

2001 Farm Environmental Management Survey (FEMS)



CONFIDENTIAL when completed
Collected under the authority of the
Statistics Act, Revised Statutes of
Canada, 1985, Chapter S19.

F.C.	005	1
P.	005	4
R.	005	2
N.C.	005	3

OFFICE USE ONLY						
004						
061 ^						

		7 1
In Operation	004	00
Change of Operator	004	42
Out of Business	004	13

TO THE RESPONDENT:

This questionnaire is to assist you in answering a telephone survey. Complete this questionnaire and keep it by your telephone. An interviewer from Statistics Canada will telephone you after **March 1** for this information.

DO NOT MAIL this questionnaire.

This is a voluntary survey conducted under Section 8 of the Statistics Act. Your cooperation is important to ensure that the information collected in this survey is as accurate as possible.

All information will be kept confidential under the Statistics Act.

Please refer to the calendar year 2001 when answering the questions.

In order to minimize your response burden, Statistics Canada will add the responses you provide in this interview to the information you supplied for the 2001 Census of Agriculture. The combined information will be used strictly for statistical purposes and published in aggregate form only

Please go to question on the next page to start.

Interviewer Name: RECORD OF TELEPHONE CALL Date/Time Date/Time No. Comments No. Comments 7 1 2 8 3 9 4 10 5 11 12 6

Please retain for your personal records.

Please retain for mail this questionnaire.

SECTION I - MANURE MANAGEMENT:

1. On December 31st 2001, were there a	ny livestock on y	our agricultural	operation?		
1 Yes (please specify):	3 (No (GO TO	Question 24, S	ection III)	
10 Cattle and calves mainly fo • Include: breeding bull		ements, dairy	heifers and dai	ry calves.	
20 Cattle and calves mainly fo • Include: bulls, cows, l		ers and beef o	alves.		
30	for breeding, bı	ed gilts and al	l other pigs.		
40 Sheep and lambs • Include: rams, ewes,	wethers and all	lambs.		\wedge	
Hens, chickens and other policy broilers, roas capons, turkeys, duck	sters, cornish h	ens, laying her	ns, pullets, chic	eks intended fo	rlaying
60 Other livestock (please spe	ecify)				•
61 1)					
62 2)				>	
 Include: buffalo/bison other exotic livestock Exclude: household p 	, other animals			er, fur animals,	
LIQUID MANURE MANAGEMENT	_	$\langle \gamma_0 \rangle$			
2. On December 31st 2001, did you store	e any liquid man	xe on your agri	cultural operatio	n?	
1 Yes		>			
3 No (GO TO Question 9, Section 9)	on I)				
3. (ANSWER ONLY IF QUESTION ON December 31st 2001, how was you	DICATES DAIRY r-milkhouse was	CATTLE) h water manag	ed?		
1 Included in the liquid manu	re system				
2 Treated separately from the	e liquid manure s	ystem			
3 Not treated					
4. On December 31st 2001, how many ar			llowing liquid ma	anure storage sy	/stems:
	Dairy Cattle	Beef Cattle	Hogs	Hens,	Other

	Dairy Cattle	Beef Cattle	Hogs	Hens,	Other
Liquid Manure Storage Method	and Calves	and Calves		Chickens and	Livestock
Liquid Mariare Storage Metriod				Poultry	
	1	2	3	4	5
a) Unlined lagoon	0401	0402	0403	0404	0405
b) Lined lagoon	0411	0412	0413	0414	0415
c) Open tank	0421	0422	0423	0424	0425
d) Tank below slatted floor	0431	0432	0433	0434	0435
e) Sealed, covered tank	0441	0442	0443	0444	0445
f) Other (please specify)					
1)	0461	0462	0463	0464	0465
2)	0471	0472	0473	0474	0475

5.		naterials were used for the bottom and sides of your liquid manure storage structures? fy more than one if required)
	1 🔾	Concrete
	2 🔾	Steel
	з 🔾	Geomembrane
	4 🔾	Compacted soil/clay
	5 🔾	Other (please specify)
6.	What t	ype of roof or cover was put on your liquid manure storage structure? (specify more than one if required)
	1 🔘	Rigid and permanent
	2 🔾	Flexible and permanent
	3 🔾	Temporary (e.g. straw)
	4 🔾	Other (please specify)
	5	No cover
7.	Was yo	our liquid manure storage structure designed and constructed with the assistance of a professional engineer?
	1 ()	Yes
	3 ()	No
	4 ()	Don't know
8.	On De	cember 31st 2001, how many days of liquid manure production could your structure store? r farm operation has more than one storage system, please report on the one used the most)
	1 (100 days or less (3 months or less)
	2 🔾	101 to 150 days (3 to 5 months)
	3 🔾	151 to 200 days (5 to 7 months)
	4 🔾	201 to 250 days (7 to 8 months)
	5	251 to 300 days (8 to 10 months)
	6	301 to 400 days (10 to 13 months) (
	7 (more than 400 days (more than 13 months)
sc	LID C	OR SEMI-SOLID MANURE MANAGEMENT
9.	Do you	store any solid or semi-solid manure on your agricultural operation?
	1 (Yes
	3 🔾	No (GQ 70 Question 12, Section I)
10.	Was yo	our solid or semi-solid manure storage structure designed and constructed with the assistance of ssional engineer?
<	$\langle \langle \mathcal{O} \rangle$	Yes
	3	No
	4 Ŏ	Don't know

11. On December 31st 2001, how many animals were using each of the following solid or semi-solid manure storage systems: (Please report values in all applicable boxes)

Solid or Semi-Solid Manure Storage Method 1 2 3 4 a) An open pile on the ground without a roof b) An open pile on the ground with a roof c) Manure pack in barns, pens or corrals d) An open pad without run-off 1101 1102 1103 1104 1122 1123 1124 1133 1134 1134 1144	
Storage Method 1 2 3 4	rv
1 2 3 4 a) An open pile on the ground without a roof b) An open pile on the ground with a roof c) Manure pack in barns, pens or corrals 1131 1132 1133 1134 1132 1133 1134 1133 1134 1134 1135 1136 1136 1137 1138 1137 1138 1138 1139 1139 1130 1130 1131 1131 1132 1132 1133 1134 1135 1136 1136 1137 1137 1138 1138 1138 1139 1139 1130 1130 1131 1132 1132 1133 1134 1135 1136 1137 1138 1139 1130 1131 1132 1133 1134 1135 1136 1137 1138 1138 1139 1130 1130 1131 1132 1133 1134 1135 1136 1137 1138 1138 1139 1130 1130 1130 1131 1132 1133 1134 1135 1136 1137 1138 1138 1139 1130 1130 1130 1131 1132 1133 1134 1135 1136 1137 1138	.I V I
a) An open pile on the ground without a roof 1101 1102 1103 1104 b) An open pile on the ground with a roof 1121 1122 1123 1124 c) Manure pack in barns, pens or corrals 1131 1132 1133 1134	5
b) An open pile on the ground with a roof c) Manure pack in barns, pens or corrals 1121 1122 1123 1124 1132 1133 1134	1105
c) Manure pack in barns, pens or 1131 1132 1133 1134 corrals	1125
d) An open pad without run-off 1141 1142 1143 1144	1135
containment	1145
e) An open pad with run-off containment 1151 1152 1153 1154	1155
f) A covered storage pad 1161 1162 1163 1164	1165
g) Other (please specify)	
1) 1181 1182 1183 1184	1185
2) 1191 1192 1193 1194	1195

OTHER MANURE MANAGEMENT PRACTICES	\bigcup
12. Which of the following treatments were used for stored manure (liquid, solid or semi-soli (Please check all that apply)	d) ?
1 Aeration	
2 Additives	
3 Separation	
4 Filtrating marsh	
5 Composting	
6 Drying	
7 Other (please specify)	
8 None	
Not applicable/no manure is stored on my operation	

13. How far away are the liquid, solid/semi-solid manure storage structures from the following water sources:

(Please check applicable boxes)

\Diamond	Separating Distance (Check the one that applies)							
Water Source	50 ft or less (15		51 ft to 75 ft (greater 7 than 16 metres, less				101 feet or more (32 metres or	
	metres	or less)		etres, less		metres)	,	ore)
	1	2	1	2	1	2	1	2
	Liquid	Solid	Liquid	Solid	Liquid	Solid	Liquid	Solid
a) Well	1311	1312	1313	1314	1315	1316	1317	1318
b) Dugout or pond used for domestic	1321	1322	1323	1324	1325	1326	1327	1328
water water	\circ	0	\circ	0	\circ	\circ	\circ	
	1331	1332	1333	1334	1335	1336	1337	1338
c) Stream, river or lake	\circ	0	\circ		\circ	0	\circ	
	1341	1342	1343	1344	1345	1346	1347	1348
d) Wetland, marsh, pond or slough	\circ		\circ	0	\circ	\circ	\circ	
	1351	1352	1353	1354	1355	1356	1357	1358
e) Source for spring water or aqueduct	\circ	0	\circ	0	\circ	\circ	\circ	
f) Not applicable/no manure is stored	1361							
on my operation (Please check)	0							

- 5 - manure application and its incorporation into the soil.

(Please report percentages and check				.co.po.a.c			
A) TIMING OF MANURE APPLICATION Of the total amount of manure produced in 200 was:	amount of manure produced in 2001, what % For each period, what was the normal incorporation delay for the					ay for the	
Period	% 1	Injected (no delay)	Less than 1 day 3	1 to 2 days	3 to 7 days 5	More than 7 days 6	Left on surface
Applied January to March (during the winter)	1411	1412	1413	1414	1415	1416	1417
b) Applied April to June (in the spring before planting)	1421	1422	1423	1424	1425	1426	1427
c) Applied July to September (in the summer after planting, first cut or on fallow)	1431	1432	1433	1434	1435	1436	1437
d) Applied October to November (after harvest)	1441	1442	1443	1444	1445	1446	1447
e) Not applied (sold, removed under contract, etc.)	1451						, 2)
15. Did you use feed additives or specialized feeding strategies that reduce the nutrient content of the manure? 1 Yes 3 No 4 Don't know 16. Did you use any of the following options to control odours from your livestock buildings? (Please check all that apply) 1 Wind barriers (wooded areas) 2 Filter on exhaust fans 3 Other methods (please specify) 4 No livestock buildings 5 None 17. Has your agricultural operation developed a formal, documented (field records) manure management plan? 1 Yes, as required by government regulations 2 Yes, as part of a nutrient management plan for the agricultural operation 3 Yes, because of concerns for the environment							
SECTION II SUSTAINABLE GRAZING SYSTEMS 18. Did you have any of the following grazing livestock on your land? (Please check all that apply) 1							

20.	In	2001, how much grass production (carry over) was left on a pasture when you were finished grazing it for the year?
	1	Less than 1 inch (2.5 cm)
	2	1 - 2 inches (2.5 to 5 cm)
	3	2 - 4 inches (5 to 10 cm)
	4	Greater than 4 inches (greater than 10 cm)
21.	Н	ow often do you re-seed your seeded pasture?
	1	Every 3 years or less
	2	Every 3 to 5 years
	3	Every 5 to 10 years
	4	Every 10 to 15 years
	5	Every 15 years or more
	6	Not applicable (native pasture)
22.	Do	o you allow livestock to have direct access to streams, lakes or other surface water bodies?
	1	Yes
	3	○ No
23.	Do the	o you feed your livestock within 300 ft (100 m) of a stream, lake or other surface water body during e winter months?
	1	Yes
	3	○ No
SE	ΞC	TION III - CROP NUTRIENT MANAGEMENT:
24.	In	2001, were any crops grown on your agricultural operation? Include: field crops, forage crops, hay, sod, green house and nursery products, fruits and vegetables
		1 O Yes
		3 No (GO TO Question 46, Section V)
25	In	2001, how did you manage your crop residues? (Please check all that apply)
20.	1	Chop straw and spread
	2	Bale straw
	3	Burn straw
	4	Other (please specify)
	5	Not applicable
26.	In 1	2001, were any bommercial (chemical) fertilizers applied?
`	3	No (GO TO Question 34, Section III)
27.	Fo	or field crops only, what was the percentage of various nitrogen fertilizers applied during the spring, summer ad fall of 2001? (Please report percentages in all applicable boxes)

and fall of 2001. (I lease report percentages in an approache sexes)									
Nitrogen Fertilizers Applied	% Spring 1	% Summer 2	% Fall	Total to equal 100%					
a) Anhydrous Ammonia (82-0-0)	2711	2712	2713	2714					
b) Urea (46-0-0)	2721	2722	2723	2724					
c) Ammonium Nitrate (34-0-0)	2731	2732	2733	2734					
d) Ammonium Sulphate (21-0-0-24)	2741	2742	2743	2744					
e) Nitrogen Solution	2751	2752	2753	2754					
f) Calcium Nitrate	2761	2762	2763	2764					
g) Blend	2771	2772	2773	2774					

28. For field crops only, what was the percentage of various phosphate fertilizers applied during the spring, summer and fall of 2001? (Please report percentages applied in all applicable boxes)

Phosphate Fertilizers Applied	% Spring 1	% Summer 2	% Fall 3	Total to equal 100%
a) Monoammonium Phosphate (11-52-0), (12-51-0)	2811	2812	2813	2814
b) Diammonium Phosphate (18-46-0)	2821	2822	2823	2824
c) Ammonium Polyphosphate (10-34-0)	2831	2832	2833	2834
d) Triple Super Phosphate (0-46-0)	2841	2842	2843	2844
e) Single Super Phosphate (0-20-0)	2851	2852	2853	2854
f) Blend	2861	2862	2863	2864

u)	Triple Super Friosphate (0-40-0)							
e)	Single Super Phosphate (0-20-0)	2851	2852	2853	2854			
f)	Blend	2861	2862	2863	2864			
29.	29. In 2001, how was commercial (chemical) fertilizer applied? (Please check all that apply) 1							
31.	Cost of fertilizer / crop prices Moisture conditions Other (please specify) Do you reduce the amount of commercial nitrog	gen applied to offs	set the nutrient co	— ontent of the legu	me ploughdown			
	(e.g. alfalfa, red clover, pulses)? 1 Yes 3 No 4 Not applicable							
32.	Do you apply sommercial (chemical) fertilizers 1	to land that has h	nad manure appli	ed to it?				
33.	 33. Do you reduce the amount of commercial (chemical) fertilizer applied to offset the nutrient content of the manure? 1 Yes 3 No 4 Not applicable 							
34.	Do you test the nutrient content of your liquid or (Please check all that apply) 1 Yes for liquid manure 2 Yes for solid/semi-solid manure 3 Manure not tested 4 No manure applied	r solid/semi-solid	manure before al	oplying it to the la	nd?			

35. In general, how often is the soil tested for nutrients on your operation? (Please check one only)						
1 Every year						
2 Every 2 - 3 years						
3 Every 4 - 5 years						
4 Every 5 years or more						
5 Not tested						
36. In 2001, did your operation have a Nutrient Mar	nagement Plan?					
(A nutrient management plan is a formal, written of your responses to the above questions, and a waterways, timing of application, etc.)						
1 Yes						
2 No (GO TO Question 37, Section IV)						
36a) In 2001, was the Nutrient Management Plan for	r your operation fully or	partially implemented:				
1 O Yes						
2 No (GO TO Question 37, Section IV))			
3 O Don't know						
36b) Why does your operation have this Nutrient Ma	ınagement Plan? (Plea	se check all that appl	y)			
1 it is required by government regulations	\Diamond_{\wedge} ($\bigcirc)$				
2 it is part of a manure management plan t	for the agricultural opera	ation				
3 because of concerns for the environmen	t	>				
SECTION IV - PESTICIDE APPLICA	TION PRACTIC	ES:				
37. In 2001, were any herbicides, insecticides or jun	gicides applied to any o	f your crops?				
1 O Yes	\searrow					
3 No (GO TO Question 42, Section IV)	>					
38. Which of following best describes when you dec	cide to apply herbicides,	insecticides and fungion	cides:			
	Herbicide	Insecticide	Fungicide			
Application Strategy	1 (check only one)	2 (check only one)	3 (check only one)			
	3811	3812	3813			
a) Based on calendar dates	0	0	0			
b) Done at the first sign of pests (weeds, insects or disease)	3821	3822	3823			
	3831	3832	3833			
c) Based on crop growth stage						
d) Determined by regional monitoring for weeds, insects, or disease	3841	3842	3843			
e) Done when pests on your farm exceed acceptable levels (eg. economic injury threshold)	3851	3852	3853			
 39. Do you use band application on your row crops to reduce the amount of pesticide used? 1 Yes 3 No/Not applicable 						

	- 9 -						
40. Were the pesticides applied on your operation by a formally certified person?							
1 Yes							
3							
41. If you have a sprayer on your ope	eration, when is it calibrated?						
1 Only when it breaks down	n or when major components are replaced						
2 Before the beginning of e	each crop season						
3 Between applications of o	different types of pesticides						
4 Other (please specify) _							
5 Never							
6 Not applicable		\wedge					
42. In 2001, did you use methods oth (Please check all that apply)	ner than chemical pesticides to control wee	eds, insects or diseases?					
01 tolerant or resistant plant	s 02 intercropping	03 green manure					
04 cover cropping	05 fall seeding	mechanical weeding with rotary hoe					
07 tillage	os mechanical weeding with cultivator	09 hand-weeding					
10 predators	11 parasites	parasitoids					
13 pheromones	14 pathogen agents	B.T. (Bacillus thuringiensis)					
16 ground cover	17 () floating covers	18 mulching					
19 pit traps							
20 other methods (Please s	pecify)						
SECTION V- LAND AND	WATER MANAGEMENT PRA	ACTICES:					
43. Did you irrigate crop land on you							
1 Yes							
3 No (GO TO Question 46	Section V)						
44. What was the source and total vo	olume of water used on a per acre basis o	ver the 2001 cropping season?					
~ (unt <u>12</u> Unit <u>inches /acr</u>						
$\sim \langle \sim \rangle \rangle$	nt Unit	_					
	nt Unit						
3 Don't know							
45. In 2001, what was the proportion	n of total irrigated water delivered using ea	ch of the following systems:					
1 () Gun	%						
2 Sprinkler _	%						
3 Drip/trickle _	%						
Surface flooding	%						
5 Subsurface _	%						
6 Other	% (please specify)						
Total							

46. During 2001, how did you dispose of toxic farm waste (excluding carcasses, but including: pesticide containers and products, oil, batteries and antifreeze etc)? (Please check all that apply)
1 Returned to supplier
Rinsed and disposed of with domestic waste
3 Specialized recycling program
Dangerous goods waste pick-up services
5 Other (please specify)
6 Not applicable
47. How often is your domestic water supply tested?
1 Twice a year or more frequently
2 Once a year
3 Every 2 years
4 Not tested regularly
5 Not applicable (e.g. connected to municipal water supply)
48. What methods do you typically use to manage the areas on your farm operation that are adjacent to natural sources of water? (Please check all that apply)
1 Leave area permanently vegetated
2 Plant additional vegetation (e.g. perennial forage, trees, bushes)
3 Plant a winter crop cover
4 Livestock fencing
5 Other (please specify)
6 None
7 Not applicable (no water sources are adjacent to this operation)
49. Have you taken any of the following measures to conserve natural wetland areas? (Please check all that apply)
1 Rotational grazing
2 Fencing
3 Alternative watering sources
Water control structures/dams
5 Other (please specify)
6 Not applicable (no natural wetlands)
SECTION WITHOUTE FARM ENVIRONMENTAL MANAGEMENT:
50. Has a formal, written Whole Farm Environmental Plan been done or revised for your operation in the past 5 years as part of a provincial or industry program. (e.g. Environmental Farm Plan, participation in conservation clubs, etc.)? (A Whole Farm Environmental Plan is an overall assessment of environment issues or concerns related to your operation)
1 Yes
3 O No
4 O Don't know

51. To what extent have you implemented Beneficial Management Practices (BMP) (or Best Management Practices) for the following: (Please check applicable boxes)

	riactices) for the following. (Flease	JIIECK applic	anie noves	,			
		Fully implemente	Parti d implem	•	Not available for my region	Not relevant for my operation	Unfamiliar with the BMP for my region
		5211	5212		5213	5214	5215
a)	Manure Management	0)	0	0	0
b)	Fertilizer Management	5221	5222)	5223	5224	5225
c)	Pesticides Management	5231	5232)	5233	5234	5235
d)	Water Management	5241	5242)	5243	5244	5245
e)	Wildlife Conservation	5251	5252)	5253	5254	5255
f)	Grazing Management	5261	5262)	5263	5264	5265
SI	ECTION VII - FARM PROFI	LE INFO	RMATIO	N:			
52	. What is the unit of measure in which y	ou will be rep	orting land	area?			
	1 Acres					\rightarrow	
				^			
				$\langle \langle \rangle$			
	3 Arpents		5	\checkmark			
53	Please estimate the area as required land covered by the following:	(or average	area if it fl	octuate	s by month/ye	ear) of your farm	
	O) /			7
	1 Native grasslands						_
	2 Seasonal wetlands (ponds, sleand swam	oughs, poth ps, treed we	oles, marsi tareas)	nes			
	3 Permanent wetlands (ponds, (and, sw	sloughs, pot	holes, mar wet areas)	shes			
	4 Woodland						7
	41 ● plantation						<u> </u>
	42 • woodlot						
	<(\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \						7
	5 Grassed waterways						
	\nearrow (()) \checkmark						٦
<	Farmstead shelterbelts/windbr	eaks					
53	b) Please estimate the distance (or ave the following:	rage distanc	e if it fluct	uates b	y month/year)	of your farm lan	d covered by
	Riparian area (area adjacent to streams or waterways)						
	panan araa (araa aajaaanti to a	5331		miles	or 533	2	kilometres
	2 Field shelterbelts/fencerows (trees	s, shrubs)					_
		5333		miles	or 533	4	kilometres

					- 12 -	
54.	In	2001	1, what area of I	and was	:	
	1	\bigcirc	planted to field	crops	(Report seeded area including: field crops, forage crops, hay, nursery products, sod, fruits and vegetables)	
					3	
		\bigcirc				
	2	\cup	summerfallow			
	3	\bigcirc	pasture (Includ	de: tame	pasture, native pasture, grazeable bush)	
	4	\bigcirc	all other land	houses	e: land for farm buildings,greenhouses or mushroom s, barnyards, lanes, idle land, woodlots, bogs, es, sloughs, etc.)	
55.	In (C	200 <i>°</i>	1, which agricult k only one)	ural activ	vity did you derive 51% or more of your gross farm receipts fro	om?
	1	\bigcirc	Dairy			$\langle \rangle \rangle$
	2	$\tilde{\bigcirc}$	Beef			$\langle \langle \langle \rangle \rangle$
	-	$\tilde{\Box}$	Hogs			
			-			
	4		Poultry and eg			
	5	\bigcirc	Livestock comb			
	6	\bigcirc	Grains and oils	seeds	, in the second	
	7	\bigcirc	Potatoes		\diamondsuit	
	8	Ō	Tobacco		$\langle \gamma \rangle$	
	9	\bigcirc	Fruits and vege	etables		
	10	\bigcirc	Greenhouse ar	nd nurse	ry	
	11	\bigcirc	Other farm type	es (pleas	se specify)	
56.	In	200	1, was this a fee	dlot or fi	nishing operation?	
	1	\bigcirc	Yes			
	3	\bigcirc	No		\(\sigma\)\(\sigma\)	
57.	In or	200° the i	1, what were the most recent fisc	e total g ro al year?	ss farm receipts (before deducting expenses) of this agricular	ultural operation
	•	reb rec Ex	oate payments ceipts clude: xeceipts	received from th	agricultural products sold, marketing board payments re d, dividends received from co-operatives, custom work a e sale of capital items (e.g., land, buildings or machinery	nd all other farm
		ədi	ie oi any goods	s bough	only for resale	
/	1/	$\hat{\mathbb{Z}}$	less than \$10,0	000		
<	2	\emptyset	\$10,000 to less	s than \$2	5,000	
	3	\Diamond	\$25,000 to less	s than \$5	0,000	
	4	Ŏ	\$50,000 to less	s than \$1	00,000	
	5		\$100,000 to les	ss than \$	250,000	
	6	$\widetilde{\bigcirc}$	\$250,000 to les	ss than \$	5500,000	
	7	$\widetilde{\bigcirc}$	\$500,000 or me			
	•	\bigcirc	, 555,000 OI III	•		