



2005 Livestock Farm Practices Survey Chicken Egg Producers



DRAFT ONLY

CONFIDENTIAL
when completed

Collected under the authority of the Statistics Act, Revised Statutes of Canada, 1985, Chapter S-19.

To correct or make changes to this label → See below

Ce questionnaire est disponible en français.

For interviewer use only

Fully completed	005	1	
Partial	005	4	
Refusal	005	2	
No contact	005	3	

Please indicate start time of interview:

		:		
1				2

In operation	004	00	
Change of operator	004	12	
Out of business	004	13	

TO THE RESPONDENT:

To improve overall air quality in Canada and worldwide, agriculture like other industries is asked to quantify emissions of ammonia into the atmosphere. The results of the survey will place Canada among other industrialized countries who have agreed to co-operate to improve air quality around the globe. Because pollutants travel long distances crossing many boundaries, international co-operation is essential for long-term air quality. The information obtained from the survey will guide researchers to improve efficiency of Nitrogen use on farms.

Your farm was selected at random for this survey from a list of chicken egg producers. While participation in this survey is voluntary, your cooperation is important to ensure that the information collected in this survey is as accurate and as comprehensive as possible.

Statistics Canada is prohibited by law from publishing any statistics which would divulge information obtained from this survey that relates to any identifiable business, institution or individual without their knowledge and consent. The data reported on this questionnaire will be treated in confidence, used for statistical purposes and published in aggregate form only.

This questionnaire on commercial chicken egg operations deals with feed protein, barn types, manure handling and spreading of manure. The person most knowledgeable about these items should complete the questionnaire.

Please refer to the 2005 calendar year when answering questions unless specified otherwise.

Change or correction to the address label (if required)

Are there any changes required to the address label?

	11		14
Corporation name		Area code	
	12		15
Operator name		Telephone	
	13		16
Contact name		Telephone	
	17		18
P.O. Box			19
	20		21
Postal code		Post office (name of city, town or village where mail is received)	

For questions about laying hens include the following:

- All laying hens on your operation, regardless of ownership, including those that are custom fed or fed under contract for others.

For questions about laying hens exclude the following:

- Pullets and breeder laying hens;
- Do not report laying hens which are owned by you but kept on a farm owned by someone else.

Section 1 – Feeding and housing practices: laying hens

1. In 2005, did you have producing layers on your operation?

Yes..... ₁ → Please complete Section 1

No ₂ ↓ End interview

2. In 2005, what was the average number of laying hens on your farm operation at any one time?

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Laying hens₁

3. In 2005, what was the number of days between production cycles?

--	--	--	--	--	--	--

Days₁

4. In 2005, what was the number of days in your production cycle(s)?

--	--	--	--	--	--	--

Days₁

5. How many of the laying hens were brown-feathered varieties?

None ₁

Some, but less than 50%..... ₂

Most, 50% or more ₃

All ₄

6. How many separate buildings did you use to house your laying hens?

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Building(s)₁

7. In 2005, what was the average temperature in the production part of your laying hen building?

If there is more than one producing layer building, answer for the largest layer building.

Summer

--	--

 °C₁ ---or---

--	--

 °F₂

Winter

--	--

 °C₃ ---or---

--	--

 °F₄

8. What type of ventilation system did you have in your laying hen building(s)?

Check all that apply.

Fans switched on automatically with computer ₁

Fans switched on automatically with thermostat ₂

Fans switched on manually ₃

Passive ventilation (side curtains, free air or vent panels) ₄

Other, *specify*: _____ ₅

9. Did you have 'pit fans', such as fans on the lower floor of a high-rise barn or over a manure pit, placed to specifically draw air over the manure in your laying hen building(s)?

Yes..... ₁

No ₂

10. Did you have filters on your vents or vent fans to control dust emissions?

Yes..... ₁

No ₂

<p>11. In 2005, what proportion of your laying hen feed came from commercial feed suppliers?</p> <p>More than 75%..... <input type="checkbox"/>₁ → Answer question 12</p> <p>25% to 75%..... <input type="checkbox"/>₂ → Answer question 12</p> <p>Less than 25% <input type="checkbox"/>₃ ↓ Go to question 13</p> <p>None <input type="checkbox"/>₄ ↓ Go to question 13</p>	<p>12. What commercial feed products did you obtain for your laying hens? <i>Check all that apply.</i></p> <p>Complete feed..... <input type="checkbox"/>₁</p> <p>Protein supplements <input type="checkbox"/>₂</p> <p>Amino acids <input type="checkbox"/>₃</p> <p>Vitamin/mineral premixes .. <input type="checkbox"/>₄</p> <p>Other, <i>specify:</i> _____ <input type="checkbox"/>₅</p> <p>Don't know <input type="checkbox"/>₆</p>
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<p>13. Does the percentage (%) of crude protein content of your producing layers diet change for each stage of production?</p> <p>Yes .. <input type="checkbox"/>₁ → Answer questions 15 and 16</p> <p>No.... <input type="checkbox"/>₂ ↓ Go to question 14</p>	<p>15. In 2005, what was the percentage (%) of crude protein content of the feed used for your producing layers during each stage of production?</p> <p style="text-align: center;">% crude protein</p> <p>First stage of production:..... <input type="text"/> <input type="text"/> ₁</p> <p>Second stage of production:.. <input type="text"/> <input type="text"/> ₂</p> <p>Third stage of production:..... <input type="text"/> <input type="text"/> ₃</p> <p>Fourth stage of production: ... <input type="text"/> <input type="text"/> ₄</p> <p>Fifth stage of production: <input type="text"/> <input type="text"/> ₅</p> <p>Sixth stage of production:..... <input type="text"/> <input type="text"/> ₆</p> <p>Other stage of production:..... <input type="text"/> <input type="text"/> ₇</p> <p><i>Specify:</i> _____ <input type="checkbox"/>₈</p> <p>Don't know <input type="checkbox"/>₉</p>
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14. What was the percentage (%) of crude protein content of the feed used for your producing layers?

% crude protein ₁

Don't know ₂

↓ Go to question 17

16. How many days did your producing layers stay in each stage?

Days

First stage of production:.....	<input type="text"/>	<input type="text"/>	<input type="text"/>	1
Second stage of production:.....	<input type="text"/>	<input type="text"/>	<input type="text"/>	2
Third stage of production:.....	<input type="text"/>	<input type="text"/>	<input type="text"/>	3
Fourth stage of production:	<input type="text"/>	<input type="text"/>	<input type="text"/>	4
Fifth stage of production:.....	<input type="text"/>	<input type="text"/>	<input type="text"/>	5
Sixth stage of production:.....	<input type="text"/>	<input type="text"/>	<input type="text"/>	6
Other stage of production:.....	<input type="text"/>	<input type="text"/>	<input type="text"/>	7

Specify: _____ ₈

Don't know ₉

17. In 2005, did you mix feed, other than minerals, for the laying hens on your operation?

Yes..... ₁

→ Answer questions 18 to 21

No ₂ ↓ Go to question 22

18. What ingredients did you mix? (Do not include commercial vitamin, mineral premixes or protein supplements).
Check all that apply.

Corn..... ₁

Cereals (barley, wheat, rye, etc.) ... ₂

Soybean meal ₃

Soybean grain ₄

Canola meal ₅

Other plant proteins (e.g., peas) ₆

Animal proteins (e.g. whey or skim milk powder)..... ₇

Other, specify: _____ ₈

19. Which best describes how you formulated your laying hen diet: ...?

Based on farm experience and records ₁

Following tag instructions .. ₂

Following advice from nutritionist or veterinarian ₃

Other, specify: _____ ₄

20. How often were these ingredients analysed for protein content?

Never ₁

On occasion, but not in 2005 ₂

One to four times in 2005 .. ₃

Five times or more in 2005. ₄

21. If the finished feed was analysed in 2005, was the crude protein content: ...?

Usually under your target protein content ... ₁

Usually meeting your target protein content. ₂

Usually over your target protein content..... ₃

22. For your producing layers in 2005, what was the feed conversion efficiency for the last completed cycle?
 (The quantity of feed needed to produce 1 dozen eggs).

--	--	--	--	--

lb₁

--Or--

--	--	--	--	--

kg₂

--Or--

Don't know ₃

<p>23. In 2005, did you use litter in your laying hen building(s)?</p> <p>Yes <input type="checkbox"/>₁ → Answer questions 24 to 26</p> <p>No <input type="checkbox"/>₂ ↓ Go to question 27</p>	<p>24. What type of litter did you use for your laying hens? <i>Check all that apply.</i></p> <p>Straw or other crop residue... .. <input type="checkbox"/>₁</p> <p>Sawdust, wood chips or shavings <input type="checkbox"/>₂</p> <p>Paper crumb or other forest product <input type="checkbox"/>₃</p> <p>Other, specify: _____ <input type="checkbox"/>₄</p>																																										
<p>25. How often did you add fresh litter for your laying hens? <i>Specify the usual number of days between one addition and the next.</i></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> <p style="text-align: right;">Days₁</p>																																											
<p>26. Approximately how much bedding do you use per year for all your laying hens?</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> <p style="text-align: right;">Cubic yards/metres₁</p> <p>--Or--</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> <p style="text-align: right;">Number of large bales₂</p> <p>--Or--</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> <p style="text-align: right;">Number of small bales₃</p> <p>--Or--</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> <p style="text-align: right;">Tonnes (metric)₄</p> <p>--Or--</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> <p style="text-align: right;">Tons (imperial)₅</p> <p>--Or--</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> <p style="text-align: right;">Other units₆</p> <p>Specify units: _____ <input type="checkbox"/>₇</p> <p>Don't know <input type="checkbox"/>₈</p>																																											

<p>27. Does your main (<i>largest</i>) producing layer building have cages over a manure pit, such as a high-rise style, where manure collects in a pit below the cages?</p> <p>Yes <input type="checkbox"/> ₁ → Answer questions 28 and 29</p> <p>No <input type="checkbox"/> ₂ ↓ Go to question 30</p>	<p>28. What was the number of days, between cleanings in your producing layer building?</p> <p style="text-align: center;"> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> Days₁ </p> <hr/> <p>29. How many times per production cycle did you clean manure out from your producing layer hen building?</p> <p>Once every production cycle..... <input type="checkbox"/> ₁</p> <p>Less often than once every production cycle..... <input type="checkbox"/> ₂</p> <p>Several times every production cycle..... <input type="checkbox"/> ₃</p> <p>Other, <i>specify</i>: _____ <input type="checkbox"/> ₄</p>
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<p>30. Is your main (<i>largest</i>) producing layer building designed to allow frequent removal of manure, such as with belts, scrapers or wash-down?</p> <p>Yes <input type="checkbox"/> ₁ → Answer questions 31 and 32</p> <p>No <input type="checkbox"/> ₂ ↓ Go to question 33</p>	<p>31. What scraper or slurry systems did you use?</p> <p><i>Check all that apply.</i></p> <p>Belt scrapers or similar system <input type="checkbox"/> ₁</p> <p>Gutter scrapers or similar system <input type="checkbox"/> ₂</p> <p>Slurry-based cleaning system <input type="checkbox"/> ₃</p> <p>Other, <i>specify</i>: _____ <input type="checkbox"/> ₄</p> <hr/> <p>32. What was the number of days, between cleanings with your belt scrapers or slurry system in your laying hen building?</p> <p style="text-align: center;"> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> Days₁ </p>
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33. In 2005, what was the percentage (%) of all the manure removed from your laying hen building(s) during the following months?

What percentage was removed in...?

	%
April to May.....	<input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> ₁
June to August.....	<input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> ₂
September to November.....	<input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> ₃
December to March.....	<input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> ₄

Total must be 100%

-----Or-----

Manure is removed after each cycle ₅

Section 2 – Solid Manure Handling and Storage

Please refer to a normal year

34. Do you store solid manure from your laying hen operation?

Yes..... ₁ ↓ Please complete Section 2

No ₂ → Go to Section 3 (page 9)

35. How long do you usually store solid manure collected over winter? (*December to March*)

Is it stored ...?

Less than 1 month..... ₁

From 1 to less than 6 months .. ₂

From 6 to less than 12 months ₃

12 months or longer..... ₄

Not stored over winter. ₅

36. How long do you usually store solid manure collected from spring to fall? (*April to November*)

Is it stored ...?

Less than 1 month..... ₁

From 1 to less than 6 months .. ₂

From 6 to less than 12 months ₃

12 months or longer..... ₄

Not stored over spring to fall..... ₅

37. How do you usually store solid manure? *Is it ...?*

Uncovered outdoor piles or bunkers..... ₁

Piles or bunkers covered with tarp or straw..... ₂

Piles or bunkers under a roof .. ₃

Other storage, specify: _____ ₄

<p>38. Do you put any additives into the <u>solid manure</u>, to modify odour, pH or nutrient retention? Exclude litter.</p> <p>Yes <input type="checkbox"/>₁ → Go to question 39</p> <p>No <input type="checkbox"/>₂ ↓ Go to question 40</p>	<p>39. What types of additives do you use? Specify below:</p> <p>_____ 1</p> <p>_____ 2</p>
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40. How do you manage solid manure while it is in storage? *Is it ...?*

Not moved or disturbed ₁

Moved or disturbed once or twice
(*e.g. to consolidate a pile or make room for more manure from the barn*)..... ₂

Routinely and thoroughly mixed or turned
(*e.g. to accelerate composting*) ₃

41. What is the percentage of solid manure handled through each method you use?

What percentage is ...?

	%				
Spread on land (by you or someone else).....	<table border="1" style="display: inline-table; width: 30px; height: 20px;"> <tr><td style="width: 10px;"></td><td style="width: 10px;"></td><td style="width: 10px;"></td></tr> </table>				1
Composted (then spread on land).....	<table border="1" style="display: inline-table; width: 30px; height: 20px;"> <tr><td style="width: 10px;"></td><td style="width: 10px;"></td><td style="width: 10px;"></td></tr> </table>				2
Removed by contractor (don't know how it is used).....	<table border="1" style="display: inline-table; width: 30px; height: 20px;"> <tr><td style="width: 10px;"></td><td style="width: 10px;"></td><td style="width: 10px;"></td></tr> </table>				3
Other	<table border="1" style="display: inline-table; width: 30px; height: 20px;"> <tr><td style="width: 10px;"></td><td style="width: 10px;"></td><td style="width: 10px;"></td></tr> </table>				4
Specify: _____		5			

Total must be 100%

Section 3 – Land spreading of solid manure

Please refer to a normal year

42. Is solid manure from your laying hen operation spread on land (spread on any land by the operator or by someone else)?

Yes..... 1 ↓ Please complete Section 3

No 2 → Go to Section 4 (page 11)

43. When the manure is tilled into the soil, what amount would you estimate is still exposed to the air ...?

Less than 25% (such as with moldboard plow) 1

25% to 50% (such as with disc or chisel plow).. 2

More than 50% (such as with harrow).. 3

44. Of the total amount of solid manure from your chicken egg operation applied on land, what percentage is spread on:....?

	%				
Tilled crop land (most crop residue tilled into soil).....	<table border="1" style="display: inline-table; width: 30px; height: 20px;"> <tr><td style="width: 10px;"></td><td style="width: 10px;"></td><td style="width: 10px;"></td></tr> </table>				1 → Answer questions 45 and 46
Reduced till crop land (most crop residue retained on surface)	<table border="1" style="display: inline-table; width: 30px; height: 20px;"> <tr><td style="width: 10px;"></td><td style="width: 10px;"></td><td style="width: 10px;"></td></tr> </table>				2 → Answer question 47
Land covered with perennial or forage crops	<table border="1" style="display: inline-table; width: 30px; height: 20px;"> <tr><td style="width: 10px;"></td><td style="width: 10px;"></td><td style="width: 10px;"></td></tr> </table>				3 → Answer question 47
Other	<table border="1" style="display: inline-table; width: 30px; height: 20px;"> <tr><td style="width: 10px;"></td><td style="width: 10px;"></td><td style="width: 10px;"></td></tr> </table>				4 → Go to question 48
Specify: _____		5			

Total must be 100%

If solid manure is applied on tilled crop land, answer questions 45 and 46. Else go to question 47.

<p>45. Of the total (<i>solid</i>) manure applied on tilled soil, what percentage is usually applied in each month?</p> <p><i>What percentage is applied in ... ?</i></p> <table style="margin-left: auto; margin-right: auto; text-align: center;"> <thead> <tr> <th></th> <th colspan="3">%</th> </tr> </thead> <tbody> <tr><td>January</td><td></td><td></td><td>1</td></tr> <tr><td>February</td><td></td><td></td><td>2</td></tr> <tr><td>March</td><td></td><td></td><td>3</td></tr> <tr><td>April</td><td></td><td></td><td>4</td></tr> <tr><td>May</td><td></td><td></td><td>5</td></tr> <tr><td>June</td><td></td><td></td><td>6</td></tr> <tr><td>July</td><td></td><td></td><td>7</td></tr> <tr><td>August</td><td></td><td></td><td>8</td></tr> <tr><td>September</td><td></td><td></td><td>9</td></tr> <tr><td>October</td><td></td><td></td><td>10</td></tr> <tr><td>November</td><td></td><td></td><td>11</td></tr> <tr><td>December</td><td></td><td></td><td>12</td></tr> </tbody> </table> <p style="text-align: center;">Total must be 100%</p> <p>All year round at regular intervals <input type="checkbox"/> 13</p>		%			January			1	February			2	March			3	April			4	May			5	June			6	July			7	August			8	September			9	October			10	November			11	December			12	<p>46. For each period, how many days after spreading is the land usually first tilled?</p> <p>If different for different fields, give the most common. (Incorporated same day = 0 days).</p> <table style="margin-left: auto; margin-right: auto; text-align: center;"> <thead> <tr> <th></th> <th colspan="3">Days</th> </tr> </thead> <tbody> <tr><td>January</td><td></td><td></td><td>1</td></tr> <tr><td>February</td><td></td><td></td><td>2</td></tr> <tr><td>March</td><td></td><td></td><td>3</td></tr> <tr><td>April</td><td></td><td></td><td>4</td></tr> <tr><td>May</td><td></td><td></td><td>5</td></tr> <tr><td>June</td><td></td><td></td><td>6</td></tr> <tr><td>July</td><td></td><td></td><td>7</td></tr> <tr><td>August</td><td></td><td></td><td>8</td></tr> <tr><td>September</td><td></td><td></td><td>9</td></tr> <tr><td>October</td><td></td><td></td><td>10</td></tr> <tr><td>November</td><td></td><td></td><td>11</td></tr> <tr><td>December</td><td></td><td></td><td>12</td></tr> </tbody> </table> <p>Not applicable (<i>manure is not incorporated into soil</i>) <input type="checkbox"/> 13</p>		Days			January			1	February			2	March			3	April			4	May			5	June			6	July			7	August			8	September			9	October			10	November			11	December			12
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If solid manure is applied on reduced till, perennial or forage crop land, answer question 47.
Else go to question 48.

47. Of the total (*solid*) manure applied on reduced till crop land, perennial or forage crop land, what percentage is applied in each month?

	%		
January			1
February			2
March			3
April			4
May			5
June			6
July			7
August			8
September			9
October			10
November			11
December			12

Total must be 100%

All year round at regular intervals 13

<p>48. <u>In the past 3 years</u>, has a chemical analysis of the <u>solid manure</u> been done for levels of Nitrogen, Phosphorus, Potassium, micronutrient or moisture content?</p> <p>Yes..... <input type="checkbox"/>₁ → Answer question 49</p> <p>No <input type="checkbox"/>₂ ↓ Go to question 50</p>	<p>49. What were the lab results? (<i>Specify units of measure and range e.g., 45 to 53 kg Nitrogen per tonne or 0.45 to 0.53% nitrate Nitrogen</i>).</p> <p>Unit of measure codes:</p> <p>1 = Kilograms (kg) per (metric) tonne of manure 2 = Pounds (lb) per (imperial) ton of manure 3 = Percentage</p> <p><i>Enter range in first eight boxes and enter the decimal point if needed. Enter unit of measure in last box to right e.g.:</i></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 20px; text-align: center;">0</td> <td style="border: 1px solid black; width: 20px; text-align: center;">.</td> <td style="border: 1px solid black; width: 20px; text-align: center;">4</td> <td style="border: 1px solid black; width: 20px; text-align: center;">5</td> <td style="width: 20px;">to</td> <td style="border: 1px solid black; width: 20px; text-align: center;">0</td> <td style="border: 1px solid black; width: 20px; text-align: center;">.</td> <td style="border: 1px solid black; width: 20px; text-align: center;">5</td> <td style="border: 1px solid black; width: 20px; text-align: center;">3</td> <td style="width: 20px;"> </td> <td style="border: 1px solid black; width: 20px; text-align: center;">3</td> </tr> </table> <p>Lab results (numbers) of chemical analysis:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><i>Moisture content</i></td> <td style="text-align: right;"><i>Unit of measure</i></td> </tr> <tr> <td style="border: 1px solid black; 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<p>50. Do you usually land spread (<i>solid</i>) manure at a particular time of day?</p> <p>Yes..... <input type="checkbox"/>₁ → Answer question 51</p> <p>No, it is spread whenever possible.... <input type="checkbox"/>₂ ↓Go to question 52</p>	<p>51. Is it usually spread between: ...?</p> <p>10 a.m. and 6 p.m. <input type="checkbox"/>₁</p> <p>6 p.m. and 10 a.m. <input type="checkbox"/>₂</p>
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52. Do you land spread manure when the wind speed is ...?

Calm, say below 5 km/hour (*a flag might hang or ripple gently at this wind speed*) ₁

Brisk or strong, say about 5 to 9 km/hour (*a flag would fly straight out at this wind speed*) ₂

Any speed, the job gets done whenever it is possible ₃

Section 4 - Handling and storage of liquid manure or slurry

Please refer to a normal year

53. Do you store liquid manure (*or slurry*) from your laying hen operation?

Yes..... ₁ ↓ Please complete Section 4

No ₂ → Go to Section 5 (page 14)

54. How long do you usually store liquid manure collected over winter? (December to March)

Is it stored ...?

- Less than 1 month ₁
- From 1 to less than 6 months .. ₂
- From 6 to less than 12 months ₃
- 12 months or longer..... ₄
- Not stored over winter. ₅

55. How long do you usually store liquid manure collected from spring to fall? (April to November)

Is it stored ...?

- Less than 1 month ₁
- From 1 to less than 6 months .. ₂
- From 6 to less than 12 months ₃
- 12 months or longer..... ₄
- Not stored over spring to fall.... ₅

<p>56. Do you separate solids from liquid manure (<i>slurry</i>)?</p> <p>Yes <input type="checkbox"/>₁ → Answer question 57</p> <p>No <input type="checkbox"/>₂ ↓ Go to question 58</p> <p>Not applicable <input type="checkbox"/>₃ ↓ Go to question 58</p>	<p>57. What do you use to separate solids from liquid manure?</p> <p>Liquid drawn off top of tank <input type="checkbox"/>₁</p> <p>Settling ponds or weeping walls..... <input type="checkbox"/>₂</p> <p>Screens <input type="checkbox"/>₃</p> <p>Presses (belt, screw or other) <input type="checkbox"/>₄</p> <p>Other, <i>specify</i>: _____ <input type="checkbox"/>₅</p>
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58. Which of the following describes the main (or largest) liquid manure storage space you used?

Is it a ...?

- Tank above ground..... ₁
- Lined or cement pit ₂
- Lagoon or dugout in ground ₃
- Other, *specify*: _____ ₄

59. Is your main (or largest) liquid manure storage space ...?

- Open, so rain might get in ₁
- Covered with a roof..... ₂

60. On your main (or largest) liquid manure storage, is there ...?

- A floating crust formed by the manure.. ₁
- A floating cover such as a floating lid or tarp ₂
- A floating cover such as straw ₃
- No floating cover or crust..... ₄

61. How do you usually manage liquid manure while it is in storage? *Is it ...?*

- Not aerated or agitated until just before taken out ₁
- Aerated or agitated up to three times per month..... ₂
- Aerated or agitated four times or more per month ₃

62. What becomes of liquid manure on your operation? *Is it ...?*

Check all that apply.

- Spread on land (*by you or someone else*)..... ₁
- Composted (*then spread on land*)..... ₂
- Removed by contractor (*don't know how it is used*)..... ₃
- Other, specify: _____ ₄

63. What percentage of liquid manure (*from your laying hen operation*) is handled through each method you use?

What percentage is ...?

	%			
Spread on land (<i>by you or someone else</i>).....	<table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%;"></td> <td style="width: 33%;"></td> </tr> </table> 1			
Removed by contractor (<i>don't know how it is used</i>).....	<table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%;"></td> <td style="width: 33%;"></td> </tr> </table> 2			
Other	<table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%;"></td> <td style="width: 33%;"></td> </tr> </table> 3			
Specify: _____	<input type="checkbox"/> ₄			

Total must be 100%

<p>64. Do you put any additives into the <u>liquid manure</u>, to modify odour, pH or nutrient retention? Exclude litter.</p> <p>Yes <input type="checkbox"/>₁ → Answer question 65</p> <p>No <input type="checkbox"/>₂ ↓ Go to question 66</p>	<p>65. What types of additives do you use?</p> <p>_____ 1</p> <p>_____ 2</p>
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66. What are the dimensions of the surface area of your main (*or largest*) liquid manure storage space ...?

(If oval give length and width. If round give diameter in Box 5 or 6).

<table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table> feet ₁					by	<table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table> feet ₂					
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<p>(Box 5)</p> <table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table> diameter in feet ₅					<p>(Box 6)</p> <table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table> diameter in metres ₆						

67. What is the depth (*pit capacity*) of your main (*or largest*) liquid manure storage?

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Section 5 – Land spreading of liquid manure (slurry)

Please refer to a normal year

68. Is liquid manure (*slurry*) from your laying hen operation usually spread on land (*spread on any land by the operator or by someone else*)?

Yes..... ₁ ↓ Please complete Section 5

No ₂ → Go to Section 6 (page 17)

69. Of the total liquid manure from your laying hen operation applied on land, what percentage is spread on ...?

	%	
Tilled crop land (<i>most crop residue tilled into soil</i>)	<input style="width: 40px; height: 20px;" type="text"/> <input style="width: 40px; height: 20px;" type="text"/> <input style="width: 40px; height: 20px;" type="text"/>	→ Answer questions 70 and 71
Reduced till crop land (<i>most crop residue retained on surface</i>)	<input style="width: 40px; height: 20px;" type="text"/> <input style="width: 40px; height: 20px;" type="text"/> <input style="width: 40px; height: 20px;" type="text"/>	→ Answer question 72
Land covered with perennial crops or forage crops	<input style="width: 40px; height: 20px;" type="text"/> <input style="width: 40px; height: 20px;" type="text"/> <input style="width: 40px; height: 20px;" type="text"/>	→ Answer question 72
Other	<input style="width: 40px; height: 20px;" type="text"/> <input style="width: 40px; height: 20px;" type="text"/> <input style="width: 40px; height: 20px;" type="text"/>	→ Go to question 73
Specify: _____	<input style="width: 40px; height: 20px;" type="text"/>	
Total must be 100%		

****If applied on tilled land answer questions 70 and 71. Else go to question 72. ****

<p>70. Of the total (<i>liquid</i>) manure applied on tilled soil, what percentage is usually applied in each month?</p> <p><i>What percentage is applied in ...?</i></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">%</td> <td></td> </tr> <tr> <td>January</td> <td style="text-align: center;"><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/></td> <td style="text-align: right;">1</td> </tr> <tr> <td>February.....</td> <td style="text-align: center;"><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/></td> <td style="text-align: right;">2</td> </tr> <tr> <td>March.....</td> <td style="text-align: center;"><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; 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For each period, how many days after spreading is the land usually first tilled? If different for different fields, give the most common (Less than 2 hours = 0 days. From 2 to 24 hours = 0.5 days).</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">Days</td> <td></td> </tr> <tr> <td>January</td> <td style="text-align: center;"><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/></td> <td style="text-align: right;">1</td> </tr> <tr> <td>February.....</td> <td style="text-align: center;"><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/></td> <td style="text-align: right;">2</td> </tr> <tr> <td>March.....</td> <td style="text-align: center;"><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/></td> <td style="text-align: right;">3</td> </tr> <tr> <td>April.....</td> <td style="text-align: center;"><input style="width: 40px; 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If liquid manure is applied on reduced till, perennial or forage crop land answer question 72.

Else go to question 73.

72. Of the total liquid manure applied on reduced till or perennial crop land, what percentage is applied in each month:

	%			
January	<table border="1" style="display: inline-table; width: 60px; height: 20px;"><tr><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td></tr></table> ₁			
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April	<table border="1" style="display: inline-table; width: 60px; height: 20px;"><tr><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td></tr></table> ₄			
May	<table border="1" style="display: inline-table; width: 60px; height: 20px;"><tr><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td></tr></table> ₅			
June	<table border="1" style="display: inline-table; width: 60px; height: 20px;"><tr><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td></tr></table> ₆			
July	<table border="1" style="display: inline-table; width: 60px; height: 20px;"><tr><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td></tr></table> ₇			
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September	<table border="1" style="display: inline-table; width: 60px; height: 20px;"><tr><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td></tr></table> ₉			
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November	<table border="1" style="display: inline-table; width: 60px; height: 20px;"><tr><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td></tr></table> ₁₁			
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Total must be 100%

All year round at regular intervals ₁₃

<p>73. Do you usually land spread (<i>liquid</i>) manure at a particular time of day?</p> <p>Yes..... <input type="checkbox"/> ₁</p> <p>→ Answer question 74</p> <p>No, manure is spread whenever possible ... <input type="checkbox"/> ₂</p> <p>↓ Go to question 75</p>	<p>74. Is it usually spread between: ...?</p> <p>10 a.m. and 6 p.m. <input type="checkbox"/> ₁</p> <p>6 p.m. and 10a.m. <input type="checkbox"/> ₂</p>
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75. What best describes the consistency of the liquid manure on your operation?

- Runny like water ₁
- Pea soup..... ₂
- Toothpaste..... ₃

76. What method do you usually use to spread liquid manure? Give the approximate percentage of total liquid manure spread by each method.

What percentage is ...?

	%			
Broadcast over soil surface, over stubble or residue	<table border="1" style="display: inline-table; width: 60px; height: 20px;"><tr><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td></tr></table> ₁			
Narrow bands on soil surface such as with drop hoses or a sleighfoot	<table border="1" style="display: inline-table; width: 60px; height: 20px;"><tr><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td></tr></table> ₂			
Shallow injected, where some of the manure remains on the soil surface	<table border="1" style="display: inline-table; width: 60px; height: 20px;"><tr><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td></tr></table> ₃			
Deep injected, where little of the manure remains on the soil surface	<table border="1" style="display: inline-table; width: 60px; height: 20px;"><tr><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td></tr></table> ₄			
Irrigated (e.g. with a pivot gun)	<table border="1" style="display: inline-table; width: 60px; height: 20px;"><tr><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td></tr></table> ₅			
Other	<table border="1" style="display: inline-table; width: 60px; height: 20px;"><tr><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td></tr></table> ₆			
Specify: _____	<input type="checkbox"/> ₇			

Total must be 100%

<p>77. Does the method you use to spread <u>liquid manure</u> change from season to season?</p> <p>Yes <input type="checkbox"/>₁</p> <p>→ Answer question 78</p> <p>No, same method used all year <input type="checkbox"/>₂</p> <p>↓ Go to question 79</p>	<p>78. Do you usually ...?</p> <p>Inject in spring or fall, broadcast in summer <input type="checkbox"/>₁</p> <p>Other, <i>specify</i>: _____ <input type="checkbox"/>₂</p>
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79. Do you usually land spread (*liquid*) manure when wind speed is ...?
- Calm, say below 5 km/hour (*a flag might hang or ripple gently at this wind speed*) ₁
- Brisk or strong, say about 5 to 9 km/hour (*a flag would fly straight out at this wind speed*) ₂
- Any speed, the job gets done whenever it is possible ₃

<p>80. In the past 3 years, has a chemical analysis of the <u>liquid manure</u> been done for levels of Nitrogen, Phosphorus, Potassium, micronutrient or moisture content?</p> <p>Yes..... <input type="checkbox"/>₁ → Answer question 81</p> <p>No <input type="checkbox"/>₂ ↓ Go to question 82</p>	<p>81. What were the lab results? (<i>Specify units of measure and range e.g., 45 to 53 kg Nitrogen per tonne or 0.45 to 0.53% nitrate Nitrogen</i>).</p> <p>Unit of measure codes:</p> <p>1 = Kilograms (kg) per (metric) tonne of manure 2 = Pounds (lb) per (imperial) ton of manure 3 = Percentage</p> <p><i>Enter range in first eight boxes and enter the decimal point if needed. Enter unit of measure in last box to right e.g.:</i></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 20px; text-align: center;">0</td> <td style="border: 1px solid black; width: 20px; text-align: center;">.</td> <td style="border: 1px solid black; width: 20px; text-align: center;">4</td> <td style="border: 1px solid black; width: 20px; text-align: center;">5</td> <td style="width: 20px;">to</td> <td style="border: 1px solid black; width: 20px; text-align: center;">0</td> <td style="border: 1px solid black; width: 20px; text-align: center;">.</td> <td style="border: 1px solid black; width: 20px; text-align: center;">5</td> <td style="border: 1px solid black; width: 20px; text-align: center;">3</td> <td style="border: 1px solid black; width: 20px; text-align: center;">3</td> </tr> </table> <p>Lab results (numbers) of chemical analysis:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><i>Moisture content</i></td> <td style="text-align: right;"><i>Unit of measure</i></td> </tr> <tr> <td style="border: 1px solid black; 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Section 6 - Odour management and nutrient conservation

82. At what stage of your laying hen operation's cycle, if any, is the odour of manure stronger than it is **usually**?

Check all that apply.

Is it more often stronger during ...?

- Barn cleaning..... ₁
 Land spreading..... ₂
 Agitation of manure ₃
 Mixing or composting ₄
 Other, *specify*: _____ ₅
 No differences throughout the year ₆

If no differences in odour throughout the year, go to question 85.

83. How many times per year is the odour of manure from your (*chicken egg*) operation stronger than it is usually?

Time(s)₁

84. Usually, how many days per year does this stronger odour of manure last?

Day(s)₁

85. What is the vegetation within 300 metres (*1000 feet*) to the **north and west** of your barns?

Check all that apply.

- Nothing tall, there are no trees or tall shrubs (nothing taller than corn, for example) ₁
 Shelterbelt with leafed trees that shed leaves in fall ... ₂
 Shelterbelt with evergreen trees ₃
 Woodlot or forest ₄

86. What is the vegetation within 300 metres (*1000 feet*) to the **south and east** of your barns?

Check all that apply.

- Nothing tall, there are no trees or tall shrubs (nothing taller than corn, for example) ₁
 Shelterbelt with leafed trees that shed leaves in fall ... ₂
 Shelterbelt with evergreen trees ₃
 Woodlot or forest ₄

Agreement to share data

Thank you for taking the time to participate in our survey. In order to avoid duplication, Statistics Canada has entered into a data sharing agreement under Section 12 of the Statistics Act with Agriculture and Agri-Food Canada to share responses from this survey. The Department will not be given your name, address or other identifiers and is required to keep the information confidential and use it only for statistical and research purposes.

87. Do you agree to share this information with Agriculture and Agri-Food Canada?

- Yes..... ₁
 No ₂

88. Would you like to receive a summary report of the survey results?

- Yes..... ₁ ↓ Answer question 89
 No ₂ ↓ Go to Section 7

