

For interviewer use only

Based on label information, enter last digit of contact telephone number:

→ Column number

Enter number of field listed in Step 2:

→ Row number

Use this table to select field

# of fields	Last Digit of the contact's telephone number									
	0	1	2	3	4	5	6	7	8	9
1	1	1	1	1	1	1	1	1	1	1
2	1	2	2	1	2	1	2	1	1	2
3	1	2	1	3	2	1	2	3	3	1
4	1	4	3	3	2	1	2	2	3	1
5	4	5	3	1	5	2	2	4	1	3
6	5	1	2	1	3	6	4	3	2	5
7	7	2	1	3	2	4	6	5	6	4
8	6	4	2	3	8	5	6	1	3	7
9	5	8	5	4	9	2	1	6	7	1
10	8	4	5	3	7	6	1	2	9	10

FOR INFORMATION ONLY

STEP 2: Questions about the fields where CARROTS were grown for sale in 2005

2 What UNIT OF MEASURE will be used to report land areas? ²² This same unit should be used throughout the questionnaire.

(Check one circle only.)

- ⁰¹ Acres ⁰² Hectares ⁰³ Arpents (Quebec only)

3 What was the total area planted in CARROTS (all varieties) on this farm operation in 2005? ²³

4 How many fields (blocks, sections, plots) were planted in CARROTS? ²⁴

Include:

- ▶ all fields where you grew CARROTS for sale to the fresh or processing markets in 2005;
- ▶ all areas of CARROTS grown for sale at roadside stands, farmer's markets or U-pick systems.

Do not include:

- ▶ fields rented or leased TO OTHERS;
- ▶ fields owned but operated by someone else under a crop share arrangement;
- ▶ greenhouse and home garden areas.

To save time, this interview will focus on one field only. First, we will list all fields where carrots were grown in 2005. You can use your identification system (field name, number or description) to report each field. Then, I will select a field from the list.

5 What are the fields where carrots were grown in 2005?

▶ If the respondent uses a different term than "field" (e.g. block, section, plot) to describe the CARROT area, please specify here: ²⁵

▶ If there are more than 10 fields, list the 10 largest fields.

	Field name, number or description
1	
2	
3	
4	
5	

	Field name, number or description
6	
7	
8	
9	
10	

Now, I will select one CARROT field from all carrot fields that you planted in 2005.
 Interviewer action: Enter the selected field (block, section or plot) number ²⁶

The selected field is: _____. During this interview, I will ask you questions about this field.

6 What was the area of the selected CARROT field (block, section or plot)? ²⁷

7 In 2005, ...

- a) which carrot variety was planted? ²⁹
- b) what was the seeds' trade name? ³⁰
- c) when was the field seeded/planted? ³¹ ³⁴ ³⁷ ⁴⁰
- d) when did harvest start? ³² ³⁵ ³⁸ ⁴¹
- e) when did harvest finish? ³³ ³⁶ ³⁹ ⁴²

STEP 3: Questions about herbicide, insecticide or fungicide applications from January 1 to December 31, 2005 on the field selected in Step 2.

8 In 2005, did you apply any herbicides, insecticides, fungicides or other pesticides on the selected field? ⁴³

- ⁰¹ Yes ⁰² No If "YES", continue to question 9. If "NO" → Go to Step 4.

9 What format was used to keep records of herbicides, insecticides, fungicides or other pesticides applied to the selected field? ⁴⁴

Was it ...? (Check all that apply.)

- ⁰¹ Written ⁰² Electronic/computer file ⁰³ No record kept

10 What information is kept in your logs/record-keeping system?

Does it include the ...? (Check all that apply.)

- ⁴⁵ Date of application ⁴⁸ Product applied ⁵¹ Temperature at application
⁴⁶ Identification of field ⁴⁹ Rate of application ⁵² Targeted weed, insect or disease
⁴⁷ Total area treated ⁵⁰ Wind speed ⁵³ Other, specify: _____ ⁵⁴

11 Did the company or person purchasing your produce require the use of specific herbicides, insecticides or fungicides as part of a contractual agreement? ⁵⁵

- ⁰¹ Yes ⁰² No ⁰³ Not applicable, the produce was not sold to a processor under a contractual agreement.

STEP 3: Questions about herbicide, insecticide or fungicide applications from January 1 to December 31, 2005 on the field selected in Step 2

12 What chemicals were applied to the selected carrot field in 2005? Report ALL CHEMICAL APPLICATIONS to the SELECTED FIELD in this table.

Include all applications to the SELECTED FIELD (Step 2) made by the respondent, a partner, an employee or a custom applicator.

- ▶ Where necessary (more than 45 applications or lines), use additional tables supplied with the interviewer material.
- ▶ For pre-packaged mixes, enter the product code found in the *Interviewer Reference Guide*.
- ▶ If the respondent mixed more than one product in the tank, use a different line for each product mixed.
- ▶ If the code of a pre-packaged mix is not included in the list, report its name at the bottom of this table (p. 4).

Check if you use additional table 999

Column [1]					Column [2]					Column [3]					Column [4]					Column [5]							
Line	Date of application				101	Which product was applied? <i>(Enter product name or code from the Interviewer Reference Guide)</i>				201	301	What was the rate of application? <i>(e.g. 1 litre per acre)</i>			401	What was the application technique? <i>(Enter the application technique code p. 4)</i>			501	If this application was a local or half row treatment, what percent of the FIELD was treated?							
	D	D	M	M		102	103	104	105			106	107	108		109	110	111		112	113	114	115	116	117	118	119
1	D	D	M	M	101					201			301	per	401			501									601
2	D	D	M	M	102					202			302	per	402			502									602
3	D	D	M	M	103					203			303	per	403			503									603
4	D	D	M	M	104					204			304	per	404			504									604
5	D	D	M	M	105					205			305	per	405			505									605
6	D	D	M	M	106					206			306	per	406			506									606
7	D	D	M	M	107					207			307	per	407			507									607
8	D	D	M	M	108					208			308	per	408			508									608
9	D	D	M	M	109					209			309	per	409			509									609
10	D	D	M	M	110					210			310	per	410			510									610
11	D	D	M	M	111					211			311	per	411			511									611
12	D	D	M	M	112					212			312	per	412			512									612
13	D	D	M	M	113					213			313	per	413			513									613
14	D	D	M	M	114					214			314	per	414			514									614
15	D	D	M	M	115					215			315	per	415			515									615
16	D	D	M	M	116					216			316	per	416			516									616
17	D	D	M	M	117					217			317	per	417			517									617
18	D	D	M	M	118					218			318	per	418			518									618
19	D	D	M	M	119					219			319	per	419			519									619
20	D	D	M	M	120					220			320	per	420			520									620
21	D	D	M	M	121					221			321	per	421			521									621
22	D	D	M	M	122					222			322	per	422			522									622
23	D	D	M	M	123					223			323	per	423			523									623
24	D	D	M	M	124					224			324	per	424			524									624

STEP 4: Questions about WEED, INSECT, DISEASE AND OTHER PEST MANAGEMENT PRACTICES in 2005 for the field selected in Step 2

13 a) What main crop do you plan to grow in the selected field in 2006? 2006 801

b) Which main crops did you grow in this field in the three years preceding 2005? 2004 802

2003 803

2002 804

14 How many times did you use the following tillage implements to prepare this field for planting? Include implements used to prepare the soil after harvest in the fall of 2004 and before planting in the spring of 2005.

805 Moldboard plow 807 Rotary cultivator 809 Light disc harrow or cultivator

806 Chisel plow 808 Heavy discs 810 Vibrator tiller

811 Other, specify: 812

15 In 2005, what planting method did you use for the crop you planted in this field? 814

Was it ...? (Check only one circle)

01 Transplanting 02 Direct seeding into tilled soil 03 Other, specify: 815

16 Which practices do you use in your spray operation in this field in 2005?

Do you ...? (Check all that apply.)

816 Calibrate sprayer each year 822 Spray only when wind speeds are low (less than five km/h)

817 Use the highest labelled water volume 823 Spray only when wind blows away from sensitive areas

818 Replace nozzles at least every three years 824 Maintain lower pressure or use low-drift nozzle

819 Maintain sprayer travel speed less than 16 km/h 825 Use protective shrouds or cones around sprayer boom

820 Maintain low boom height 826 Other, specify: 827

821 Adjust airstream direction for target height 828

17 In 2005, did you use any of the following practices in this field for **WEED** management?

Did you ...? (Check all that apply.)

829 Use mulch 831 Use a cultivator or rotary hoe

830 Plant a cover crop 832 Chop or remove crop residue

833 Other, specify: 834

18 In 2005, for the selected field, was the incidence of **WEEDS** compared to the last five years ...? 835

(Check one circle only.)

01 Much less 02 Less 03 About the same

04 More 05 Much more

If the answer is "More" or "Much more", continue to question 19. Otherwise → Go to Question 20.

19 What do you plan to do during the next growing season to reduce your **WEED** problems?

Will you ...? (Check all that apply.)

836 Switch to a different herbicide 839 Change planting or tillage practices

837 Apply an additional herbicide 840 Alter crop rotation

838 Increase rate of herbicide applications 841 Other, specify: 842

843

20 In 2005, for the selected field, was the incidence of **INSECTS** compared to the last five years ...? 844

(Check one circle only.)

01 Much less 02 Less 03 About the same

04 More 05 Much more

If the answer is "More" or "Much more", continue to question 21. Otherwise → Go to Question 22.

21 What do you plan to do during the next growing season to reduce your **INSECT** problems?

Will you ...? (Check all that apply.)

845 Rotate crops to disrupt insect cycles 849 Take actions to disrupt insect reproduction or development

846 Plant a more resistant crop variety 850 Increase rate of insecticide applications

847 Switch to a different insecticide 851 Other, specify: 852

848 Apply an additional insecticide 853

22 In 2005, did you deal with any **NEW INSECTS** in this field? 854

02 No 01 Yes

► If yes, what was the main insect? 855

23 For the selected field, what was the **MOST PREVALENT INSECT** you had to control?

If there was no significant insect problem, enter "0" and skip to Question 25. 856

STEP 4: Questions about WEED, INSECT, DISEASE AND OTHER PEST MANAGEMENT PRACTICES in 2005 for the field selected in Step 2

24 What did you do to control the MOST PREVALENT INSECT?

Did you ...? (Check all that apply.)

- 857 Apply insecticides throughout the growing season
- 858 Time insecticide applications to target the insect at different development stages
 - What were the developmental stages?
 - 859 Early nymph or egg stages
 - 860 Larval or nymphal stages
 - 861 Adult
- 862 Take other steps to disrupt the reproduction of this insect
- 863 Take other actions to disrupt the morphological development of this insect
- 864 Rotate crops to break insect cycles
- 865 Release beneficial organisms to control this insect
- 866 Manage this field and its surrounding area to attract beneficial organisms

25 In 2005, for the selected field, was the incidence of DISEASES (fungus, bacteria, mildew) compared to the last five years ...?

867

(Check one circle only.)

- 01 Much less
- 02 Less
- 03 About the same
- 04 More
- 05 Much more

If the answer is "More" or "Much more", continue to question 26. Otherwise → Go to Question 27.

26 What do you plan to do during the next growing season to reduce your DISEASE problems?

Will you ...? (Check all that apply.)

- 868 Plant a more resistant crop variety
- 869 Increase rate of fungicide applications
- 870 Switch to a different fungicide
- 871 Apply an additional fungicide
- 872 Rotate crops to disrupt disease cycles
- 873 Alter soil fertility or water management
- 874 Other, specify:

27 In 2005, did you deal with any NEW DISEASES in this field?

877

- 02 No
- 01 Yes

► If yes, what was the main disease?

878

28 For the selected field, what was the MOST PREVALENT DISEASE (fungus, bacteria, mildew, you had to control?

If there was no significant disease problem, enter "0" and skip to Question 31.

879

29 What tools/methods did you or your advisor use to make decisions on when to apply fungicides in this field to control the MOST PREVALENT DISEASE?

Was the decision based on ...?

(Check all that apply.)

- 880 A set application schedule (calendar spraying)
- 881 Scouting reports and thresholds
- 882 Regional forecasting/warning services
- 883 Climatic conditions (degree days, moisture)
- 884 Advice from other operators
- 885 Advice from a chemical salesperson
- 886 Don't know
- 887 Other, specify:

30 Which practices did you use to avoid the MOST PREVALENT DISEASE (fungus, bacteria, mildew) in this field?

Did you ...? (Check all that apply.)

- 889 Plant certified disease-free transplants or seeds
- 890 Select the plant variety known to be most resistant to the major disease threats in your area
- 891 Eliminate possible sources of inoculum, such as cull piles or volunteer plants in nearby fields
- 892 Clean equipment moving into this field to reduce risk of transporting disease spores or inoculum
- 893 Adjust fertilizer levels to prevent excessive levels of nutrients in the root zone and plant foliage
- 894 Test your soil for micronutrient imbalances that can promote certain diseases
- 895 Alter the timing of fertilization and/or water applications

STEP 5: Questions about weed, insect and disease RESISTANCE to chemical applications for your ENTIRE OPERATION.

31 In 2005, did you use any of the following practices to prevent weeds, insects and disease resistance to chemical products?

Did you ...? (Check all that apply.)

- 896 Always rotate chemical families (or groups)
- 897 Select more pest resistant crop varieties
- 898 Sometimes rotate chemical families (or groups)
- 899 Reduce pest populations through non-chemical means
- 900 Other, specify:

32 On YOUR FARM, to what extent, if any, are weeds becoming resistant to HERBICIDES?

Are weeds becoming ...? (Check one circle only.)

- 01 Very resistant
- 02 Resistant
- 03 Slightly resistant
- 04 Not resistant
- 09 Don't know

33 On YOUR FARM, to what extent, if any, are insects becoming resistant to INSECTICIDES?

Are insects becoming ...? (Check one circle only.)

- 01 Very resistant
- 02 Resistant
- 03 Slightly resistant
- 04 Not resistant
- 09 Don't know

34 On YOUR FARM, to what extent, if any, are diseases becoming resistant to FUNGICIDES?

Are diseases becoming ...? (Check one circle only.)

- 01 Very resistant
- 02 Resistant
- 03 Slightly resistant
- 04 Not resistant
- 09 Don't know

