Agri-Food Canada, Environment Canada, the Institut de la statistique du Québec, Manitoba Agriculture, Food and Rural Development, and Alberta Agriculture and Rural Development.

For agreements with provincial government organizations, the shared data will be limited to information pertaining to business establishments located within the jurisdiction of the respective province.

YOUR PARTICIPATION IN THIS SURVEY IS IMPORTANT
REGARDLESS OF HOW MUCH IRRIGATION WAS DONE DURING THE GROWING SEASON.

Instructions for completing this questionnaire

- Who should complete this survey?

This survey is addressed to the farm operation and is to be completed by a person that has good knowledge of the irrigation activities practiced on this farm.

- If exact values are not available, please provide estimates.

- Comments on any part of the survey should be provided in the space on the second-last page of the questionnaire.

- Please return the completed questionnaire within 30 days of receipt by mail, using the enclosed, postage paid envelope.

Cropland and Irrigation in 2018

Please refer to the **2018 growing season** when answering the following questions.

Irrigation is defined as applying water to the soil to assist the growing of crops in dry areas during periods of inadequate rainfall; to prevent soil compaction or erosion; or to protect plants against frost.

Include:

- all irrigated land, producing or non-producing, used for forage crops, fruits, vegetables, field crops, hay and improved pasture, on owned land or land rented or leased **from others**

Exclude:

- land rented or leased **to others**
- summerfallow
- Christmas trees
- greenhouses, nurseries and sod operations
- land drained by a drainage system that is never irrigated

Irrigation volumes – Forage crops

7a. Did you produce or grow **forage crops** on this operation during the 2018 growing season? Include hay, improved pasture and silage.

C0601 1 Yes 3 No → Go to question 8a

7b. Did you apply irrigation to **forage crops** on this operation during the 2018 growing season?

C0602 1 Yes 3 No → Go to question 8a

7c. What area of land was irrigation applied to for **forage crops**?

Specify the total land area that received irrigation in 2018 using the unit of measure specified in question 4. A land area that received irrigation multiple times during the season should only be counted once. For example, if you irrigated 100 acres in July and the same 100 acres plus an additional 50 acres in August, the size of the irrigated crop area is 150 acres.

C0603 .

7d. How much water was applied to the **forage crops** in each of the following months?

Please provide the quantity of water, as well as the irrigated land area using the unit of measure specified in question 4. Enter a “0” if there was no irrigation for a particular month.

2018	Quantity of water	Irrigated land area
April	C0605 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	C0613 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
May	C0606 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	C0614 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
June	C0607 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	C0615 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
July	C0608 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	C0616 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
August	C0609 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	C0617 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
September	C0610 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	C0618 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
October	C0611 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	C0619 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
TOTAL	C0612 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	

Irrigation volumes – Vegetable crops

10a. Did you produce or grow **vegetable crops, excluding potatoes**, on this operation during the 2018 growing season? *If needed, see the crop guide at the end of the questionnaire.*

C0901 1 Yes 3 No → Go to question 11

10b. Did you apply irrigation to **vegetable crops, excluding potatoes**, on this operation during the 2018 growing season?

C0902 1 Yes 3 No → Go to question 11

10c. What area of land was irrigation applied to for **vegetable crops, excluding potatoes**?

Specify the total land area that received irrigation in 2018 using the unit of measure specified in question 4. An area that received irrigation multiple times during the season should only be counted once. For example, if you irrigated 100 acres in July and the same 100 acres plus an additional 50 acres in August, the size of the irrigated crop area is 150 acres.

C0903 .

10d. How much water was applied to the **vegetable crops, excluding potatoes**, in each of the following months?

Please provide the quantity of water, as well as the irrigated land area using the unit of measure specified in question 4. Enter a "0" if there was no irrigation for a particular month.

		Quantity of water		Irrigated land area
2018				
April	C0905	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	C0913	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
May	C0906	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	C0914	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
June	C0907	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	C0915	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
July	C0908	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	C0916	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
August	C0909	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	C0917	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
September	C0910	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	C0918	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
October	C0911	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	C0919	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
TOTAL	C0912	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>		

Irrigation systems

11. What **irrigation method** was used to irrigate your crops in 2018? **Mark all that apply.**
 If needed, see the crop guide at the end of the questionnaire.

	Forage crops, including hay, improved pasture and silage	Field crops, including potatoes	Fruits	Vegetables, excluding potatoes
<p>Sprinkler irrigation Systems distribute water above the crop canopy using a spray. Sprinkler irrigation systems include hand move; solid or permanent set; side roll, wheel line, wheel move or wheel roll; traveller, volume gun, travelling gun, walker, overhead or circular; linear move; and centre pivot.</p>	C1001_1 <input type="checkbox"/>	C1002_1 <input type="checkbox"/>	C1003_1 <input type="checkbox"/>	C1004_1 <input type="checkbox"/>
<p>Micro-irrigation Delivers water onto the soil surface very close to the crop or below the soil. It includes surface drip, sub-surface drip, micro-sprinklers, bubblers, micro jets and hand watering.</p>	C1001_2 <input type="checkbox"/>	C1002_2 <input type="checkbox"/>	C1003_2 <input type="checkbox"/>	C1004_2 <input type="checkbox"/>
<p>Surface irrigation The water flows over the soil surface by gravity, either by flooding or in furrows. It includes down rows, furrows, corrugations, border dyke, level basins, uncontrolled flooding and back flooding. It excludes surface drip irrigation.</p>	C1001_3 <input type="checkbox"/>	C1002_3 <input type="checkbox"/>	C1003_3 <input type="checkbox"/>	C1004_3 <input type="checkbox"/>

Irrigation practices and water sources

The following questions deal with possible sources of water used for irrigation.

12. Of all the water used for irrigation in 2018, what percentage came from each of the following?

%

On-farm underground water or well water, including shallow wells and deep wells

C1101

On-farm lakes, rivers, creeks or streams, ponds or dugouts i.e. direct access (surface water)

C1102

Off-farm water transported **to the farm** e.g., via pipeline, canal system or vehicle, including municipal water and any surface water located **off-farm**

C1103

Other source(s), specify:

C1105

C1104

100%

If only **on-farm** water is reported in question 12 → Go to question 15

If **off-farm** water is reported in question 12, continue to question 13

13. Of all the **off-farm** water used for irrigation in 2018, what percentage came from each of the following?

%

Tap water

C1201

Treated wastewater

C1202

Provincial water sources (irrigation district, irrigation project)

C1203

Private sources

C1204

Other source(s), specify:

C1206

C1205

100%

14. Why did this operation need to obtain water from an **off-farm** source in 2018?
Mark all that apply:

C1301 No water or not enough water available **on the farm** for irrigation

C1302 Poor quality of **on-farm** water for irrigation

C1303 Other reason(s) specify:

C1304

Crop guide

Field crops

Barley	Dry field peas	Safflower
Borage seed	Flaxseed	Soybeans
Buckwheat	Ginseng	Sugar beets
Canary seed	Lentils	Sunflower seeds
Canola	Linola	Tobacco
Caraway seed	Mixed grains	Triticale
Chick peas	Mustard seed	Wheat
Coriander seed	Oats	Other field crops
Corn for grain	Potatoes	
Dry beans	Rye	

Fruits

Apples	Kiwis	Raspberries
Apricots	Nectarines	Saskatoon berries
Blueberries	Peaches	Strawberries
Cherries	Pears	Other fruit
Cranberries	Plums	
Grapes	Prunes	

Vegetables

Asparagus	Garlic	Pumpkins
Beans (green or wax)	Gherkins	Radishes
Beets	Leeks	Rhubarb
Broccoli	Lettuce	Rutabagas
Brussels sprouts	Melons (watermelon)	Spinach
Cabbage (Chinese)	Melons, other	Squash
Cabbage (regular)	Onions (dry)	Tomatoes
Carrots (including baby)	Onions, green	Turnips
Cauliflower	Parsley	Zucchini
Celery	Parsnips	Other herbs
Corn (sweet)	Peas (green)	Other vegetables
Cucumbers	Peppers	

Forage Crops

Alfalfa	Timothy	Fescue
Clover	Orchardgrass	Sorghum-sudan
Trefoil	Canarygrass	Wheatgrass
Bromegrass	Ryegrass	