



# 2005 Livestock Farm Practices Survey

## Beef Cattle 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 beef cattle 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 beef cattle 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?

Corporation name <span style="float: right;">11</span>	Area code <span style="float: right;">14</span>
Operator name <span style="float: right;">12</span>	Telephone <span style="float: right;">15</span>
Contact name <span style="float: right;">13</span>	Telephone <span style="float: right;">16</span>
P.O. Box <span style="float: right;">17</span> <span style="float: right;">18</span>	Number and street name <span style="float: right;">19</span>
Postal code <span style="float: right;">20</span>	Post office (name of city, town or village where mail is received) <span style="float: right;">21</span>



The year 2005 was not a normal year for the beef industry due to BSE. This survey is intended to ask about your farming practices. Please think of what practices you would do in a normal year.

- For all questions about your cattle raised for beef include the following:**
- All cattle or calves on your operation, regardless of ownership, including those that are boarded, custom fed or fed under contract and pastured for others.
  - All cattle or calves owned by the operator and held on crown land, community pastures and grazing projects.
- For all questions about your cattle raised for beef exclude the following:**
- Do not report cattle or calves owned by you but kept on a farm, ranch or feedlot operated by someone else.

### Section 1 – General questions

**\*Please refer to a normal year\***

1. Approximately how many steers and heifers in total do you **normally** sell for slaughter per year?

Steers and heifers<sub>1</sub>

2. Approximately how many cattle (feeders) do you **normally** sell to finisher barns or feedlots per year?

Cattle (sold to finisher barns or feedlots)<sub>1</sub>

3. Approximately how many calves and young beef animals do you **normally** sell per year as feeders or for backgrounding?

Calves and young animals (sold for backgrounding)<sub>1</sub>

4. What would best describe your beef operation? *Check all that apply*

- Cow-calf ..... <sub>1</sub>
- Backgrounding ..... <sub>2</sub>
- Finishing ..... <sub>3</sub>

<p>5. Do you harvest forage to feed your beef animals?</p> <p>Yes ..... <input type="checkbox"/><sub>1</sub> → Answer questions 6 to 12</p> <p>No ..... <input type="checkbox"/><sub>2</sub> ↓ Go to Section 2 (page 4)</p>	<p>6. What proportion of your forage receives manure or nitrogen fertilizer? <i>Include hay and silage.</i></p> <p>Less than 25%..... <input type="checkbox"/><sub>1</sub></p> <p>Between 25% and 75% ..... <input type="checkbox"/><sub>2</sub></p> <p>More than 75% ..... <input type="checkbox"/><sub>3</sub></p> <p>Don't know <input type="checkbox"/><sub>4</sub></p>
	<p>7. On average, how many harvests of forage do you take from each field per year?</p> <p>One..... <input type="checkbox"/><sub>1</sub></p> <p>Two..... <input type="checkbox"/><sub>2</sub></p> <p>More than two..... <input type="checkbox"/><sub>3</sub></p>
	<p>8. What stage is first-cut forage when you harvest it?</p> <p>Three or more days <u>before</u> full head or full bloom ... <input type="checkbox"/><sub>1</sub></p> <p><u>Within</u> three days of start of full head or full bloom .. <input type="checkbox"/><sub>2</sub></p> <p>Three or more days <u>after</u> start of full head or full bloom ..... <input type="checkbox"/><sub>3</sub></p>

	<p>9. On average, how old are your forage stands?</p> <p>Less than five years old..... <input type="checkbox"/><sub>1</sub></p> <p>Five years old or more ..... <input type="checkbox"/><sub>2</sub></p>						
	<p>10. On average, what proportion of your forage is alfalfa or other legume? <i>Is it ...?</i></p> <p>Less than 10%..... <input type="checkbox"/><sub>1</sub></p> <p>From 10% to less than 25% ..... <input type="checkbox"/><sub>2</sub></p> <p>From 25% to less than 50% ..... <input type="checkbox"/><sub>3</sub></p> <p>50% and more ..... <input type="checkbox"/><sub>4</sub></p>						
	<p>11. What is the proportion (<i>percentage</i>) of total forage you store is: ...?</p> <p style="text-align: center;">%</p> <p>Hay ..... <table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table><sub>1</sub></p> <p>Silage..... <table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table><sub>2</sub></p> <p>Do not store forage <input type="checkbox"/><sub>3</sub></p>						
	<p>12. Which of the following describes the storage method? <i>Check all that apply.</i></p> <p><i>For hay, is it: ...?</i></p> <p>Bales uncovered..... <input type="checkbox"/><sub>1</sub></p> <p>Bales or bale rows wrapped in plastic..... <input type="checkbox"/><sub>2</sub></p> <p>Bales under roof or tarp. .... <input type="checkbox"/><sub>3</sub></p> <p><i>For silage, is it: ...?</i></p> <p>Uncovered bunker or heap..... <input type="checkbox"/><sub>4</sub></p> <p>Bunker or heap under roof or tarp..... <input type="checkbox"/><sub>5</sub></p> <p>Wrapped bales (in plastic)..... <input type="checkbox"/><sub>6</sub></p> <p>Tower silo ..... <input type="checkbox"/><sub>7</sub></p>						

## Section 2 – Grazing steers, heifers and cows

**\*Please refer to a normal year\***

13. Do you keep grazing steers, heifers and cows on pasture or on grazed crop land for some or all of the year?

Yes ..... <sub>1</sub> ↓ Answer Section 2

No..... <sub>2</sub> → Go to Section 3 (page 7)

14. During the **warm season** (*from May to October*), how many steers, heifers and cows on average are on pasture or grazed crop land in your operation at any one time?

How many steers?

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 Steers<sub>1</sub>

How many heifers (*backgrounding and replacement*)?

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

 Heifers (*backgrounding and replacement*)<sub>2</sub>

How many cows (*dry or with unweaned calves*)?

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 Cows (*dry or with unweaned calves*)<sub>3</sub>

<sub>4</sub> Not applicable (*animals not on pasture in warm season*)

15. During the **cold season** (from November to April), how many steers, heifers and cows on average are on pasture or grazed crop land in your operation?

How many steers?

Steers<sub>1</sub>

How many heifers (backgrounding and replacement)?

Heifers (backgrounding and replacement)<sub>2</sub>

How many cows (dry or with unweaned calves)?

Cows (dry or with unweaned calves)<sub>3</sub>

- Same as warm season
- Not applicable (animals not on pasture in cold season)

16. During the **warm season** (from May to October), what is your average stocking rate for all animals on pasture or grazed crop land?

hectares per<sub>1</sub>       animal(s)<sub>2</sub>

-----Or-----

acres per<sub>3</sub>       animal(s)<sub>4</sub>

- Not applicable (animals not on pasture in warm season)

17. During the **cold season** (from November to April), what is your average stocking rate for all animals on pasture or grazed crop land? Exclude calves (under one year).

hectares per<sub>1</sub>       animal(s)<sub>2</sub>

-----Or-----

acres per<sub>3</sub>       animal(s)<sub>4</sub>

- Not applicable (animals not on pasture in cold season)

18. In which months do you pasture some or all your animals? Check all that apply.

- April to May.....
- June to August.....
- September to November .....
- December to March ....
- All year round. ....

19. Which of the following apply to the largest pasture that you use? Check all that apply.  
Is it ...?

- Native range or old seeded pasture .....
- Irrigated in some years .....
- Fertilized in the last two years .....
- Fertilized between three and five years ago .....

Does it have ...?

- Mostly grass, less than 10% alfalfa or other legume .....
- From 10% to 25% alfalfa or other legume .....
- Over 25% to 50% alfalfa or other legume.....
- More than 50% alfalfa or other legume .....

Is there ...?

- A hay crop taken off this pasture most years ....
- Scrub brush or woodlot accessible to animals ..
- Shade trees ...
- Shelter buildings, windbreaks or natural shelters for animals .....

20. What is the average stocking rate of your largest pasture (same pasture as in question 19)?

<input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> hectares per <sub>1</sub>	Or	<input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> animal(s) <sub>2</sub>
-----		
<input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> acres per <sub>3</sub>		<input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> animal(s) <sub>4</sub>

21. In this pasture, what percentage of time do animals gather around small areas like feeding or watering areas, salt or trees?

- Less than 5% ..... <sub>1</sub>
- 5% to less than 10% ..... <sub>2</sub>
- 10% to less than 25% ..... <sub>3</sub>
- 25% and more ..... <sub>4</sub>
- None ..... <sub>5</sub>

22. How is water supplied to the animals on the largest pasture? *Check all that apply.*

- Water trough or valved waterers ..... <sub>1</sub>
- Dugout ..... <sub>2</sub>
- Natural source (creek, stream, river, slough, pond, lake)..... <sub>3</sub>

23. Which of the following describe your grazing rotations: ...? *Check all that apply*

- There is no rotational grazing .. <sub>1</sub>
- Pasture is allowed to rest part of the grazing season..... <sub>2</sub>
- Stock is rotated every month or more often → using 2 paddocks..... <sub>3</sub>
- ... → using 3 to 4 paddocks ..... <sub>4</sub>
- ... → using more than 4 paddocks..... <sub>5</sub>

<p>24. Do you provide feed to animals kept <u>on pasture</u>, other than minerals?</p> <p>Yes..... <input type="checkbox"/><sub>1</sub> → Answer questions 25 to 27</p> <p>No ..... <input type="checkbox"/><sub>2</sub></p> <p>↓ Go to Section 3 (page 7)</p>	<p>25. Which months do you supply feed to these animals?</p> <p><i>Check all that apply.</i></p> <ul style="list-style-type: none"> <li>April to May ..... <input type="checkbox"/><sub>1</sub></li> <li>June to August ..... <input type="checkbox"/><sub>2</sub></li> <li>September to November..... <input type="checkbox"/><sub>3</sub></li> <li>December to March ..... <input type="checkbox"/><sub>4</sub></li> <li>All year round.. ..... <input type="checkbox"/><sub>5</sub></li> </ul>
	<p>26. Between <b>April and September</b>, which of the following describes what you feed to animals <u>on pasture</u>?</p> <p><i>Check all that apply</i></p> <p><i>Is it...?</i></p> <ul style="list-style-type: none"> <li>Creep feed supplement for calves... ..... <input type="checkbox"/><sub>1</sub></li> <li>Range cubes or similar..... <input type="checkbox"/><sub>2</sub></li> <li>Whole corn silage.. ..... <input type="checkbox"/><sub>3</sub></li> <li>Cereal hay or silage..... <input type="checkbox"/><sub>4</sub></li> <li>Grain corn or cereal..... <input type="checkbox"/><sub>5</sub></li> <li>Forage (<i>grass</i>) with:             <ul style="list-style-type: none"> <li>50% and more alfalfa or other legume ..... <input type="checkbox"/><sub>6</sub></li> <li>25% to less than 50% alfalfa or other legume.. <input type="checkbox"/><sub>7</sub></li> <li>10% to less than 25% alfalfa or other legume.. <input type="checkbox"/><sub>8</sub></li> <li>less than 10% alfalfa or other legume ..... <input type="checkbox"/><sub>9</sub></li> </ul> </li> <li>Straw ..... <input type="checkbox"/><sub>10</sub></li> <li>Cut swath.. ..... <input type="checkbox"/><sub>11</sub></li> <li>Feed bought from mill..... <input type="checkbox"/><sub>12</sub></li> <li>Other (<i>specify</i>): _____ <input type="checkbox"/><sub>13</sub></li> </ul>

27. Between **October and March**, which of the following describe what you feed animals on pasture?  
*Check all that apply.*

*Does it include ...?*

Creep feed supplement for calves..... <sub>1</sub>

Range cubes or similar..... <sub>2</sub>

Whole corn silage ..... <sub>3</sub>

Cereal hay or silage..... <sub>4</sub>

Grain corn or cereal..... <sub>5</sub>

Forage (*grass*) with:

    50% and more alfalfa or other legume ..... <sub>6</sub>

    25% to less than 50% alfalfa or other legume.... <sub>7</sub>

    10% to less than 25% alfalfa or other legume.... <sub>8</sub>

    less than 10% alfalfa or other legume . .... <sub>9</sub>

Straw ..... <sub>10</sub>

Cut swath . .... <sub>11</sub>

Feed bought from mill..... <sub>12</sub>

Other, *specify*: \_\_\_\_\_ <sub>13</sub>

Not applicable (*not on pasture in winter*)..... <sub>14</sub>

**Section 3 – Corrals: steers, heifers and cows**

**\*Please refer to a normal year\***

**For this survey, corrals are defined as outdoor holding areas that are smaller than feedlots with little grazing:**

- Includes small fields with between 50 and 200 head per hectare (*25 to 100 head per acre*)
- Does not include handling pens

28. Do you keep steers, heifers and cows in corrals for some or all of the year?

Yes ..... <sub>1</sub> ↓ Please complete Section 3

No..... <sub>2</sub> → Go to Section 4 (page 10)

29. During the **warm season** (*from May to October*) how many steers, heifers and cows on average are in corrals at any one time?

How many steers?

Steers<sub>1</sub>

How many heifers (*backgrounding and replacement*)?

Heifers (*backgrounding and replacement*)<sub>2</sub>

How many cows (*dry or with unweaned calves*)?

Cows (*dry or with unweaned calves*)<sub>3</sub>

<sub>4</sub> Not applicable (*animals not kept in corrals in warm season*)

30. During the **warm season** (*from May to October*), what is your average stocking rate for all animals in corrals?

hectares per<sub>1</sub>                       animal(s)<sub>2</sub>

-----Or-----

acres per<sub>3</sub>                               animal(s)<sub>4</sub>

-----Or-----

square metres/yards per<sub>5</sub>                       animal(s)<sub>6</sub>

<sub>7</sub> Not applicable (*animals not kept in corrals in warm season*)

31. During the **cold season** (from November to April) how many steers, heifers and cows on average are in corrals?

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Steers<sub>1</sub>

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

Heifers (backgrounding and replacement)<sub>2</sub>

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Cows (dry or with unweaned calves)<sub>3</sub>

<sub>4</sub> Not applicable (animals not kept in corrals in cold season)

32. During the **cold season** (from November to April), what is your average stocking rate for all animals in corrals?

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hectares per<sub>1</sub>

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animal(s)<sub>2</sub>

Or

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

acres per<sub>3</sub>

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

animal(s)<sub>4</sub>

Or

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

square metres/yards per<sub>5</sub>

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

animal(s)<sub>6</sub>

<sub>7</sub> Not applicable (animals not kept in corrals in cold season)

33. In which months are some or all of your animals in corrals?

Check all that apply.

- April to May .....  <sub>1</sub>
- June to August .....  <sub>2</sub>
- September to November .....  <sub>3</sub>
- December to March .....  <sub>4</sub>
- All year round. ....  <sub>5</sub>

34. Which of the following describe what you feed your animals in corrals?

Check all that apply.

Does it include ...?

- Creep feed supplement for calves .....  <sub>1</sub>
- Range cubes or similar .....  <sub>2</sub>
- Whole corn silage .....  <sub>3</sub>
- Cereal hay or silage .....  <sub>4</sub>
- Grain corn or cereal .....  <sub>5</sub>
- Forage (grass) with:
  - .....50% and more alfalfa or other legume .....  <sub>6</sub>
  - .....25% to less than 50% alfalfa or other legume .....  <sub>7</sub>
  - .....10% to less than 25% alfalfa or other legume .....  <sub>8</sub>
  - .....less than 10% alfalfa or other legume.....  <sub>9</sub>
- Straw. ....  <sub>10</sub>
- Feed bought from mill. ....  <sub>11</sub>
- Other, specify: \_\_\_\_\_  <sub>12</sub>

35. Do you remove manure pack from your corrals?

- Yes.....  <sub>1</sub>
- No .....  <sub>2</sub>



<p>36. Is any bedding provided to animals in the <u>corrals</u>?</p> <p>Yes .. <input type="checkbox"/><sub>1</sub> → Answer questions 37 to 38</p> <p>No ... <input type="checkbox"/><sub>2</sub> ↓ Go to question 39</p>	<p>37. What is the bedding material? <i>Check all that apply.</i></p> <p>Straw or other crop residue ..... <input type="checkbox"/><sub>1</sub></p> <p>Sawdust, wood chips or shavings . ..... <input type="checkbox"/><sub>2</sub></p> <p>Paper crumb or other forest product ..... <input type="checkbox"/><sub>3</sub></p> <p>Sand, gravel or other mineral product ..... <input type="checkbox"/><sub>4</sub></p> <p>Other, <i>specify</i>: _____ <input type="checkbox"/><sub>5</sub></p>
	<p>38. Approximately how much bedding in corrals do you use per year?</p> <p><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Cubic yards/metres<sub>1</sub></p> <p><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Number of large bales<sub>2</sub></p> <p><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Number of small bales<sub>3</sub></p> <p><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Other units<sub>4</sub></p> <p>Other, <i>specify units</i>: _____ <input type="checkbox"/><sub>5</sub></p> <p>Don't know <input type="checkbox"/><sub>6</sub></p>

**\*Remaining questions of this section are about your largest corral\***

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39. How is water supplied to animals in your largest corral? *Check all that apply.*

- Water trough or valved waterers ..... <sub>1</sub>
- Dugout ..... <sub>2</sub>
- Natural source (creek, stream, river, slough, pond, lake)..... <sub>3</sub>

40. What is the average stocking rate of your largest corral?

<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> hectares per <sub>1</sub>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> animal(s) <sub>2</sub>
-----Or-----	
<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> acres per <sub>3</sub>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> animal(s) <sub>4</sub>
-----Or-----	
<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> square metres/yards per <sub>5</sub>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> animal(s) <sub>6</sub>

41. Which of the following apply to the largest corral? *Check all that apply.*

*Does it include ...?*

- Vegetation for animals to graze ..... <sub>1</sub>
- Not enough vegetation to make any difference in their diet ..... <sub>2</sub>
- Shelter structures for animals.. ..... <sub>3</sub>
- Bush or trees for animal shelters ..... <sub>4</sub>

42. How is manure managed in your **largest corral**?

- Manure is removed less than once each year... <sub>1</sub>
- Manure is removed once per year..... <sub>2</sub>
- Manure is removed more often than once per year ..... <sub>3</sub>
- Land is harrowed to work in cow pies... <sub>4</sub>

**Section 4 – Barns or feedlots: steers, heifers and cows**

**\*Please refer to a normal year\***

43. Do you keep animals **mainly in barns** or **mainly in feedlots** for some or all of the year?

Would you say: ...?

- Yes, mainly in barns ..... <sub>1</sub> ↓ Please complete Section 4
- Yes, mainly in feedlots... <sub>2</sub> ↓ Please complete Section 4
- Neither . <sub>3</sub> → Go to Section 5 (page 14)

44. During the **warm season** (from May to October) how many steers, heifers and cows on average are in **barns or feedlots** at any one time?

How many steers (at any one time)?

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 Steers<sub>1</sub>

How many heifers (backgrounding and replacement at any one time)?

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 Heifers (backgrounding and replacement)<sub>2</sub>

How many cows (dry or with unweaned calves at any one time)?

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 Cows (dry or with unweaned calves)<sub>3</sub>

<sub>4</sub> Not applicable (animals not kept in barns or feedlots in warm season)

45. During the **warm season** (from May to October), what is the average space per animal in **barns or feedlots**?

			Square metres per <sub>1</sub>				animal(s) <sub>2</sub>
--	--	--	--------------------------------	--	--	--	------------------------

-----  
**Or**  
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			Square feet per <sub>3</sub>				animal(s) <sub>4</sub>
--	--	--	------------------------------	--	--	--	------------------------

<sub>5</sub> Not applicable (animals not kept in barns or feedlots in warm season)

46. During the **cold season** (from November to April), how many steers, heifers and cows on average are kept in **barns or feedlots** at any one time?

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 Steers<sub>1</sub>

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

 Heifers (backgrounding and replacement)<sub>2</sub>

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

 Cows (dry or with unweaned calves)<sub>3</sub>

<sub>4</sub> Not applicable (animals not kept in barns or feedlots in cold season)

47. During the **cold season** (from November to April), what is the average space per animal in **barns or feedlots**?

			Square metres/yards per <sub>1</sub>				animal(s) <sub>2</sub>
--	--	--	--------------------------------------	--	--	--	------------------------

-----  
**Or**  
-----

			Square feet per <sub>3</sub>				animal(s) <sub>4</sub>
--	--	--	------------------------------	--	--	--	------------------------

<sub>5</sub> Not applicable (animals not kept in barns or feedlots in cold season)



54. What supplements or additives do you feed these animals (*being finished for slaughter in barns/feedlots*)?

Check all that apply.

Commercial protein supplements ..... <sub>1</sub>

Additives to forage such as urea or anhydrous ammonia ..... <sub>2</sub>

Don't know <sub>3</sub>

55. What is the crude protein content of their total feed (*given to animals finished for slaughter in barns or feedlots*)?

%<sub>1</sub> Or

Don't know <sub>2</sub>

<p>56. Do you have animals <b>backgrounding</b> in barn(s) or feedlot(s)?</p> <p>Yes ..... <input type="checkbox"/><sub>1</sub>                  → Answer questions 57 to 58</p> <p>No ..... <input type="checkbox"/><sub>2</sub>                  ↓ Go to question 59</p>	<p>57. What amount of feed is given per animal per day on average (<i>to animals backgrounding in barns or feedlots</i>)?</p> <p>kg per animal per day ..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>1</sub></p> <p>Or</p> <p>lb per animal per day ..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>2</sub></p> <p>Or</p> <p>Other units ..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>3</sub></p> <p>Specify units: (e.g. tons per year) _____ <input type="checkbox"/><sub>4</sub></p> <hr/> <p>58. What proportion (%) of total feed is from each type (for animals <b>backgrounding</b> in <i>barns or feedlots</i>)?</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">What percentage is from: ...?</th> <th style="text-align: center;">%</th> </tr> </thead> <tbody> <tr> <td>Creep feed supplement for calves .....</td> <td style="text-align: center;"><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>1</sub></td> </tr> <tr> <td>Hay or silage (<i>grass</i>) with:</td> <td></td> </tr> <tr> <td>...more than 50% alfalfa or other legume .....</td> <td style="text-align: center;"><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>2</sub></td> </tr> <tr> <td>...25% to 50% alfalfa or other legume .....</td> <td style="text-align: center;"><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>3</sub></td> </tr> <tr> <td>...10% to less than 25% alfalfa or other legume .....</td> <td style="text-align: center;"><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>4</sub></td> </tr> <tr> <td>...less than 10% alfalfa or other legume .....</td> <td style="text-align: center;"><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>5</sub></td> </tr> <tr> <td>Corn silage .....</td> <td style="text-align: center;"><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>6</sub></td> </tr> <tr> <td>Cereal hay or silage .....</td> <td style="text-align: center;"><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>7</sub></td> </tr> <tr> <td>Straw .....</td> <td style="text-align: center;"><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>8</sub></td> </tr> <tr> <td>Corn grain .....</td> <td style="text-align: center;"><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>9</sub></td> </tr> <tr> <td>Barley grain .....</td> <td style="text-align: center;"><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>10</sub></td> </tr> <tr> <td>Wheat grain .....</td> <td style="text-align: center;"><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>11</sub></td> </tr> <tr> <td>Distillers grains .....</td> <td style="text-align: center;"><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>12</sub></td> </tr> <tr> <td>Other .....</td> <td style="text-align: center;"><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/><sub>13</sub></td> </tr> </tbody> </table> <p>Specify: _____ <input type="checkbox"/><sub>14</sub></p> <p><b>*** Total of forage, grains and other should add up to 100% ***</b></p>	What percentage is from: ...?	%	Creep feed supplement for calves .....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <sub>1</sub>	Hay or silage ( <i>grass</i> ) with:		...more than 50% alfalfa or other legume .....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <sub>2</sub>	...25% to 50% alfalfa or other legume .....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <sub>3</sub>	...10% to less than 25% alfalfa or other legume .....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <sub>4</sub>	...less than 10% alfalfa or other legume .....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <sub>5</sub>	Corn silage .....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <sub>6</sub>	Cereal hay or silage .....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <sub>7</sub>	Straw .....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <sub>8</sub>	Corn grain .....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <sub>9</sub>	Barley grain .....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <sub>10</sub>	Wheat grain .....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <sub>11</sub>	Distillers grains .....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <sub>12</sub>	Other .....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <sub>13</sub>
What percentage is from: ...?	%																														
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Distillers grains .....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <sub>12</sub>																														
Other .....	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <sub>13</sub>																														

59. What types of ventilation system are in the barns (if animals are kept in barns)?  
 Check all that apply.

- Fans switched on automatically with computer ..... <sub>1</sub>
- Fans switched on automatically with thermostat ..... <sub>2</sub>
- Fans switched on manually ..... <sub>3</sub>
- Passive ventilation (side curtains, free air or vent panels) ..... <sub>4</sub>
- Other, specify: \_\_\_\_\_ <sub>5</sub>

<p>60. Is any bedding provided in the barn(s) or feedlot(s)?</p> <p>Yes ..... <input type="checkbox"/><sub>1</sub> → Answer questions 61 to 63</p> <p>No ..... <input type="checkbox"/><sub>2</sub> ↓ Go to question 64</p>	<p>61. What is the bedding material? <i>Check all that apply.</i></p> <ul style="list-style-type: none"> <li>Straw or other crop residue ..... <input type="checkbox"/><sub>1</sub></li> <li>Sawdust, wood chips or shavings .. ..... <input type="checkbox"/><sub>2</sub></li> <li>Paper crumb or other forest product ..... <input type="checkbox"/><sub>3</sub></li> <li>Sand, gravel or other mineral product ..... <input type="checkbox"/><sub>4</sub></li> <li>Other, <i>specify:</i> _____ <input type="checkbox"/><sub>5</sub></li> </ul> <hr/> <p>62. Approximately how much bedding do you use per year for all your beef cattle (<i>in barns or feedlots</i>)?</p> <div style="margin-bottom: 5px;"> <input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/> <sub>1</sub> Cubic yards/metres         </div> <p style="text-align: center;">--Or--</p> <div style="margin-bottom: 5px;"> <input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/> <sub>2</sub> Number of large bales         </div> <p style="text-align: center;">--Or--</p> <div style="margin-bottom: 5px;"> <input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/> <sub>3</sub> Number of small bales         </div> <p style="text-align: center;">--Or--</p> <div style="margin-bottom: 5px;"> <input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/><input style="width: 40px; height: 20px;" type="text"/> <sub>4</sub> Other units         </div> <p style="text-align: center;">--Or--</p> <p><i>Specify units:</i> _____ <input type="checkbox"/><sub>5</sub></p> <p style="text-align: center;">--Or--</p> <p>Don't know <input type="checkbox"/><sub>6</sub></p> <hr/> <p>63. How thick is the manure pack when removed?</p> <div style="margin-bottom: 5px;"> <input style="width: 30px; height: 20px;" type="text"/><input style="width: 30px; height: 20px;" type="text"/> Metres <sub>1</sub> </div> <p style="text-align: center;">--Or--</p> <div style="margin-bottom: 5px;"> <input style="width: 30px; height: 20px;" type="text"/><input style="width: 30px; height: 20px;" type="text"/> Feet <sub>2</sub> </div>
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**\*Remaining questions of this section are about your largest barn or feedlot\***

64. Which of the following apply to the largest barn or feedlot?

Check all that apply.

*Does it have ...?*

- No roof cover ..... <sub>1</sub>
- Shelter structures for animals .. ..... <sub>2</sub>
- Fully covered area or barn ..... <sub>3</sub>
- Slatted floors .. ..... <sub>4</sub>
- Less than 25% paved area ..... <sub>5</sub>
- 25% to less than 75% paved area ..... <sub>6</sub>
- 75% to 100% paved area ..... <sub>7</sub>

65. What is the average stocking rate in the largest barn or feedlot?

□	□	□	Square metres/yards per <sub>1</sub>	□	□	□	animal(s) <sub>2</sub>
-----Or-----							
□	□	□	Square feet per <sub>3</sub>	□	□	□	animal(s) <sub>4</sub>

66. How often is manure removed from the largest barn or feedlot?

- Manure is removed less than once each year..... <sub>1</sub>
- Manure is removed every 3 to 12 months..... <sub>2</sub>
- Manure is removed every 1 to 2 months..... <sub>3</sub>
- Manure is removed more often than once per month..... <sub>4</sub>

67. In which months do you remove manure from the largest barn or feedlot?

*Check all that apply.*

- April to May..... <sub>1</sub>
- June to August..... <sub>2</sub>
- September to November..... <sub>3</sub>
- December to March..... <sub>4</sub>
- All year round..... <sub>5</sub>

## Section 5 – Solid manure handling and storage

**\*Please refer to a normal year\***

68. Do you store solid manure from your beef operation?

- Yes..... <sub>1</sub> ↓ Please complete Section 5
- No..... <sub>2</sub> → Go to Section 6 (page 15)

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

*Is it stored ...?*

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

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

*Is it stored ...?*

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

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

- Uncovered outdoor piles or bunkers..... <sub>1</sub>
- Piles or bunkers covered with tarp or straw..... <sub>2</sub>
- Piles or bunkers under a roof .. <sub>3</sub>
- Other storage, specify: \_\_\_\_\_ <sub>4</sub>

<p>72. Do you put any additives into the <b>solid manure</b>, to modify odour, pH or nutrient retention? Exclude litter.</p> <p>Yes ..... <input type="checkbox"/><sub>1</sub> → Go to question 73</p> <p>No ..... <input type="checkbox"/><sub>2</sub> ↓ Go to question 74</p>	<p>73. What types of additives do you use? Specify below:</p> <p>_____ 1</p> <p>_____ 2</p>
---	---

74. How do you manage solid manure while it is in storage? *Is it ...?*
- Not moved or disturbed ..... <sub>1</sub>
- Moved or disturbed once or twice  
(e.g. to consolidate a pile or make room for more manure from the barn)..... <sub>2</sub>
- Routinely and thoroughly mixed or turned  
(e.g. to accelerate composting) ..... <sub>3</sub>

75. 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="width: 100%; height: 20px;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%;"></td> <td style="width: 33%;"></td> </tr> </table> <input type="checkbox"/> <sub>1</sub>			
Composted (then spread on land).....	<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> <input type="checkbox"/> <sub>2</sub>			
Removed by contractor (don't know how it is used).....	<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> <input type="checkbox"/> <sub>3</sub>			
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> <input type="checkbox"/> <sub>4</sub>			
Specify: _____	<input type="checkbox"/> <sub>5</sub>			

**Total must be 100%**

## Section 6 – Land spreading of solid manure

**\*Please refer to a normal year\***

76. Is solid manure from your beef operation spread on land (spread on any land by the operator or by someone else)?
- Yes..... <sub>1</sub> ↓ Please complete Section 6
- No ..... <sub>2</sub> → Go to Section 7 (page 17)

77. 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) . ..... <sub>1</sub>
- 25% to 50% (such as with disc or chisel plow).. ..... <sub>2</sub>
- More than 50% (such as with harrow).. ..... <sub>3</sub>

78. Of the total amount of solid manure from your beef operation applied on land, what percentage is spread on ...?

	%			
Tilled crop land (most crop residue tilled into soil).....	<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> <input type="checkbox"/> <sub>1</sub> → Answer questions 79 and 80			
Reduced till crop land (most crop residue retained on surface).....	<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> <input type="checkbox"/> <sub>2</sub> → Answer question 81			
Land covered with perennial or forage crops .....	<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> <input type="checkbox"/> <sub>3</sub> → Answer question 81			
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> <input type="checkbox"/> <sub>4</sub> → Go to question 82			
Specify: _____	<input type="checkbox"/> <sub>5</sub>			

**Total must be 100%**

If solid manure is applied on tilled crop land answer questions 79 and 80. Else go to question 81.

<p>79. 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;"> <thead> <tr> <th></th> <th style="text-align: center;">%</th> </tr> </thead> <tbody> <tr><td>January .....</td><td><input type="text"/><input type="text"/><input type="text"/> 1</td></tr> <tr><td>February.....</td><td><input type="text"/><input type="text"/><input type="text"/> 2</td></tr> <tr><td>March.....</td><td><input type="text"/><input type="text"/><input type="text"/> 3</td></tr> <tr><td>April.....</td><td><input type="text"/><input type="text"/><input type="text"/> 4</td></tr> <tr><td>May.....</td><td><input type="text"/><input type="text"/><input type="text"/> 5</td></tr> <tr><td>June.....</td><td><input type="text"/><input type="text"/><input type="text"/> 6</td></tr> <tr><td>July.....</td><td><input type="text"/><input type="text"/><input type="text"/> 7</td></tr> <tr><td>August.....</td><td><input type="text"/><input type="text"/><input type="text"/> 8</td></tr> <tr><td>September.....</td><td><input type="text"/><input type="text"/><input type="text"/> 9</td></tr> <tr><td>October.....</td><td><input type="text"/><input type="text"/><input type="text"/> 10</td></tr> <tr><td>November.....</td><td><input type="text"/><input type="text"/><input type="text"/> 11</td></tr> <tr><td>December.....</td><td><input type="text"/><input type="text"/><input type="text"/> 12</td></tr> </tbody> </table> <p style="text-align: center;"><b>Total must be 100%</b></p> <p>All year round at regular intervals <input type="checkbox"/> 13</p>		%	January .....	<input type="text"/> <input type="text"/> <input type="text"/> 1	February.....	<input type="text"/> <input type="text"/> <input type="text"/> 2	March.....	<input type="text"/> <input type="text"/> <input type="text"/> 3	April.....	<input type="text"/> <input type="text"/> <input type="text"/> 4	May.....	<input type="text"/> <input type="text"/> <input type="text"/> 5	June.....	<input type="text"/> <input type="text"/> <input type="text"/> 6	July.....	<input type="text"/> <input type="text"/> <input type="text"/> 7	August.....	<input type="text"/> <input type="text"/> <input type="text"/> 8	September.....	<input type="text"/> <input type="text"/> <input type="text"/> 9	October.....	<input type="text"/> <input type="text"/> <input type="text"/> 10	November.....	<input type="text"/> <input type="text"/> <input type="text"/> 11	December.....	<input type="text"/> <input type="text"/> <input type="text"/> 12	<p>80. For each period, how many days after spreading is the land usually first tilled?</p> <p><b>If different for different fields, give the most common.</b> (Incorporated same day = 0 days).</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th style="text-align: center;">Days</th> </tr> </thead> <tbody> <tr><td>January .....</td><td><input type="text"/><input type="text"/><input type="text"/> 1</td></tr> <tr><td>February.....</td><td><input type="text"/><input type="text"/><input type="text"/> 2</td></tr> <tr><td>March.....</td><td><input type="text"/><input type="text"/><input type="text"/> 3</td></tr> <tr><td>April.....</td><td><input type="text"/><input type="text"/><input type="text"/> 4</td></tr> <tr><td>May.....</td><td><input type="text"/><input type="text"/><input type="text"/> 5</td></tr> <tr><td>June.....</td><td><input type="text"/><input type="text"/><input type="text"/> 6</td></tr> <tr><td>July.....</td><td><input type="text"/><input type="text"/><input type="text"/> 7</td></tr> <tr><td>August.....</td><td><input type="text"/><input type="text"/><input type="text"/> 8</td></tr> <tr><td>September.....</td><td><input type="text"/><input type="text"/><input type="text"/> 9</td></tr> <tr><td>October.....</td><td><input type="text"/><input type="text"/><input type="text"/> 10</td></tr> <tr><td>November.....</td><td><input type="text"/><input type="text"/><input type="text"/> 11</td></tr> <tr><td>December.....</td><td><input type="text"/><input type="text"/><input type="text"/> 12</td></tr> </tbody> </table> <p>Not applicable (<i>manure is not incorporated into soil</i>) <input type="checkbox"/> 13</p>		Days	January .....	<input type="text"/> <input type="text"/> <input type="text"/> 1	February.....	<input type="text"/> <input type="text"/> <input type="text"/> 2	March.....	<input type="text"/> <input type="text"/> <input type="text"/> 3	April.....	<input type="text"/> <input type="text"/> <input type="text"/> 4	May.....	<input type="text"/> <input type="text"/> <input type="text"/> 5	June.....	<input type="text"/> <input type="text"/> <input type="text"/> 6	July.....	<input type="text"/> <input type="text"/> <input type="text"/> 7	August.....	<input type="text"/> <input type="text"/> <input type="text"/> 8	September.....	<input type="text"/> <input type="text"/> <input type="text"/> 9	October.....	<input type="text"/> <input type="text"/> <input type="text"/> 10	November.....	<input type="text"/> <input type="text"/> <input type="text"/> 11	December.....	<input type="text"/> <input type="text"/> <input type="text"/> 12
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If solid manure is applied on reduced till, perennial or forage crop land answer question 81.

Else go to question 82.

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

	%
January .....	<input type="text"/> <input type="text"/> <input type="text"/> 1
February.....	<input type="text"/> <input type="text"/> <input type="text"/> 2
March.....	<input type="text"/> <input type="text"/> <input type="text"/> 3
April.....	<input type="text"/> <input type="text"/> <input type="text"/> 4
May.....	<input type="text"/> <input type="text"/> <input type="text"/> 5
June.....	<input type="text"/> <input type="text"/> <input type="text"/> 6
July.....	<input type="text"/> <input type="text"/> <input type="text"/> 7
August.....	<input type="text"/> <input type="text"/> <input type="text"/> 8
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October.....	<input type="text"/> <input type="text"/> <input type="text"/> 10
November.....	<input type="text"/> <input type="text"/> <input type="text"/> 11
December.....	<input type="text"/> <input type="text"/> <input type="text"/> 12

**Total must be 100%**

All year round at regular intervals  13



<p>82. <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"/><sub>1</sub> → Answer question 83</p> <p>No ..... <input type="checkbox"/><sub>2</sub> ↓ Go to question 84</p>	<p>83. What were the lab results? (<b>Specify units of measure and range</b> e.g., 45 to 53 kg Nitrogen per tonne or 0.45 to 0.53% nitrate Nitrogen).</p> <p><b>Unit of measure codes:</b></p> <p>1 = Kilograms (kg) per (metric) tonne of manure  2 = Pounds (lb) per (imperial) ton of manure  3 = Percentage</p> <p>Enter range in first eight boxes and enter the decimal point if needed. Enter unit of measure in last box to right e.g.:</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><b>Lab results (numbers) of chemical analysis:</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 50%;"><i>Moisture content</i></td> <td style="text-align: center; width: 50%;"><i>Unit of measure</i></td> </tr> <tr> <td style="border: 1px solid black; width: 20px; text-align: center;"> </td> <td style="border: 1px solid black; width: 20px; text-align: center;"> </td> </tr> <tr> <td style="border: 1px solid black; width: 20px; text-align: center;"> </td> <td style="border: 1px solid black; width: 20px; text-align: center;"> </td> </tr> <tr> <td style="border: 1px solid black; width: 20px; text-align: center;"> </td> <td style="border: 1px solid black; width: 20px; text-align: center;"> </td> </tr> <tr> <td style="border: 1px solid black; width: 20px; text-align: center;"> </td> <td style="border: 1px solid black; width: 20px; text-align: center;"> </td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">3</td> </tr> <tr> <td colspan="2" style="text-align: center;">to</td> </tr> <tr> <td style="border: 1px solid black; 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<p>84. Do you usually land spread (<i>solid</i>) manure at a particular time of day?</p> <p>Yes ..... <input type="checkbox"/><sub>1</sub> → Answer question 85</p> <p>No, it is spread whenever possible... <input type="checkbox"/><sub>2</sub> ↓ Go to question 86</p>	<p>85. Is it usually spread between: ...?</p> <p>10 a.m. and 6 p.m. .... <input type="checkbox"/><sub>1</sub></p> <p>6 p.m. and 10 a.m. .... <input type="checkbox"/><sub>2</sub></p>
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86. 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*) ..... <sub>1</sub>
- Brisk or strong, say about 5 to 9 km/hour (*a flag would fly straight out at this wind speed*) ..... <sub>2</sub>
- Any speed, the job gets done whenever it is possible ..... <sub>3</sub>

## Section 7 - Handling and storage of liquid manure

**\*Please refer to a normal year\***

87. Do you store liquid manure (*slurry*) from your beef operation?
- Yes..... <sub>1</sub> ↓ Please complete Section 7
- No ..... <sub>2</sub> → Go to Section 8 (page 19)

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

*Is it stored ...?*

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

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

*Is it stored ...?*

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

<p>90. Do you separate solids from liquid manure (<i>slurry</i>)?</p> <p>Yes..... <input type="checkbox"/><sub>1</sub> → Go to question 91</p> <p>No ..... <input type="checkbox"/><sub>2</sub> ↓ Go to question 92</p> <p>Not applicable <input type="checkbox"/><sub>3</sub> ↓ Go to question 92</p>	<p>91. What do you use to separate solids from liquid manure?</p> <p>Liquid drawn off top of tank ..... <input type="checkbox"/><sub>1</sub></p> <p>Settling ponds or weeping walls..... <input type="checkbox"/><sub>2</sub></p> <p>Screens .... <input type="checkbox"/><sub>3</sub></p> <p>Presses (belt, screw or other ) ..... <input type="checkbox"/><sub>4</sub></p> <p>Other, <i>specify</i>: _____ <input type="checkbox"/><sub>5</sub></p>
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92. Which of the following describes the main (*or largest*) liquid manure storage space you used?

*Is it a ...?*

- Tank above ground..... <sub>1</sub>
- Lined or cement pit ..... <sub>2</sub>
- Lagoon or dugout in ground .... <sub>3</sub>
- Other storage, *specify*: \_\_\_\_\_ <sub>4</sub>

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

- Open, so rain might get in ..... <sub>1</sub>
- Covered with a roof..... <sub>2</sub>

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

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

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

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

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

*Check all that apply.*

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

97. What percentage of liquid manure (from your beef operation) is handled through each method you use?  
 What percentage is ...?

	%			
Spread on land (by you or someone else).....	<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 (don't know how it is used).....	<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			
<b>Total must be 100%</b>				

<p>98. 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 99</p> <p>No ..... <input type="checkbox"/> 2 ↓ Go to question 100</p>	<p>99. What types of additives do you use?</p> <p>_____ 1</p> <p>_____ 2</p>
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100. 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 <sub>1</sub>					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 <sub>2</sub>				
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<b>(Box 5)</b> <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 <sub>5</sub>						<b>(Box 6)</b> <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 <sub>6</sub>				

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

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### Section 8 – Land spreading of liquid manure (slurry)

\*Please refer to a normal year\*

102. Is liquid manure (slurry) from your beef operation usually spread on land (spread on any land by the operator or by someone else)?

Yes.....  1 ↓ Please complete Section 8  
 No .....  2 → Go to Section 9 (page 22)

103. Of the total amount of liquid manure from your beef operation applied on land, what percentage is spread on ...?

	%			
Tilled crop land (most crop residue tilled into soil).....	<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 → Answer questions 104 and 105			
Reduced till crop land (most crop residue retained on surface).....	<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 → Answer question 106			
Land covered with perennial or forage crops .....	<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 → Answer question 106			
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> 4 → Go to question 107			
Specify: _____	<input type="checkbox"/> 5			
<b>Total must be 100%</b>				

**\*\*If applied on tilled land answer questions 104 and 105. Else go to question 106\*\***

<p>104. 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="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> <tr><td colspan="4" style="text-align: center;"><b>Total must be 100%</b></td></tr> <tr><td colspan="4">All year round at regular intervals <input type="checkbox"/>13</td></tr> </tbody> </table>		%			January .....			1	February .....			2	March .....			3	April .....			4	May .....			5	June .....			6	July .....			7	August .....			8	September .....			9	October .....			10	November .....			11	December .....			12	<b>Total must be 100%</b>				All year round at regular intervals <input type="checkbox"/> 13				<p>105. For each period, how many days after spreading is the land usually first tilled? <b>If different for different fields, give the most common</b> (Less than 2 hours = 0 days. From 2 to 24 hours = 0.5 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> <tr><td colspan="4">Not applicable (<i>manure is not incorporated into soil</i>) <input type="checkbox"/>13</td></tr> </tbody> </table>		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	Not applicable ( <i>manure is not incorporated into soil</i> ) <input type="checkbox"/> 13			
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**\*\*If applied on reduced till or perennial crop land, answer question 106. Else go to question 107\*\***

106. Of the total (*liquid*) manure applied on reduced till or perennial 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
<b>Total must be 100%</b>			
All year round at regular intervals <input type="checkbox"/> 13			

<p>107. 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 108</p> <p>No, manure is spread whenever possible ...<input type="checkbox"/>_2</p> <p>↓ Go to question 109</p>	<p>108. 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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109. What best describes the consistency of the liquid manure on your operation?

- Runny like water .....\_1
- Pea soup.....\_2
- Toothpaste.....\_3

110. 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="width: 100%; height: 20px;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%;"></td> <td style="width: 33%;"></td> </tr> </table> <span style="float: right; font-size: small;">1</span>			
Narrow bands on soil surface such as with drop hoses or a sleighfoot .....	<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> <span style="float: right; font-size: small;">2</span>			
Shallow injected, where some of the manure remains on the soil surface .....	<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> <span style="float: right; font-size: small;">3</span>			
Deep injected, where little of the manure remains on the soil surface .....	<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> <span style="float: right; font-size: small;">4</span>			
Irrigated (e.g. with a pivot gun) .....	<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> <span style="float: right; font-size: small;">5</span>			
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> <span style="float: right; font-size: small;">6</span>			

Specify: \_\_\_\_\_ \_7

**Total must be 100%**

<p>111. Does the method you use to spread <u>liquid manure</u> change from season to season?</p> <p>Yes .....<input type="checkbox"/>_1 → Answer question 112</p> <p>No, same method used all year <input type="checkbox"/>_2</p> <p>↓ Go to question 113</p>	<p>112. Do you usually ...?</p> <p>Inject in spring or fall, broadcast in summer .....<input type="checkbox"/>_1</p> <p>Other, specify: _____<input type="checkbox"/>_2</p>
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113. 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>114. In the past 3 years, has a chemical analysis of the liquid manure been done for levels of Nitrogen, Phosphorus, Potassium, micronutrient or moisture content?</p> <p>Yes..... <input type="checkbox"/><sub>1</sub> → Answer question 115</p> <p>No ..... <input type="checkbox"/><sub>2</sub> ↓ Go to question 116</p>	<p>115. What were the lab results? (<b>Specify units of measure and range</b> e.g., 45 to 53 kg Nitrogen per tonne or 0.45 to 0.53% nitrate Nitrogen).</p> <p><b>Unit of measure codes:</b></p> <p>1 = Kilograms (kg) per (metric) tonne of manure  2 = Pounds (lb) per (imperial) ton of manure  3 = Percentage</p> <hr/> <p>Enter range in first eight boxes and enter the decimal point if needed. Enter unit of measure in last box to right e.g.:</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 20px; height: 20px;">0</td> <td style="border: 1px solid black; width: 20px; height: 20px;">.</td> <td style="border: 1px solid black; width: 20px; height: 20px;">4</td> <td style="border: 1px solid black; width: 20px; height: 20px;">5</td> <td style="padding: 0 10px;">to</td> <td style="border: 1px solid black; width: 20px; height: 20px;">0</td> <td style="border: 1px solid black; width: 20px; height: 20px;">.</td> <td style="border: 1px solid black; width: 20px; height: 20px;">5</td> <td style="border: 1px solid black; width: 20px; height: 20px;">3</td> <td style="padding: 0 10px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;">3</td> </tr> </table> <p><b>Lab results (numbers) of chemical analysis:</b></p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="width: 40%;"><i>Moisture content</i></td> <td style="width: 20%;"><i>to</i></td> <td style="width: 20%;"></td> <td style="width: 20%;"><i>Unit of measure</i></td> </tr> <tr> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> </tr> <tr> <td style="text-align: right; font-size: small;">1</td> <td></td> <td style="text-align: center; font-size: small;">2</td> <td style="text-align: right; font-size: small;">3</td> </tr> <tr> <td colspan="4"><i>Dry matter content</i></td> </tr> <tr> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> </tr> <tr> <td style="text-align: right; font-size: small;">4</td> <td></td> <td style="text-align: center; font-size: small;">5</td> <td style="text-align: right; font-size: small;">6</td> </tr> <tr> <td colspan="4"><i>Total Nitrogen (N)</i></td> </tr> <tr> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> </tr> <tr> <td style="text-align: right; font-size: small;">7</td> <td></td> <td style="text-align: center; font-size: small;">8</td> <td style="text-align: right; font-size: small;">9</td> </tr> <tr> <td colspan="4"><i>Ammonium (NH<sub>4</sub>)</i></td> </tr> <tr> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> </tr> <tr> <td style="text-align: right; font-size: small;">10</td> <td></td> <td style="text-align: center; font-size: small;">11</td> <td style="text-align: right; font-size: small;">12</td> </tr> <tr> <td colspan="4"><i>Phosphorus (P)</i></td> </tr> <tr> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> </tr> <tr> <td style="text-align: right; font-size: small;">13</td> <td></td> <td style="text-align: center; font-size: small;">14</td> <td style="text-align: right; font-size: small;">15</td> </tr> </table>	0	.	4	5	to	0	.	5	3		3	<i>Moisture content</i>	<i>to</i>		<i>Unit of measure</i>					1		2	3	<i>Dry matter content</i>								4		5	6	<i>Total Nitrogen (N)</i>								7		8	9	<i>Ammonium (NH<sub>4</sub>)</i>								10		11	12	<i>Phosphorus (P)</i>								13		14	15
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## Section 9 - Odour management and nutrient conservation

**\*Please refer to a normal year\***

116. At what stage of your 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..... <sub>1</sub>
- Land spreading..... <sub>2</sub>
- Agitation of manure . .... <sub>3</sub>
- Mixing or composting ..... <sub>4</sub>
- Other, *specify:* \_\_\_\_\_ <sub>5</sub>
- No differences throughout the year .... <sub>6</sub>

**If no differences in odour throughout the year, go to question 119.**

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

			Time(s) <sub>1</sub>
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118. Usually, how many days per year does this stronger odour of manure last?

			Day(s) <sub>1</sub>
--	--	--	---------------------



