

N CHAIN STARTING WITH N FERTILIZER N CHAIN STARTING WITH N FERTILIZER
AND CONTINUING WITH SEPARATED CATTLE MANURE TO PRODUCE TO PRODUCE
WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR CATTLE DAIRY
CATTLE DAIRY

Year Fertilizer/manure # Store Amounts Field Name 1/0 Store 1/0 Or-ganic 1/0 Nnorm propor tion, % Crop # use & leach Straw 1/0 Cereal benefit 1/0 Use # Name Fodder: Uses #21-61 Fed Food #72 N crop #71/ beev #8 Fuel/ other #9 Manure Final N a- IPCC 1996 N2O-N emission N2O-N emission
handling # Name mounts Each Total Each Total

Total N Year 1-10 N leach	RATIO OF N2O-N TO N IN FIRST CROP				TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED				TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3				TOTAL N AMOUNTS IN KG AND % LEACHED				TOTAL N AMOUNTS IN KG AND %			
	ACCORDING TO IPCC 1996				IPCC 2006				TOTAL N AMOUNTS IN KG AND %				TOTAL N AMOUNTS IN KG AND %				TOTAL N AMOUNTS IN KG AND %			
	FIRST YEAR				0.0439				0.0273				52.1				51.6			
	TOTAL				0.0669				0.0422				101.0				100.0			

N2O-N/N in food/beverage/fuel/other 0.1762 0.1110 Note 46

Year 1	N	1	1	100.0	100.0	0	100	119	0	0	0	97.8	21	64.3	19.0	0.0	0.0	0.0	0.0	45.3	2.3	1.94	2.82	1.46	1.76
	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WWHB	1.000	NO	0	33.5	Cattle	0.84					0.0	22	0.04	0.0125	0.04	0.0100	
	N leach		1.022	1.000	ORG	1.00	1.000		0.343	0.0		33.5	Dairy	2				21.4	Sep	0.84	0.0105	0.25	0.0050		
Year 2	N	22	1	43.7	40.0	0	100	11	0	0	0	30.0	21	16.7	3.9	0.0	0.0	0.0	0.0	12.8	0.58	1.06	0.44	0.69	
	Vol/NH3	Cattle	YES	3.7	10.0	NON	100.00	WWH	1.000	NO	0	13.3	Cattle	0.67					0.0	22	0.14	0.0125	0.14	0.0100	
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.443	0.0		13.3	Dairy	2				6.6	Sep	0.33	0.0105	0.10	0.0050		
Year 3	N	22	1	12.3	11.3	0	100	11	0	0	0	8.5	21	4.7	1.1	0.0	0.0	0.0	0.0	3.6	0.16	0.30	0.12	0.19	
	Vol/NH3	Cattle	YES	1.0	2.8	NON	100.00	WWH	1.000	NO	0	3.7	Cattle	0.67					0.0	22	0.04	0.0125	0.04	0.0100	
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.443	0.0		3.7	Dairy	2				1.9	Sep	0.09	0.0105	0.03	0.0050		
Year 4	N	22	1	3.5	3.2	0	100	1	0	0	0	2.4	21	1.2	0.3	0.0	0.0	0.0	0.0	1.0	0.05	0.09	0.03	0.05	
	Vol/NH3	Cattle	YES	0.3	0.8	NON	100.00	SBA	1.000	NO	0	1.2	Cattle	0.65					0.0	22	0.01	0.0125	0.01	0.0100	
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.483	0.0		1.2	Dairy	2				0.5	Sep	0.03	0.0105	0.01	0.0050		
Year 5	N	22	1	0.9	0.8	0	100	10	0	0	0	0.6	21	0.3	0.1	0.0	0.0	0.0	0.0	0.3	0.01	0.02	0.01	0.01	
	Vol/NH3	Cattle	YES	0.1	0.2	NON	100.00	WBA	1.000	NO	0	0.3	Cattle	0.66					0.0	22	0.00	0.0125	0.00	0.0100	
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.483	0.0		0.3	Dairy	2				0.1	Sep	0.01	0.0105	0.00	0.0050		
Year 6	N	22	1	0.2	0.2	0	100	119	0	0	0	0.2	21	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.00	0.01	0.00	0.00	
	Vol/NH3	Cattle	YES	0.0	0.1	NON	100.00	WWHB	1.000	NO	0	0.1	Cattle	0.84					0.0	22	0.00	0.0125	0.00	0.0100	
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.443	0.0		0.1	Dairy	2				0.0	Sep	0.00	0.0105	0.00	0.0050		
Year 7	N	22	1	0.1	0.1	0	100	11	0	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0	0.0	Cattle	0.67					0.0	22	0.00	0.0125	0.00	0.0100	
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.443	0.0		0.0	Dairy	2				0.0	Sep	0.00	0.0105	0.00	0.0050		
Year 8	N	22	1	0.0	0.0	0	100	11	0	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0	0.0	Cattle	0.67					0.0	22	0.00	0.0125	0.00	0.0100	
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.443	0.0		0.0	Dairy	2				0.0	Sep	0.00	0.0105	0.00	0.0050		
Year 9	N	22	1	0.0	0.0	0	100	1	0	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0	0.0	Cattle	0.65					0.0	22	0.00	0.0125	0.00	0.0100	
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.483	0.0		0.0	Dairy	2				0.0	Sep	0.00	0.0105	0.00	0.0050		
Year 10	N	22	1	0.0	0.0	0	100	10	0	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WBA	1.000	NO	0	0.0	Cattle	0.66					0.0	22	0.00	0.0125	0.00	0.0100	
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.483	0.0		0.0	Dairy	2				0.0	Sep	0.00	0.0105	0.00	0.0050		

Year Year 1 Year 2 Year 3 Year 4 Year 5 Year 6 Year 7 Year 8 Year 9 Year 10 Total Total/year 1

Area with crop, ha 0.64 0.22 0.06 0.02 0.00 0.00 0.00 0.00 0.00 0.00 0.94 1.48 Note 50

Possible additional non IPCC N2O-N emissions Value
N residues emissions, ratio of N2O-N to N: 0.0000
Increased soil N emissions, kg N2O-N/ha: 0.00
Natural background emissions, kg N2O-N/ha: 1.00
Total IPCC and non IPCC N2O 4.30
2.71 Note 51
2.71 Note 51
3.65 Note 51

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER	TO PRODUCE	WINTER WHEAT FOR BIOETHANOL AND	CATTLE DAIRY	Note #3
	CATTLE DEEP LITTER	TO PRODUCE	WINTER WHEAT FOR	CATTLE DAIRY	Note #3

[illegible]

N2O-N/N in food/beverage/fuel/other

Year 1	N	N	1	100.0	100.0	0	100	119	0	0	97.8	21	64.3	19.0	0.0	0.0	0.0	0.0	23	45.3	2.34	3.23	1.46
	Vol/NH3	N	YES	0.0	2.2 NON	100.00	WWHB	1.000	NO	1.000	NO	0.84	2.7	0.0	0.0	0.0	0.0	0.0	Cattle	0.05	0.0125	0.05	
Year 2	N	N	23	49.4	34.5	0	100	11	0	0	33.5	Dairy	2	2.4	0.0	0.0	0.0	0.0	21.4 Deep	0.25	0.0200	0.25	
	Vol/NH3	Cattle	YES	14.8	8.6 NON	100.00	WWH	1.000	NO	0	25.9	21	10.0	0.0	0.0	0.0	0.0	0.0	23	7.6	1.18	0.37	
Year 3	N	N	23	8.3	5.8	0	100	11	0	0	15.9	Cattle	2	0.4	0.0	0.0	0.0	0.0	5.7 Deep	0.24	0.0125	0.24	
	Vol/NH3	Deep	0.600	1.159	ORG	1.00	1.000	0.614	0.0	15.9 Dairy	0.67	2	0.0	0.0	0.0	0.0	0.0	0.0	23	0.12	0.0050	0.12	
Year 4	N	N	23	1.4	1.0	0	100	1	0	0	4.4	21	1.7	0.1	0.0	0.0	0.0	0.0	0.0	0.06	0.0125	0.06	
	Vol/NH3	Cattle	YES	0.600	1.5 NON	100.00	WWH	1.000	NO	2.7 Cattle	0.67	2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0125	0.04	
Year 5	N	N	23	0.4	0.2 NON	100.00	SBA	1.000	NO	0	2.7 Dairy	2	0.0	0.1	0.0	0.0	0.0	0.0	1.0 Deep	0.02	0.0200	0.02	
	Vol/NH3	Deep	0.600	1.159	ORG	1.00	1.000	0.614	0.0	0.5 Cattle	0.65	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0125	0.01	
Year 6	N	N	23	0.2	0.2	0	100	10	0	0	0.1	21	0.66	0.0	0.0	0.0	0.0	0.0	0.2 Deep	0.00	0.0200	0.00	
	Vol/NH3	Cattle	YES	0.600	0.0 NON	100.00	WBA	1.000	NO	0.1 Dairy	0.66	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0125	0.01	
Year 7	N	N	23	0.1	0.0 NON	100.00	WBA	1.000	NO	0	0.1 Cattle	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	
	Vol/NH3	Deep	0.600	1.159	ORG	1.00	1.000	0.642	0.0	0.1 Dairy	0.66	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	
Year 8	N	N	23	0.0	0.0	0	100	119	0	0	0.0	21	0.84	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	
	Vol/NH3	Cattle	YES	0.0	0.0 NON	100.00	WWHB	1.000	NO	0	0.0 Cattle	0.84	2	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	
Year 9	N	N	23	0.0	0.0	0	100	11	0	0	0.0	21	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	
	Vol/NH3	Deep	0.600	1.159	ORG	1.00	1.000	0.614	0.0	0.0 Dairy	0.67	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	
Year 10	N	N	23	0.0	0.0	0	100	11	0	0	0.0	21	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	
	Vol/NH3	Cattle	YES	0.0	0.0 NON	100.00	WWH	1.000	NO	0	0.0 Cattle	0.67	2	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	
Year 11	N	N	23	0.0	0.0	0	100	10	0	0	0.0	21	0.65	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	
	Vol/NH3	Deep	0.600	1.159	ORG	1.00	1.000	0.642	0.0	0.0 Dairy	0.65	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	
Year 12	N	N	23	0.0	0.0	0	100	10	0	0	0.0	21	0.66	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	
	Vol/NH3	Cattle	YES	0.0	0.0 NON	100.00	WBA	1.000	NO	0	0.0 Cattle	0.66	2	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	
Year 13	N	N	23	0.0	0.0	0	100	1.000	0.642	0.0	0.0 Dairy	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	
	Vol/NH3	Deep	0.600	1.159	ORG	1.00	1.000	0.642	0.0	0.0 Dairy	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	

[illegible]

Value	Kind of source	Total IPCC and non IPCC N2O	Note 51
Possible additional non IPCC N2O-N emissions			
N residues emissions, ratio of N2O-N to N:	0.00	0.00	2.63 Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	2.63 Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.64	3.42 Note 51
	0.00	0.00	4.64
	0.00	0.00	4.64
	0.00	0.00	5.43

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE CATTLE DAIRY
AND CONTINUING WITH MANURE FROM GRAZING CATTLE TO PRODUCE CATTLE DAIRY

Year	Fertilizer/manure #	Store 1/0	Store	Amounts	Field	Or-ganic 1/0	Nnorm propor tion, %	Crop #	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use #	Fodder: Uses #21-61	N crop #71/	Food #72	Fuel/ bev #8	Fuel/ other #9	Manure handling N a-	Final	N2O-N emission IPCC 1996	N2O-N emission IPCC 2006	Total	Total
Total N Year N NH3 1-10 N leach	RATIO OF N2O-N TO N IN FIRST CROP																						
	ACCORDING TO IPCC 1996																						
	FIRST YEAR																						
	TOTAL																						
TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED																							
TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3																							
TOTAL N AMOUNTS IN KG AND % LEACHED																							
TOTAL N AMOUNTS IN KG AND %																							

N2O-N/N in food/beverage/fuel/other 0.2317 0.1610 Note 46

Year 1	N	1	1	100.0	100.0	0	100	119	0	0	97.8	21	64.3	19.0	0.0	0.0	0.0	0.0	24	45.3	2.40	3.26	2.15	2.42
	Vol/NH3	N	YES	0.0	2.2 NON	100.00	WWHB	1.000	NO	0	33.5 Cattle	0.84						0.0	Cattle	0.0	0.02	0.0125	0.0100	
	N leach		1.022	1.000	ORG	1.00	1.000	0.343	0.0	0	33.5 Dairy	2						21.4	Graz	0.0	0.84	0.0200	0.25	
Year 2	N	24	1	45.3	45.3	0	100	11	0	0	42.1	21	13.1	3.1	0.0	0.0	0.0	0.0	24	10.0	0.84	1.60	0.74	
	Vol/NH3	Cattle	YES	0.0	3.2 NON	100.00	WWH	1.000	NO	0	29.0 Cattle	0.67						0.0	Cattle	0.0	0.03	0.0125	0.03	
	N leach	Graz	0.484	1.000	ORG	1.00	1.000	0.689	0.0	0	29.0 Dairy	2						9.2	Graz	0.0	0.73	0.0200	0.22	
Year 3	N	24	1	10.0	10.0	0	100	11	0	0	9.3	21	2.9	0.7	0.0	0.0	0.0	0.0	24	2.2	0.19	0.35	0.16	
	Vol/NH3	Cattle	YES	0.0	0.7 NON	100.00	WWH	1.000	NO	0	6.4 Cattle	0.67						0.0	Cattle	0.0	0.01	0.0125	0.01	
	N leach	Graz	0.484	1.000	ORG	1.00	1.000	0.689	0.0	0	6.4 Dairy	2						2.0	Graz	0.0	0.16	0.0200	0.05	
Year 4	N	24	1	2.2	2.2	0	100	1	0	0	2.1	21	0.6	0.1	0.0	0.0	0.0	0.0	24	0.5	0.04	0.08	0.04	
	Vol/NH3	Cattle	YES	0.0	0.2 NON	100.00	SBA	1.000	NO	0	1.5 Cattle	0.65						0.0	Cattle	0.0	0.00	0.0125	0.00	
	N leach	Graz	0.484	1.000	ORG	1.00	1.000	0.711	0.0	0	1.5 Dairy	2						0.4	Graz	0.0	0.04	0.0200	0.01	
Year 5	N	24	1	0.5	0.5	0	100	10	0	0	0.4	21	0.1	0.0	0.0	0.0	0.0	0.0	24	0.1	0.01	0.02	0.01	
	Vol/NH3	Cattle	YES	0.0	0.0 NON	100.00	WBA	1.000	NO	0	0.3 Cattle	0.66						0.0	Cattle	0.0	0.00	0.0125	0.00	
	N leach	Graz	0.484	1.000	ORG	1.00	1.000	0.712	0.0	0	0.3 Dairy	2						0.1	Graz	0.0	0.01	0.0200	0.00	
Year 6	N	24	1	0.1	0.1	0	100	119	0	0	0.1	21	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	
	Vol/NH3	Cattle	YES	0.0	0.0 NON	100.00	WWHB	1.000	NO	0	0.1 Cattle	0.84						0.0	Cattle	0.0	0.00	0.0125	0.00	
	N leach	Graz	0.484	1.000	ORG	1.00	1.000	0.689	0.0	0	0.1 Dairy	2						0.0	Graz	0.0	0.00	0.0200	0.00	
Year 7	N	24	1	0.0	0.0	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	
	Vol/NH3	Cattle	YES	0.0	0.0 NON	100.00	WWH	1.000	NO	0	0.0 Cattle	0.67						0.0	Cattle	0.0	0.00	0.0125	0.00	
	N leach	Graz	0.484	1.000	ORG	1.00	1.000	0.689	0.0	0	0.0 Dairy	2						0.0	Graz	0.0	0.00	0.0200	0.00	
Year 8	N	24	1	0.0	0.0	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	
	Vol/NH3	Cattle	YES	0.0	0.0 NON	100.00	WWH	1.000	NO	0	0.0 Cattle	0.67						0.0	Cattle	0.0	0.00	0.0125	0.00	
	N leach	Graz	0.484	1.000	ORG	1.00	1.000	0.689	0.0	0	0.0 Dairy	2						0.0	Graz	0.0	0.00	0.0200	0.00	
Year 9	N	24	1	0.0	0.0	0	100	1	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	
	Vol/NH3	Cattle	YES	0.0	0.0 NON	100.00	SBA	1.000	NO	0	0.0 Cattle	0.65						0.0	Cattle	0.0	0.00	0.0125	0.00	
	N leach	Graz	0.484	1.000	ORG	1.00	1.000	0.711	0.0	0	0.0 Dairy	2						0.0	Graz	0.0	0.00	0.0200	0.00	
Year 10	N	24	1	0.0	0.0	0	100	10	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	
	Vol/NH3	Cattle	YES	0.0	0.0 NON	100.00	WBA	1.000	NO	0	0.0 Cattle	0.66						0.0	Cattle	0.0	0.00	0.0125	0.00	
	N leach	Graz	0.484	1.000	ORG	1.00	1.000	0.712	0.0	0	0.0 Dairy	2						0.0	Graz	0.0	0.00	0.0200	0.00	

Year Year 1 Year 2 Year 3 Year 4 Year 5 Year 6 Year 7 Year 8 Year 9 Year 10 Total Total/year 1
Area with crop, ha 0.64 0.14 0.03 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.81 1.28 Note 50

Possible additional non IPCC N2O-N emissions Value
N residues emissions, ratio of N2O-N to N: 0.0000
Increased soil N emissions, kg N2O-N/ha: 0.00
Natural background emissions, kg N2O-N/ha: 1.00
Total IPCC and non IPCC N2O 5.31
Note 51
3.69 Note 51
3.69 Note 51
4.50 Note 51

N CHAIN STARTING WITH
AND CONTINUING WITH

N FERTILIZER
LIQUID CATTLE MANURE

TO PRODUCE
TO PRODUCE

WINTER WHEAT FOR BIOETHANOL AND
WINTER WHEAT FOR

CATTLE BEEF
CATTLE BEEF

Note 43
Note 43

Year

Fertilizer/manure
#

Store
1/0

Amounts
Store

Field
1/0

Or-
ganic
1/0

Nhorm
proportion,
%

Crop
#

Straw
used
1/0

Cereal
benefit
1/0

Fodder:
Uses #21-61
Fed

N crop
#71/
#72

Food
#8

Fuel/
bev
#9

Manure
handling
#

Final
N a-
mounts

N2O-N emission
IPCC 1996

N2O-N emission
IPCC 2006

Total
Each

Note 44
Note 44
Note 44
Note 44

Total Year 1-10	N NH3 N leach	RATIO OF N2O-N TO N IN FIRST CROP										TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED										TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										TOTAL N AMOUNTS IN KG AND % LEACHED										TOTAL N AMOUNTS IN KG AND %									
		ACCORDING TO										IPCC 2006										22.7										25.3										22.5									
		FIRST YEAR										0.0378										0.0276										53.0										52.5									
		TOTAL										0.0602										0.0441										101.0										100.0									

N2O-N/N in food/beverage/fuel/other

0.1704

0.1249

Note 46

Year 1	N	1	1	100.0	100.0	0	100	119	0	0	97.8	22	64.3	16.7	0.0	0.0	0.0	0.0	0.0	0.0	21	47.5	1.53	2.43	1.46	1.78	Note 47
	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WWHB	1.000	NO	33.5	Cattle	0.84								0.0 Cattle	3.8	0.06	0.0125	0.06	0.0100	Note 48
	N leach		1.022	1.000	ORG	1.00	1.000		0.343	0.0	33.5	Beef	2							21.4	Liquid	0.0	0.84	0.0010	0.25	0.0050	Note 49
Year 2	N	21	1	44.4	43.5	0	100	11	0	0	32.6	22	19.6	4.1	0.0	0.0	0.0	0.0	0.0	0.0	21	15.5	0.51	0.97	0.49	0.71	Note 47
	Vol/NH3	Cattle	YES	1.0	10.9	NON	100.00	WWH	1.000	NO	13.0	Cattle	0.67								0.0 Cattle	1.2	0.13	0.0125	0.13	0.0100	Note 48
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.400	0.0	13.0	Beef	2							7.1	Liquid	0.0	0.33	0.0010	0.10	0.0050	Note 49
Year 3	N	21	1	14.5	14.2	0	100	11	0	0	10.6	22	6.4	1.3	0.0	0.0	0.0	0.0	0.0	0.0	21	5.0	0.17	0.32	0.16	0.23	Note 47
	Vol/NH3	Cattle	YES	0.3	3.5	NON	100.00	WWH	1.000	NO	4.3	Cattle	0.67								0.0 Cattle	0.4	0.04	0.0125	0.04	0.0100	Note 48
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.400	0.0	4.3	Beef	2							2.3	Liquid	0.0	0.11	0.0010	0.03	0.0050	Note 49
Year 4	N	21	1	4.7	4.6	0	100	1	0	0	3.5	22	1.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	21	1.5	0.05	0.11	0.05	0.08	Note 47
	Vol/NH3	Cattle	YES	0.1	1.2	NON	100.00	SBA	1.000	NO	1.5	Cattle	0.65								0.0 Cattle	0.1	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.443	0.0	1.5	Beef	2							0.7	Liquid	0.0	0.04	0.0010	0.01	0.0050	Note 49
Year 5	N	21	1	1.4	1.4	0	100	10	0	0	1.1	22	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	21	0.5	0.02	0.03	0.02	0.02	Note 47
	Vol/NH3	Cattle	YES	0.0	0.4	NON	100.00	WBA	1.000	NO	0.5	Cattle	0.66								0.0 Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.444	0.0	0.5	Beef	2							0.2	Liquid	0.0	0.01	0.0010	0.00	0.0050	Note 49
Year 6	N	21	1	0.4	0.4	0	100	119	0	0	0.3	22	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	21	0.1	0.01	0.01	0.00	0.0050	Note 47
	Vol/NH3	Cattle	YES	0.0	0.1	NON	100.00	WWHB	1.000	NO	0.1	Cattle	0.84								0.0 Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.400	0.0	0.1	Beef	2							0.1	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year 7	N	21	1	0.1	0.1	0	100	11	0	0	0.1	22	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67								0.0 Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.400	0.0	0.0	Beef	2							0.1	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year 8	N	21	1	0.0	0.0	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67								0.0 Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.400	0.0	0.0	Beef	2							0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year 9	N	21	1	0.0	0.0	0	100	1	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	0.65								0.0 Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.443	0.0	0.0	Beef	2							0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year 10	N	21	1	0.0	0.0	0	100	10	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WBA	1.000	NO	0.0	Cattle	0.66								0.0 Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.444	0.0	0.0	Beef	2							0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49

Year

Area with crop, ha

Year 1

Year 2

Year 3

Year 4

Year 5

Year 6

Year 7

Year 8

Year 9

Year 10

Total

Total/year 1

Note 50

Possible additional non IPCC N2O-N emissions

N residues emissions, ratio of N2O-N to N:

Increased soil N emissions, kg N2O-N/ha:

Natural background emissions, kg N2O-N/ha:

Value

0.0000

0.00

1.00

Kind of source

Total IPCC and non IPCC N2O

3.87

3.87

4.89

Note 51

2.83

2.83

3.85

Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE TO PRODUCE
AND CONTINUING WITH SEPARATED CATTLE MANURE

WINTER WHEAT FOR BIOETHANOL AND
WINTER WHEAT FOR

CATTLE BEEF
CATTLE BEEF

Year Fertilizer/manure # Store Amounts Field Name 1/0 Store 1/0 Or-ganic 1/0 Nnorm propor tion, % Crop # use & leach Straw used 1/0 Cereal benefit 1/0 N crop #71/ #72 Food Fed Fodder: Uses #21-61 Fuel/ other #9 Manure handling N a- # Name mounts Final N2O-N emission IPCC 2006 N2O-N emission IPCC 1996 Total Each Total

Total N	RATIO OF N2O-N TO N IN FIRST CROP										TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED										21.8	21.6
Year N NH3	ACCORDING TO IPCC 1996										TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										25.9	25.6
1-10 N leach	FIRST YEAR										TOTAL N AMOUNTS IN KG AND % LEACHED										53.3	52.8
	TOTAL										TOTAL N AMOUNTS IN KG AND %										101.0	100.0

N2O-N/N in food/beverage/fuel/other 0.2028 0.1277 Note 46

Year 1	N	1	100.0	100.0	0	100	119	0	0	97.8	22	64.3	16.7	0.0	0.0	0.0	0.0	0.0	0.0	22	47.5	1.96	2.85	1.47	1.77	Note 47	
	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WWHB	1.000	NO	33.5	Cattle	0.84							0.0	Cattle	2.4	0.05	0.0125	0.05	0.0100	Note 48
	N leach		1.022	1.000	ORG	1.00	1.000		0.343	0.0	33.5	Beef	2						21.4	Sep	0.0	0.84	0.0105	0.25	0.0050	Note 49	
Year 2	N	22	1	45.9	42.0	0	100	11	0	0	31.5	22	17.5	3.6	0.0	0.0	0.0	0.0	0.0	22	13.9	0.62	1.12	0.47	0.72	Note 47	
	Vol/NH3	Cattle	YES	3.9	10.5	NON	100.00	WWH	1.000	NO	14.0	Cattle	0.67							0.0	Cattle	0.7	0.15	0.0125	0.15	0.0100	Note 48
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.443	0.0	14.0	Beef	2						6.9	Sep	0.0	0.35	0.0105	0.10	0.0050	Note 49	
Year 3	N	22	1	13.4	12.3	0	100	11	0	0	9.2	22	5.1	1.1	0.0	0.0	0.0	0.0	0.0	22	4.1	0.18	0.33	0.14	0.21	Note 47	
	Vol/NH3	Cattle	YES	1.1	3.1	NON	100.00	WWH	1.000	NO	4.1	Cattle	0.67							0.0	Cattle	0.2	0.04	0.0125	0.04	0.0100	Note 48
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.443	0.0	4.1	Beef	2						2.0	Sep	0.0	0.10	0.0105	0.03	0.0050	Note 49	
Year 4	N	22	1	3.9	3.6	0	100	1	0	0	2.7	22	1.4	0.3	0.0	0.0	0.0	0.0	0.0	22	1.1	0.05	0.10	0.04	0.06	Note 47	
	Vol/NH3	Cattle	YES	0.3	0.9	NON	100.00	SBA	1.000	NO	1.3	Cattle	0.65							0.0	Cattle	0.1	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.483	0.0	1.3	Beef	2						0.5	Sep	0.0	0.03	0.0105	0.01	0.0050	Note 49	
Year 5	N	22	1	1.1	1.0	0	100	10	0	0	0.7	22	0.4	0.1	0.0	0.0	0.0	0.0	0.0	22	0.3	0.01	0.03	0.01	0.02	Note 47	
	Vol/NH3	Cattle	YES	0.1	0.2	NON	100.00	WBA	1.000	NO	0.4	Cattle	0.66							0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.483	0.0	0.4	Beef	2						0.1	Sep	0.0	0.01	0.0105	0.00	0.0050	Note 49	
Year 6	N	22	1	0.3	0.3	0	100	119	0	0	0.2	22	0.1	0.0	0.0	0.0	0.0	0.0	0.0	22	0.1	0.00	0.01	0.00	0.00	Note 47	
	Vol/NH3	Cattle	YES	0.0	0.1	NON	100.00	WWHB	1.000	NO	0.1	Cattle	0.84							0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.443	0.0	0.1	Beef	2						0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49	
Year 7	N	22	1	0.1	0.1	0	100	11	0	0	0.1	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22	0.0	0.00	0.00	0.00	0.00	Note 47	
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67							0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.443	0.0	0.0	Beef	2						0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49	
Year 8	N	22	1	0.0	0.0	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22	0.0	0.00	0.00	0.00	0.00	Note 47	
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67							0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.443	0.0	0.0	Beef	2						0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49	
Year 9	N	22	1	0.0	0.0	0	100	1	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22	0.0	0.00	0.00	0.00	0.00	Note 47	
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	0.65							0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.483	0.0	0.0	Beef	2						0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49	
Year 10	N	22	1	0.0	0.0	0	100	10	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22	0.0	0.00	0.00	0.00	0.00	Note 47	
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WBA	1.000	NO	0.0	Cattle	0.66							0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016	ORG	1.00	1.000		0.483	0.0	0.0	Beef	2						0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49	

Year Year 1 Year 2 Year 3 Year 4 Year 5 Year 6 Year 7 Year 8 Year 9 Year 10 Total Total/year 1

Area with crop, ha 0.64 0.23 0.07 0.03 0.01 0.00 0.00 0.00 0.00 0.00 0.96 1.51 Note 50

Possible additional non IPCC N2O-N emissions Value
N residues emissions, ratio of N2O-N to N: 0.0000
Increased soil N emissions, kg N2O-N/ha: 0.00
Natural background emissions, kg N2O-N/ha: 1.00

Kind of source
Total IPCC and non IPCC N2O 4.43
Current crops 2.79 Note 51
Total anthropogenic 4.43
Total including natural 5.39 3.75 Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE TO PRODUCE
AND CONTINUING WITH MANURE FROM GRAZING CATTLE

WINTER WHEAT FOR BIOETHANOL AND
WINTER WHEAT FOR

CATTLE BEEF
CATTLE BEEF

Year Fertilizer/manure # Store Amounts Field Name 1/0 Store 1/0 Or-ganic 1/0 Nnorm propor tion, % Crop # N crop Food/ #71/ #72 Fuel/ other #9 Manure Final handling N a- # Name mounts Each Total N2O-N emission IPCC 2006

Total N	RATIO OF N2O-N TO N IN FIRST CROP										TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED									
	ACCORDING TO										TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3									
	FIRST YEAR										TOTAL N AMOUNTS IN KG AND % LEACHED									
	TOTAL										TOTAL N AMOUNTS IN KG AND %									

N2O-N/N in food/beverage/fuel/other 0.2688 0.1871 Note 46

Year 1	N	1	1	100.0	100.0	0	100	119	0	0	97.8	22	64.3	16.7	0.0	0.0	0.0	0.0	24	47.5	2.44	3.30	2.20	2.47
	Vol/NH3 N leach	YES	1.022	0.0	0.0	2.2	NON	100.00	WWHB	1.000	NO	33.5	Cattle	0.84				0.0	0.0	0.0	0.02	0.0125	0.02	0.0100
Year 2	N	24	1	47.5	47.5	0	100	11	0	0	44.2	22	13.7	2.9	0.0	0.0	0.0	0.0	24	10.9	0.89	1.69	0.78	1.04
	Vol/NH3 N leach	Cattle	YES	0.0	0.0	3.3	NON	100.00	WWH	1.000	NO	30.5	Cattle	0.67					0.0	0.0	0.03	0.0125	0.03	0.0100
Year 3	N	24	1	10.9	10.9	0	100	11	0	0	10.1	22	3.2	0.7	0.0	0.0	0.0	0.0	24	2.5	0.20	0.39	0.18	0.24
	Vol/NH3 N leach	Cattle	YES	0.0	0.0	0.8	NON	100.00	WWH	1.000	NO	7.0	Cattle	0.67					0.0	0.0	0.01	0.0125	0.01	0.0100
Year 4	N	24	1	2.5	2.5	0	100	1	0	0	2.3	22	0.7	0.1	0.0	0.0	0.0	0.0	24	0.5	0.05	0.09	0.04	0.05
	Vol/NH3 N leach	Cattle	YES	0.0	0.0	0.2	NON	100.00	SBA	1.000	NO	1.7	Cattle	0.65					0.0	0.0	0.00	0.0125	0.00	0.0100
Year 5	N	24	1	0.5	0.5	0	100	10	0	0	0.5	22	0.1	0.0	0.0	0.0	0.0	0.0	24	0.1	0.01	0.02	0.01	0.01
	Vol/NH3 N leach	Cattle	YES	0.0	0.0	0.0	NON	100.00	WBA	1.000	NO	0.4	Cattle	0.66					0.0	0.0	0.00	0.0125	0.00	0.0100
Year 6	N	24	1	0.1	0.1	0	100	119	0	0	0.1	22	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00
	Vol/NH3 N leach	Cattle	YES	0.0	0.0	0.0	NON	100.00	WWHB	1.000	NO	0.1	Cattle	0.84					0.0	0.0	0.00	0.0125	0.00	0.0100
Year 7	N	24	1	0.0	0.0	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00
	Vol/NH3 N leach	Cattle	YES	0.0	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67					0.0	0.0	0.00	0.0125	0.00	0.0100
Year 8	N	24	1	0.0	0.0	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00
	Vol/NH3 N leach	Cattle	YES	0.0	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67					0.0	0.0	0.00	0.0125	0.00	0.0100
Year 9	N	24	1	0.0	0.0	0	100	1	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00
	Vol/NH3 N leach	Cattle	YES	0.0	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	0.65					0.0	0.0	0.00	0.0125	0.00	0.0100
Year 10	N	24	1	0.0	0.0	0	100	10	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00
	Vol/NH3 N leach	Cattle	YES	0.0	0.0	0.0	NON	100.00	WBA	1.000	NO	0.0	Cattle	0.66					0.0	0.0	0.00	0.0125	0.00	0.0100
	N leach	Graz	0.484	1.000		ORG		1.00	1.000	0.712	0.0	0.0	2	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0200	

Year Area with crop, ha 0.64 0.14 0.03 0.01 0.00 0.00 0.00 0.00 0.82 1.30 Note 50

Possible additional non IPCC N2O-N emissions Value
N residues emissions, ratio of N2O-N to N: 0.0000
Increased soil N emissions, kg N2O-N/ha: 0.00
Natural background emissions, kg N2O-N/ha: 1.00

Kind of source
Current crops
Total anthropogenic
Total including natural

Total IPCC and non IPCC N2O
5.49
5.49
6.31

Note 51
3.82 Note 51
3.82 Note 51
4.64 Note 51

N CHAIN STARTING WITH
AND CONTINUING WITH

N FERTILIZER
LIQUID POULTRY MANURE

TO PRODUCE
TO PRODUCE

WINTER WHEAT FOR BIOETHANOL AND
WINTER WHEAT FOR

POULTRY MEAT
POULTRY MEAT

Year

Fertilizer/manure
#

Store
1/0

Amounts
Store

Field
1/0

Or-
ganic
1/0

Nhorm
proportion,
%

Crop
#

Straw
used
1/0

Crop
leach

Use
#

Fodder:
Uses #21-61
Fed

N crop
#71/
Food

Fuel/
bev
#8

other
#9

Manure
handling
#

Final
N a-
mounts

N2O-N emission
IPCC 1996

N2O-N emission
IPCC 2006

Total
Each

Total
Each

Note 43
Note 43

Note 44
Note 44

Note 44
Note 44

Note 45
Note 45

Total N	RATIO OF N2O-N TO N IN FIRST CROP										TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED										40.0	40.0
Year N NH3	ACCORDING TO										TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										15.2	15.2
1-10 N leach	FIRST YEAR										TOTAL N AMOUNTS IN KG AND % LEACHED										44.8	44.8
	TOTAL										TOTAL N AMOUNTS IN KG AND %										100.0	100.0

N2O-N/N in food/beverage/fuel/other

0.0796

0.0558

Note 46

Year 1	N	Vol/NH3	N	1	YES	1.022	1.000	0.0	100	119	0	0	0	97.8	42	64.3	32.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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Year

Year 1

Year 2

Year 3

Year 4

Year 5

Year 6

Year 7

Year 8

Year 9

Year 10

Total

Total/year 1

Area with crop, ha

0.64

0.15

0.03

0.01

0.00

0.00

0.00

0.00

0.00

0.00

0.82

1.29

Note 50

Possible additional non IPCC N2O-N emissions

N residues emissions, ratio of N2O-N to N:

Increased soil N emissions, kg N2O-N/ha:

Natural background emissions, kg N2O-N/ha:

Value

0.0000

0.00

1.00

Kind of source

Total IPCC and non IPCC N2O

3.18

3.18

4.00

Note 51

2.23

2.23

3.05

Note 51

N CHAIN STARTING WITH N FERTILIZER N CHAIN STARTING WITH N FERTILIZER
AND CONTINUING WITH SEPARATED POULTRY MANURE TO PRODUCE TO PRODUCE
POULTRY MEAT POULTRY MEAT

Year Fertilizer/manure # Store Amounts Name 1/0 Store Field 1/0 Or-ganic 1/0 Nnorm Crop # N crop Food/ Fuel/ other #71/ bevs #72 #8 #9 Manure Final N2O-N emission IPCC 1996 IPCC 2006 N2O-N emission
IPCC 1996 IPCC 2006

RATIO OF N2O-N TO N IN FIRST CROP										TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED									
ACCORDING TO										TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3									
FIRST YEAR										TOTAL N AMOUNTS IN KG AND % LEACHED									
TOTAL										TOTAL N AMOUNTS IN KG AND %									
Total N										37.7	37.7								
Year N NH3										21.1	21.1								
1-10 N leach										41.2	41.2								

N2O-N/N in food/beverage/fuel/other

Year 1	N	Vol/NH3	N	1	100.0	100.0	0	100	119	0	0	97.8	42	64.3	32.8	0.0	0.0	0.0	0.0	31.5	1.74	2.68	1.36	1.72
				YES	0.0	2.2	NON	100.00	WWHB	1.000	NO	33.5	Poultry	0.84					0.0	7.9	0.10	0.0125	0.10	0.0100
		N leach		1.022	1.000	ORG	1.00	1.000		0.343	0.0	33.5	Meat	4				21.4	Sep	0.0	0.84	0.0105	0.25	0.0050
Year 2	N	Vol/NH3	42	1	23.6	20.1	0	100	11	0	0	15.1	42	8.4	4.3	0.0	0.0	0.0	0.0	4.1	0.26	0.52	0.21	0.35
				Poultry YES	3.5	5.0	NON	100.00	WWH	1.000	NO	6.7	Poultry	0.67					0.0	1.0	0.10	0.0125	0.10	0.0100
		N leach	Sep	0.867	1.000	ORG	1.00	1.000		0.443	0.0	6.7	Meat	4				3.3	Sep	0.0	0.17	0.0105	0.05	0.0050
Year 3	N	Vol/NH3	42	1	3.1	2.6	0	100	11	0	0	2.0	42	1.1	0.6	0.0	0.0	0.0	0.0	0.5	0.03	0.07	0.03	0.05
				Poultry YES	0.5	0.7	NON	100.00	WWH	1.000	NO	0.9	Poultry	0.67					0.0	0.1	0.01	0.0125	0.01	0.0100
		N leach	Sep	0.867	1.000	ORG	1.00	1.000		0.443	0.0	0.9	Meat	4				0.4	Sep	0.0	0.02	0.0105	0.01	0.0050
Year 4	N	Vol/NH3	42	1	0.4	0.3	0	100	1	0	0	0.3	42	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.00	0.01	0.00	0.01
				Poultry YES	0.1	0.1	NON	100.00	SBA	1.000	NO	0.1	Poultry	0.65				0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
		N leach	Sep	0.867	1.000	ORG	1.00	1.000		0.483	0.0	0.1	Meat	4				0.1	Sep	0.0	0.00	0.0105	0.00	0.0050
Year 5	N	Vol/NH3	42	1	0.0	0.0	0	100	10	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
				Poultry YES	0.0	0.0	NON	100.00	WBA	1.000	NO	0.0	Poultry	0.66					0.0	0.0	0.00	0.0125	0.00	0.0100
		N leach	Sep	0.867	1.000	ORG	1.00	1.000		0.483	0.0	0.0	Meat	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050
Year 6	N	Vol/NH3	42	1	0.0	0.0	0	100	119	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
				Poultry YES	0.0	0.0	NON	100.00	WWHB	1.000	NO	0.0	Poultry	0.84				0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
		N leach	Sep	0.867	1.000	ORG	1.00	1.000		0.443	0.0	0.0	Meat	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050
Year 7	N	Vol/NH3	42	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
				Poultry YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
		N leach	Sep	0.867	1.000	ORG	1.00	1.000		0.443	0.0	0.0	Meat	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050
Year 8	N	Vol/NH3	42	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
				Poultry YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
		N leach	Sep	0.867	1.000	ORG	1.00	1.000		0.443	0.0	0.0	Meat	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050
Year 9	N	Vol/NH3	42	1	0.0	0.0	0	100	1	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
				Poultry YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65				0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
		N leach	Sep	0.867	1.000	ORG	1.00	1.000		0.483	0.0	0.0	Meat	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050
Year 10	N	Vol/NH3	42	1	0.0	0.0	0	100	10	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
				Poultry YES	0.0	0.0	NON	100.00	WBA	1.000	NO	0.0	Poultry	0.66				0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
		N leach	Sep	0.867	1.000	ORG	1.00	1.000		0.483	0.0	0.0	Meat	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050

Year Year 1 Year 2 Year 3 Year 4 Year 5 Year 6 Year 7 Year 8 Year 9 Year 10 Total Total/year 1

Area with crop, ha 0.64 0.11 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.76 1.20 Note 50

Possible additional non IPCC N2O-N emissions Value
N residues emissions, ratio of N2O-N to N: 0.0000
Increased soil N emissions, kg N2O-N/ha: 0.00
Natural background emissions, kg N2O-N/ha: 1.00
Kind of source
Total IPCC and non IPCC N2O
3.28
2.12 Note 51
3.28
2.12 Note 51
4.04
2.88 Note 51

N CHAIN STARTING WITH
AND CONTINUING WITH

N FERTILIZER
POULTRY DEEP LITTER

TO PRODUCE
TO PRODUCE

WINTER WHEAT FOR BIOETHANOL AND
WINTER WHEAT FOR

POULTRY MEAT
POULTRY MEAT

Note 43
Note 43

Year

Fertilizer/manure
#

Store
1/0

Amounts
Store

Field
1/0

Or-
ganic
1/0

Nnorm
proportion, %

Crop
#

Crop
use &
leach

Straw
used
1/0

Cereal
benefit
1/0

Fodder:
Uses #21-61

Food
Fed

N crop
#71/
#72

Food/
bev
#8

Fuel/
other
#9

Manure
handling
#

Final
N a-
mounts

N2O-N emission
IPCC 1996

N2O-N emission
Each

Total

Note 44
Note 44
Note 44
Note 44

Total Year 1-10	N NH3 N leach	RATIO OF N2O-N TO N IN FIRST CROP										TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED										2.09		3.36		1.51		2.06		Note 45	
		ACCORDING TO										TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										0.24		0.24		0.24		Note 45			
		FIRST YEAR										TOTAL N AMOUNTS IN KG AND % LEACHED										1.03		1.03		0.31		Note 45			
		TOTAL										TOTAL N AMOUNTS IN KG AND %																Note 45			

N2O-N/N in food/beverage/fuel/other

0.0953

0.0583

Note 46

Year 1	N	1	1	100.0	100.0	0	100	119	0	0	97.8	42	64.3	32.8	0.0	0.0	0.0	0.0	31.5	1.87	2.85	1.34	1.74	Note 47
	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WWHB	1.000	NO	33.5	Poultry	0.84						12.6	0.15	0.0125	0.15	0.0100	Note 48
	N leach		1.022	1.000	ORG	1.00	1.000		0.343	0.0	33.5	Meat	4						21.4	0.84	0.0200	0.25	0.0050	Note 49
Year 2	N	43	1	19.1	15.8	0	100	11	0	0	11.8	42	4.6	2.3	0.0	0.0	0.0	0.0	2.2	0.21	0.47	0.16	0.29	Note 47
	Vol/NH3	Poultry	YES	3.3	3.9	NON	100.00	WWH	1.000	NO	7.3	Poultry	0.67						0.9	0.08	0.0125	0.08	0.0100	Note 48
	N leach	Deep	0.600	1.013	ORG	1.00	1.000		0.614	0.0	7.3	Meat	4						0.0	0.18	0.0200	0.05	0.0050	Note 49
Year 3	N	43	1	1.4	1.1	0	100	11	0	0	0.8	42	0.3	0.2	0.0	0.0	0.0	0.0	0.2	0.01	0.03	0.01	0.02	Note 47
	Vol/NH3	Poultry	YES	0.2	0.3	NON	100.00	WWH	1.000	NO	0.5	Poultry	0.67						0.1	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Deep	0.600	1.013	ORG	1.00	1.000		0.614	0.0	0.5	Meat	4						0.0	0.01	0.0200	0.00	0.0050	Note 49
Year 4	N	43	1	0.1	0.1	0	100	1	0	0	0.1	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013	ORG	1.00	1.000		0.642	0.0	0.0	Meat	4						0.0	0.00	0.0200	0.00	0.0050	Note 49
Year 5	N	43	1	0.0	0.0	0	100	10	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WBA	1.000	NO	0.0	Poultry	0.66						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013	ORG	1.00	1.000		0.642	0.0	0.0	Meat	4						0.0	0.00	0.0200	0.00	0.0050	Note 49
Year 6	N	43	1	0.0	0.0	0	100	119	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWHB	1.000	NO	0.0	Poultry	0.84						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013	ORG	1.00	1.000		0.614	0.0	0.0	Meat	4						0.0	0.00	0.0200	0.00	0.0050	Note 49
Year 7	N	43	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013	ORG	1.00	1.000		0.614	0.0	0.0	Meat	4						0.0	0.00	0.0200	0.00	0.0050	Note 49
Year 8	N	43	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013	ORG	1.00	1.000		0.614	0.0	0.0	Meat	4						0.0	0.00	0.0200	0.00	0.0050	Note 49
Year 9	N	43	1	0.0	0.0	0	100	1	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013	ORG	1.00	1.000		0.642	0.0	0.0	Meat	4						0.0	0.00	0.0200	0.00	0.0050	Note 49
Year 10	N	43	1	0.0	0.0	0	100	10	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WBA	1.000	NO	0.0	Poultry	0.66						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013	ORG	1.00	1.000		0.642	0.0	0.0	Meat	4						0.0	0.00	0.0200	0.00	0.0050	Note 49

Year

Year 1

Year 2

Year 3

Year 4

Year 5

Year 6

Year 7

Year 8

Year 9

Year 10

Total

Total/year 1

Area with crop, ha

0.64

0.06

0.00

0.00

0.00

0.00

0.00

0.00

0.00

0.00

0.70

1.10

Note 50

Possible additional non IPCC N2O-N emissions

N residues emissions, ratio of N2O-N to N:

Increased soil N emissions, kg N2O-N/ha:

Natural background emissions, kg N2O-N/ha:

Value

0.0000

0.00

1.00

Kind of source

Total IPCC and non IPCC N2O

3.36

3.36

4.06

Note 51

2.06

2.06

2.76

Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE TO PRODUCE
AND CONTINUING WITH SEPARATED POULTRY MANURE TO PRODUCE

WINTER WHEAT FOR BIOETHANOL AND
WINTER WHEAT FOR

POULTRY EGGS
POULTRY EGGS

Year Fertilizer/manure # Store Amounts Name 1/0 Store Field 1/0 Or-ganic 1/0 Nnorm propor tion, % Crop # N crop Food/ bev #71/ #72 Fuel/ other #9 Manure Final handling N a- # Name mounts N2O-N emission IPCC 1996 IPCC 2006

Total N	RATIO OF N2O-N TO N IN FIRST CROP										TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED										19.4	19.4
Year N NH3	ACCORDING TO IPCC 1996 IPCC 2006										TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										34.1	34.1
1-10 N leach	FIRST YEAR 0.0444 0.0284										TOTAL N AMOUNTS IN KG AND % LEACHED										46.5	46.5
	TOTAL 0.0610 0.0395										TOTAL N AMOUNTS IN KG AND %										100.0	100.0

N2O-N/N in food/beverage/fuel/other 0.2020 0.1307 Note 46

Year 1	N	Vol/NH3	N	1	100.0	100.0	0	100	119	0	0	97.8	43	64.3	15.5	0.0	0.0	0.0	0.0	42	48.8	1.87	2.86	1.43	1.82
	N leach			YES	0.0	2.2	NON	100.00	WWHB	1.000	NO	33.5	Poultry	0.84					0.0	Poultry	12.2	0.14	0.0125	0.14	
				1.022	1.000	ORG	1.00	1.000		0.343	0.0	33.5	Eggs	4					21.4	Sep	0.0	0.84	0.0105	0.25	
Year 2	N	Vol/NH3	N	42	1	36.6	0	100	11	31.1	0	23.3	43	13.0	3.1	0.0	0.0	0.0	0.0	42	9.9	0.43	0.85	0.33	
	N leach			Poultry YES	5.5	7.8	NON	100.00	WWH	1.000	NO	10.3	Poultry	0.67					0.0	Poultry	2.5	0.16	0.0125	0.16	
				Sep	0.867	1.000	ORG	1.00	1.000	0.443	0.0	10.3	Eggs	4					5.1	Sep	0.0	0.26	0.0105	0.08	
Year 3	N	Vol/NH3	N	42	1	7.4	0	100	11	6.3	0	4.7	43	2.6	0.6	0.0	0.0	0.0	0.0	42	2.0	0.09	0.17	0.07	
	N leach			Poultry YES	1.1	1.6	NON	100.00	WWH	1.000	NO	2.1	Poultry	0.67					0.0	Poultry	0.5	0.03	0.0125	0.03	
				Sep	0.867	1.000	ORG	1.00	1.000	0.443	0.0	2.1	Eggs	4					1.0	Sep	0.0	0.05	0.0105	0.02	
Year 4	N	Vol/NH3	N	42	1	1.5	0	100	1	1.3	0	1.0	43	0.5	0.1	0.0	0.0	0.0	0.0	42	0.4	0.02	0.04	0.01	
	N leach			Poultry YES	0.2	0.3	NON	100.00	SBA	1.000	NO	0.5	Poultry	0.65					0.0	Poultry	0.1	0.01	0.0125	0.01	
				Sep	0.867	1.000	ORG	1.00	1.000	0.483	0.0	0.5	Eggs	4					0.2	Sep	0.0	0.01	0.0105	0.00	
Year 5	N	Vol/NH3	N	42	1	0.3	0	100	10	0.2	0	0.2	43	0.1	0.0	0.0	0.0	0.0	0.0	42	0.1	0.00	0.01	0.00	
	N leach			Poultry YES	0.0	0.1	NON	100.00	WBA	1.000	NO	0.1	Poultry	0.66					0.0	Poultry	0.0	0.00	0.0125	0.00	
				Sep	0.867	1.000	ORG	1.00	1.000	0.483	0.0	0.1	Eggs	4					0.0	Sep	0.0	0.00	0.0105	0.00	
Year 6	N	Vol/NH3	N	42	1	0.1	0	100	119	0.0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	
	N leach			Poultry YES	0.0	0.0	NON	100.00	WWHB	1.000	NO	0.0	Poultry	0.84					0.0	Poultry	0.0	0.00	0.0125	0.00	
				Sep	0.867	1.000	ORG	1.00	1.000	0.443	0.0	0.0	Eggs	4					0.0	Sep	0.0	0.00	0.0105	0.00	
Year 7	N	Vol/NH3	N	42	1	0.0	0	100	11	0.0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	
	N leach			Poultry YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67					0.0	Poultry	0.0	0.00	0.0125	0.00	
				Sep	0.867	1.000	ORG	1.00	1.000	0.443	0.0	0.0	Eggs	4					0.0	Sep	0.0	0.00	0.0105	0.00	
Year 8	N	Vol/NH3	N	42	1	0.0	0	100	11	0.0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	
	N leach			Poultry YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67					0.0	Poultry	0.0	0.00	0.0125	0.00	
				Sep	0.867	1.000	ORG	1.00	1.000	0.443	0.0	0.0	Eggs	4					0.0	Sep	0.0	0.00	0.0105	0.00	
Year 9	N	Vol/NH3	N	42	1	0.0	0	100	1	0.0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	
	N leach			Poultry YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65					0.0	Poultry	0.0	0.00	0.0125	0.00	
				Sep	0.867	1.000	ORG	1.00	1.000	0.483	0.0	0.0	Eggs	4					0.0	Sep	0.0	0.00	0.0105	0.00	
Year 10	N	Vol/NH3	N	42	1	0.0	0	100	10	0.0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	
	N leach			Poultry YES	0.0	0.0	NON	100.00	WBA	1.000	NO	0.0	Poultry	0.66					0.0	Poultry	0.0	0.00	0.0125	0.00	
				Sep	0.867	1.000	ORG	1.00	1.000	0.483	0.0	0.0	Eggs	4					0.0	Sep	0.0	0.00	0.0105	0.00	

Year Year 1 Year 2 Year 3 Year 4 Year 5 Year 6 Year 7 Year 8 Year 9 Year 10 Total Total/year 1

Area with crop, ha 0.64 0.17 0.03 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.85 1.33 Note 50

Possible additional non IPCC N2O-N emissions Value
N residues emissions, ratio of N2O-N to N: 0.0000
Increased soil N emissions, kg N2O-N/ha: 0.00
Natural background emissions, kg N2O-N/ha: 1.00

Kind of source
Total IPCC and non IPCC N2O 3.92
Current crops 2.54
Total anthropogenic 3.92
Total including natural 4.77
Note 51

N CHAIN STARTING WITH
AND CONTINUING WITH

N FERTILIZER
MANURE FROM SCRAPING POULTRY

TO PRODUCE
TO PRODUCE

WINTER WHEAT FOR BIOETHANOL AND
WINTER WHEAT FOR

POULTRY EGGS
POULTRY EGGS

Note 43
Note 43

Year

Fertilizer/manure
#

Store
1/0

Amounts
Store

Field
1/0

Or-
ganic
1/0

Nnorm
proportion, %

Crop
#

Straw
used
1/0

Crop
leach

Use
#

Fodder:
Uses #21-61
Fed

N crop
#71/
Food

Food/
bev
#8

Fuel/
other
#9

Manure
handling
#

Final
N a-
mounts

N2O-N emission
IPCC 1996

N2O-N emission
Each

Total

Note 44
Note 44
Note 44
Note 44

Total Year 1-10	N NH3 N leach	RATIO OF N2O-N TO N IN FIRST CROP										TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED										TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										TOTAL N AMOUNTS IN KG AND % LEACHED										TOTAL N AMOUNTS IN KG AND 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N2O-N/N in food/beverage/fuel/other

0.1942

Note 46

Year 1	N	1	1	100.0	100.0	0	100	119	0	0	97.8	43	64.3	15.5	0.0	0.0	0.0	0.0	44	48.8	2.47	3.33	2.22	2.49
	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WWHB	1.000	NO	33.5	Poultry	0.84						0.0 Poultry	0.0	0.02	0.0125	0.02	0.0100
	N leach		1.022	1.000	ORG	1.00	1.000		0.343	0.0	33.5	Eggs	4					21.4	Scrap	0.0	0.84	0.0200	0.25	0.0200
Year 2	N	44	1	48.8	48.8	0	100	11	0	0	45.4	43	14.1	3.4	0.0	0.0	0.0	0.0	44	10.7	0.91	1.72	0.79	1.06
	Vol/NH3	Poultry	YES	0.0	3.4	NON	100.00	WWH	1.000	NO	31.3	Poultry	0.67						0.0 Poultry	0.0	0.03	0.0125	0.03	0.0100
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000		0.689	0.0	31.3	Eggs	4					9.9	Scrap	0.0	0.78	0.0200	0.23	0.0200
Year 3	N	44	1	10.7	10.7	0	100	11	0	0	10.0	43	3.1	0.7	0.0	0.0	0.0	0.0	44	2.4	0.20	0.38	0.17	0.23
	Vol/NH3	Poultry	YES	0.0	0.7	NON	100.00	WWH	1.000	NO	6.9	Poultry	0.67						0.0 Poultry	0.0	0.01	0.0125	0.01	0.0100
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000		0.689	0.0	6.9	Eggs	4					2.2	Scrap	0.0	0.17	0.0200	0.05	0.0200
Year 4	N	44	1	2.4	2.4	0	100	1	0	0	2.2	43	0.6	0.2	0.0	0.0	0.0	0.0	44	0.5	0.04	0.08	0.04	0.05
	Vol/NH3	Poultry	YES	0.0	0.2	NON	100.00	SBA	1.000	NO	1.6	Poultry	0.65						0.0 Poultry	0.0	0.00	0.0125	0.00	0.0100
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000		0.711	0.0	1.6	Eggs	4					0.4	Scrap	0.0	0.04	0.0200	0.01	0.0200
Year 5	N	44	1	0.5	0.5	0	100	10	0	0	0.4	43	0.1	0.0	0.0	0.0	0.0	0.0	44	0.1	0.01	0.02	0.01	0.01
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WBA	1.000	NO	0.3	Poultry	0.66						0.0 Poultry	0.0	0.00	0.0125	0.00	0.0100
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000		0.712	0.0	0.3	Eggs	4					0.1	Scrap	0.0	0.01	0.0200	0.00	0.0200
Year 6	N	44	1	0.1	0.1	0	100	119	0	0	0.1	43	0.0	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWHB	1.000	NO	0.1	Poultry	0.84						0.0 Poultry	0.0	0.00	0.0125	0.00	0.0100
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000		0.689	0.0	0.1	Eggs	4					0.0	Scrap	0.0	0.00	0.0200	0.00	0.0200
Year 7	N	44	1	0.0	0.0	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67						0.0 Poultry	0.0	0.00	0.0125	0.00	0.0100
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000		0.689	0.0	0.0	Eggs	4					0.0	Scrap	0.0	0.00	0.0200	0.00	0.0200
Year 8	N	44	1	0.0	0.0	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67						0.0 Poultry	0.0	0.00	0.0125	0.00	0.0100
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000		0.689	0.0	0.0	Eggs	4					0.0	Scrap	0.0	0.00	0.0200	0.00	0.0200
Year 9	N	44	1	0.0	0.0	0	100	1	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65						0.0 Poultry	0.0	0.00	0.0125	0.00	0.0100
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000		0.711	0.0	0.0	Eggs	4					0.0	Scrap	0.0	0.00	0.0200	0.00	0.0200
Year 10	N	44	1	0.0	0.0	0	100	10	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WBA	1.000	NO	0.0	Poultry	0.66						0.0 Poultry	0.0	0.00	0.0125	0.00	0.0100
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000		0.712	0.0	0.0	Eggs	4					0.0	Scrap	0.0	0.00	0.0200	0.00	0.0200

Year

Year 1

Year 2

Year 3

Year 4

Year 5

Year 6

Year 7

Year 8

Year 9

Year 10

Total

Total/year 1

Area with crop, ha

0.64

0.15

0.03

0.01

0.00

0.00

0.00

0.00

0.00

0.00

0.83

1.30

Note 50

Possible additional non IPCC N2O-N emissions

N residues emissions, ratio of N2O-N to N:

Increased soil N emissions, kg N2O-N/ha:

Natural background emissions, kg N2O-N/ha:

Value

0.0000

0.00

1.00

Kind of source

Total IPCC and non IPCC N2O

5.53

5.53

6.36

Note 51

3.85

3.85

4.68

Note 51

Note 51

Note 51

Note 51

N CHAIN STARTING WITH N FERTILIZER AND CONTINUING WITH SHEEP DEEP LITTER

TO PRODUCE TO PRODUCE

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR SHEEP MILK/MUTTON

Year Fertilizer/manure # Store Amounts Name 1/0 Store Field 1/0 Or-ganic 1/0 Nnorm propor tion, % Crop # N crop Food/ #71/ #72 Fuel/ other #9 Manure Final handling N a- IPCC 1996 N2O-N emission N2O-N emission IPCC 2006

Total N	RATIO OF N2O-N TO N IN FIRST CROP										TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED										TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										TOTAL N AMOUNTS IN KG AND % LEACHED										TOTAL N AMOUNTS IN KG AND %																																										
Year	NH3	IPCC 1996										IPCC 2006										13.5												12.1										14.4										13.0																													
1-10	N leach	0.0524										0.0286										83.3												74.9										74.9										74.9																													
		0.0985										0.0527										111.2												100.0																																																	

N2O-N/N in food/beverage/fuel/other

Year 1	N	1	1	100.0	100.0	0	100	119	0	0	97.8	51	64.3	9.1	0.0	0.0	0.0	0.0	55.1	2.43	3.37	1.48	1.84	Note 47
	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WWHB	1.000	NO	33.5	Sheep	0.84						8.3	0.10	0.0125	0.10	0.0100	Note 48
	N leach		1.022	1.000	ORG	1.00	1.000		0.343	0.0	33.5	Milk/multi	5						0.0	0.84	0.0200	0.25	0.0050	Note 49
Year 2	N	53	1	54.5	54.5	0	100	11	0	0	54.5	51	21.0	3.0	0.0	0.0	0.0	0.0	18.0	1.14	2.00	0.77	1.05	Note 47
	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	33.5	Sheep	0.67						2.7	0.03	0.0125	0.03	0.0100	Note 48
	N leach	Deep	0.600	1.162	ORG	1.00	1.000		0.614	0.0	33.5	Milk/multi	5						0.0	0.84	0.0200	0.25	0.0050	Note 49
Year 3	N	53	1	17.8	17.8	0	100	11	0	0	17.8	51	6.9	1.0	0.0	0.0	0.0	0.0	5.9	0.37	0.65	0.25	0.34	Note 47
	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	10.9	Sheep	0.67						0.9	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Deep	0.600	1.162	ORG	1.00	1.000		0.614	0.0	10.9	Milk/multi	5						0.0	0.27	0.0200	0.08	0.0050	Note 49
Year 4	N	53	1	5.8	5.8	0	100	1	0	0	5.8	51	2.1	0.3	0.0	0.0	0.0	0.0	1.8	0.12	0.21	0.08	0.11	Note 47
	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	3.7	Sheep	0.65						0.3	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162	ORG	1.00	1.000		0.642	0.0	3.7	Milk/multi	5						0.0	0.09	0.0200	0.03	0.0050	Note 49
Year 5	N	53	1	1.8	1.8	0	100	10	0	0	1.8	51	0.6	0.1	0.0	0.0	0.0	0.0	0.5	0.04	0.06	0.02	0.03	Note 47
	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WBA	1.000	NO	1.1	Sheep	0.66						0.1	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162	ORG	1.00	1.000		0.642	0.0	1.1	Milk/multi	5						0.0	0.03	0.0200	0.01	0.0050	Note 49
Year 6	N	53	1	0.5	0.5	0	100	119	0	0	0.5	51	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.01	0.02	0.01	0.01	Note 47
	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWHB	1.000	NO	0.3	Sheep	0.84						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162	ORG	1.00	1.000		0.614	0.0	0.3	Milk/multi	5						0.0	0.01	0.0200	0.00	0.0050	Note 49
Year 7	N	53	1	0.2	0.2	0	100	11	0	0	0.2	51	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.00	0.01	0.00	0.00	Note 47
	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.1	Sheep	0.67						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162	ORG	1.00	1.000		0.614	0.0	0.1	Milk/multi	5						0.0	0.00	0.0200	0.00	0.0050	Note 49
Year 8	N	53	1	0.1	0.1	0	100	11	0	0	0.1	51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Sheep	0.67						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162	ORG	1.00	1.000		0.614	0.0	0.0	Milk/multi	5						0.0	0.00	0.0200	0.00	0.0050	Note 49
Year 9	N	53	1	0.0	0.0	0	100	1	0	0	0.0	51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Sheep	0.65						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162	ORG	1.00	1.000		0.642	0.0	0.0	Milk/multi	5						0.0	0.00	0.0200	0.00	0.0050	Note 49
Year 10	N	53	1	0.0	0.0	0	100	10	0	0	0.0	51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WBA	1.000	NO	0.0	Sheep	0.66						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162	ORG	1.00	1.000		0.642	0.0	0.0	Milk/multi	5						0.0	0.00	0.0200	0.00	0.0050	Note 49

Year Year 1 Year 2 Year 3 Year 4 Year 5 Year 6 Year 7 Year 8 Year 9 Year 10 Total Total/year 1

Area with crop, ha 0.64 0.20 0.07 0.03 0.01 0.00 0.00 0.00 0.00 0.00 0.95 1.49 Note 50

Possible additional non IPCC N2O-N emissions Value 0.0000 Kind of source Total IPCC and non IPCC N2O Note 51

N residues emissions, ratio of N2O-N to N: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 6.33 3.39 Note 51

Increased soil N emissions, kg N2O-N/ha: 1.00 0.64 0.20 0.07 0.03 0.01 0.00 0.00 0.00 0.00 0.00 0.00 6.33 3.39 Note 51

Natural background emissions, kg N2O-N/ha: 1.00 0.64 0.20 0.07 0.03 0.01 0.00 0.00 0.00 0.00 0.00 0.00 7.28 4.33 Note 51

N CHAIN STARTING WITH
AND CONTINUING WITH

N FERTILIZER
MANURE FROM GRAZING SHEEP

TO PRODUCE
TO PRODUCE

WINTER WHEAT FOR BIOETHANOL AND
WINTER WHEAT FOR

SHEEP MILK/MUTTON
SHEEP MILK/MUTTON

Note 43
Note 43

Year

Fertilizer/manure
#

Store
1/0

Amounts
Store

Field
1/0

Or-
ganic
1/0

Nhorm
proportion, %

Crop
#

Cereal
benefit
1/0

Straw
used
1/0

Crop
use &
leach

Use
#

Fodder:
Uses #21-61
Fed

N crop
#71/
#72

Food
#8

Fuel/
bev
#9

Manure
Final
handling N a-
Name

N2O-N emission
IPCC 1996
Each

N2O-N emission
IPCC 2006
Each

Total
Total

Note 44
Note 44
Note 44

Total Year 1-10	N NH3 N leach	RATIO OF N2O-N TO N IN FIRST CROP										TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED										TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										TOTAL N AMOUNTS IN KG AND % LEACHED									
		ACCORDING TO										IPCC 1996										IPCC 2006										7.3									
		FIRST YEAR										0.0537										0.0236										80.6									
		TOTAL										0.0946										0.0434										100.0									

N2O-N/N in food/beverage/fuel/other

0.5014

0.2301

Note 46

Year 1	N	1	1	100.0	100.0	0	100	119	0	0	97.8	51	64.3	9.1	0.0	0.0	0.0	0.0	0.0	54	55.1	2.59	3.45	1.25	1.52
	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WWHB	1.000	NO	33.5	Sheep	0.84							0.0	Sheep	0.0	0.02	0.0100	
	N leach		1.022	1.000	ORG		1.00	1.000	0.343	0.0	33.5	Milk/multi	5						21.4	Graz	0.0	0.84	0.0200	0.0000	
Year 2	N	54	1	55.1	0	100	11	100	0	0	51.3	51	15.9	2.3	0.0	0.0	0.0	0.0	0.0	54	13.7	1.05	1.98	0.65	
	Vol/NH3	Sheep	YES	0.0	3.9	NON	100.00	WWH	1.000	NO	35.3	Sheep	0.67							0.0	Sheep	0.0	0.04	0.0100	
	N leach	Graz	0.484	1.000	ORG		1.00	1.000	0.689	0.0	35.3	Milk/multi	5						11.2	Graz	0.0	0.88	0.0200	0.0000	
Year 3	N	54	1	13.7	0	100	11	100	0	0	12.7	51	4.0	0.6	0.0	0.0	0.0	0.0	0.0	54	3.4	0.26	0.49	0.16	
	Vol/NH3	Sheep	YES	0.0	1.0	NON	100.00	WWH	1.000	NO	8.8	Sheep	0.67							0.0	Sheep	0.0	0.01	0.0100	
	N leach	Graz	0.484	1.000	ORG		1.00	1.000	0.689	0.0	8.8	Milk/multi	5						2.8	Graz	0.0	0.22	0.0200	0.0000	
Year 4	N	54	1	3.4	0	100	1	100	0	0	3.2	51	0.9	0.1	0.0	0.0	0.0	0.0	0.0	54	0.8	0.06	0.12	0.04	
	Vol/NH3	Sheep	YES	0.0	0.2	NON	100.00	SBA	1.000	NO	2.2	Sheep	0.65							0.0	Sheep	0.0	0.00	0.0100	
	N leach	Graz	0.484	1.000	ORG		1.00	1.000	0.711	0.0	2.2	Milk/multi	5						0.6	Graz	0.0	0.06	0.0200	0.0000	
Year 5	N	54	1	0.8	0	100	10	100	0	0	0.7	51	0.2	0.0	0.0	0.0	0.0	0.0	0.0	54	0.2	0.01	0.03	0.01	
	Vol/NH3	Sheep	YES	0.0	0.1	NON	100.00	WBA	1.000	NO	0.5	Sheep	0.66							0.0	Sheep	0.0	0.00	0.0100	
	N leach	Graz	0.484	1.000	ORG		1.00	1.000	0.712	0.0	0.5	Milk/multi	5						0.1	Graz	0.0	0.01	0.0200	0.0000	
Year 6	N	54	1	0.2	0	100	119	100	0	0	0.2	51	0.1	0.0	0.0	0.0	0.0	0.0	0.0	54	0.0	0.00	0.01	0.00	
	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWHB	1.000	NO	0.1	Sheep	0.84							0.0	Sheep	0.0	0.00	0.0100	
	N leach	Graz	0.484	1.000	ORG		1.00	1.000	0.689	0.0	0.1	Milk/multi	5						0.0	Graz	0.0	0.00	0.0125	0.0000	
Year 7	N	54	1	0.0	0	100	11	100	0	0	0.0	51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54	0.0	0.00	0.00	0.00	
	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Sheep	0.67							0.0	Sheep	0.0	0.00	0.0100	
	N leach	Graz	0.484	1.000	ORG		1.00	1.000	0.689	0.0	0.0	Milk/multi	5						0.0	Graz	0.0	0.00	0.0125	0.0000	
Year 8	N	54	1	0.0	0	100	11	100	0	0	0.0	51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54	0.0	0.00	0.00	0.00	
	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Sheep	0.67							0.0	Sheep	0.0	0.00	0.0100	
	N leach	Graz	0.484	1.000	ORG		1.00	1.000	0.689	0.0	0.0	Milk/multi	5						0.0	Graz	0.0	0.00	0.0125	0.0000	
Year 9	N	54	1	0.0	0	100	1	100	0	0	0.0	51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54	0.0	0.00	0.00	0.00	
	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Sheep	0.65							0.0	Sheep	0.0	0.00	0.0100	
	N leach	Graz	0.484	1.000	ORG		1.00	1.000	0.711	0.0	0.0	Milk/multi	5						0.0	Graz	0.0	0.00	0.0125	0.0000	
Year 10	N	54	1	0.0	0	100	10	100	0	0	0.0	51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54	0.0	0.00	0.00	0.00	
	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WBA	1.000	NO	0.0	Sheep	0.66							0.0	Sheep	0.0	0.00	0.0100	
	N leach	Graz	0.484	1.000	ORG		1.00	1.000	0.712	0.0	0.0	Milk/multi	5						0.0	Graz	0.0	0.00	0.0125	0.0000	

Year

Area with crop, ha

Year 1

Year 2

Year 3

Year 4

Year 5

Year 6

Year 7

Year 8

Year 9

Year 10

Total

Total/year 1

1.35

Note 50

Possible additional non IPCC N2O-N emissions

N residues emissions, ratio of N2O-N to N:

Increased soil N emissions, kg N2O-N/ha:

Natural background emissions, kg N2O-N/ha:

Value

0.0000

0.00

1.00

Kind of source

Total IPCC and non IPCC N2O

6.08

6.08

6.94

Note 51

2.79

Note 51

2.79

Note 51

3.65

Note 51

N CHAIN STARTING WITH N FERTILIZER N CHAIN STARTING WITH N FERTILIZER
AND CONTINUING WITH MANURE FROM GRAZING GOATS TO PRODUCE TO PRODUCE

WINTER WHEAT FOR BIOETHANOL AND
WINTER WHEAT FOR

GOAT MILK/MEAT
GOAT MILK/MEAT

Year Fertilizer/manure Fertilizer/manure
Store Store
Name 1/0 Store 1/0

Or- Nnorm Crop Crop
ganic propor #
1/0 tion, % Name

Cereal Straw
benefit used
1/0 1/0

Use Fodder: N crop Food/ Fuel/
Uses #21-61 #71/ bev other
Name Fed #72 #8 #9

Manure Final N2O-N emission
handling N a- IPCC 1996
Name mounts Each Total

Total N N
Year N NH3
1-10 N leach

RATIO OF N2O-N TO N IN FIRST CROP									
ACCORDING TO									
FIRST YEAR									
TOTAL									
		IPCC 1996		IPCC 2006		8.3		7.7	
		0.0546		0.0327		84.0		84.0	
		0.0988		0.0570		100.0		100.0	

N2O-N/N in food/beverage/fuel/other

Year 1	N	1	1	100.0	100.0	0	100	119	0	0	97.8	61	64.3	6.2	0.0	0.0	0.0	0.0	58.1	2.65	3.51	1.83	2.10	Note 47
	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WWHB	1.000	NO	33.5	Goat	0.84						0.0	0.02	0.0125	0.02	0.0100	Note 48
	N leach		1.022	1.000	ORG	1.00	1.00	1.000	0.343	0.0	33.5	Milk/mea	6					21.4	0.84	0.0200	0.25	0.0100	Note 49	
Year 2	N	64	1	58.1	58.1	0	100	11	0	0	54.0	61	16.8	1.6	0.0	0.0	0.0	0.0	15.2	1.13	2.10	0.84	1.16	Note 47
	Vol/NH3	Goat	YES	0.0	4.1	NON	100.00	WWH	1.000	NO	37.2	Goat	0.67						0.0	0.04	0.0125	0.04	0.0100	Note 48
	N leach	Graz	0.484	1.000	ORG	1.00	1.00	1.000	0.689	0.0	37.2	Milk/mea	6					11.8	0.93	0.0200	0.28	0.0100	Note 49	
Year 3	N	64	1	15.2	15.2	0	100	11	0	0	14.1	61	4.4	0.4	0.0	0.0	0.0	0.0	4.0	0.29	0.55	0.22	0.30	Note 47
	Vol/NH3	Goat	YES	0.0	1.1	NON	100.00	WWH	1.000	NO	9.7	Goat	0.67						0.0	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Graz	0.484	1.000	ORG	1.00	1.00	1.000	0.689	0.0	9.7	Milk/mea	6					3.1	0.24	0.0200	0.07	0.0100	Note 49	
Year 4	N	64	1	4.0	4.0	0	100	1	0	0	3.7	61	1.1	0.1	0.0	0.0	0.0	0.0	1.0	0.07	0.14	0.06	0.08	Note 47
	Vol/NH3	Goat	YES	0.0	0.3	NON	100.00	SBA	1.000	NO	2.6	Goat	0.65						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000	ORG	1.00	1.00	1.000	0.711	0.0	2.6	Milk/mea	6					0.8	0.07	0.0200	0.02	0.0100	Note 49	
Year 5	N	64	1	1.0	1.0	0	100	10	0	0	0.9	61	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.02	0.03	0.01	0.02	Note 47
	Vol/NH3	Goat	YES	0.0	0.1	NON	100.00	WBA	1.000	NO	0.6	Goat	0.66						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000	ORG	1.00	1.00	1.000	0.712	0.0	0.6	Milk/mea	6					0.2	0.02	0.0200	0.00	0.0100	Note 49	
Year 6	N	64	1	0.2	0.2	0	100	119	0	0	0.2	61	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.00	0.01	0.00	0.00	Note 47
	Vol/NH3	Goat	YES	0.0	0.0	NON	100.00	WWHB	1.000	NO	0.1	Goat	0.84						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000	ORG	1.00	1.00	1.000	0.689	0.0	0.1	Milk/mea	6					0.0	0.00	0.0200	0.00	0.0100	Note 49	
Year 7	N	64	1	0.1	0.1	0	100	11	0	0	0.1	61	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Goat	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Goat	0.67						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000	ORG	1.00	1.00	1.000	0.689	0.0	0.0	Milk/mea	6					0.0	0.00	0.0200	0.00	0.0100	Note 49	
Year 8	N	64	1	0.0	0.0	0	100	11	0	0	0.0	61	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Goat	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Goat	0.67						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000	ORG	1.00	1.00	1.000	0.689	0.0	0.0	Milk/mea	6					0.0	0.00	0.0200	0.00	0.0100	Note 49	
Year 9	N	64	1	0.0	0.0	0	100	1	0	0	0.0	61	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Goat	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Goat	0.65						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000	ORG	1.00	1.00	1.000	0.711	0.0	0.0	Milk/mea	6					0.0	0.00	0.0200	0.00	0.0100	Note 49	
Year 10	N	64	1	0.0	0.0	0	100	10	0	0	0.0	61	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Goat	YES	0.0	0.0	NON	100.00	WBA	1.000	NO	0.0	Goat	0.66						0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000	ORG	1.00	1.00	1.000	0.712	0.0	0.0	Milk/mea	6					0.0	0.00	0.0200	0.00	0.0100	Note 49	

Year 1 Year 2 Year 3 Year 4 Year 5 Year 6 Year 7 Year 8 Year 9 Year 10 Total Total/year 1

Area with crop, ha 0.64 0.17 0.05 0.02 0.00 0.00 0.00 0.00 0.00 0.00 0.88 1.38 Note 50

Possible additional non IPCC N2O-N emissions
N residues emissions, ratio of N2O-N to N: 0.0000
Increased soil N emissions, kg N2O-N/ha: 0.00
Natural background emissions, kg N2O-N/ha: 1.00

Kind of source
Current crops
Total anthropogenic
Total including natural

Total IPCC and non IPCC N2O
6.35
6.35
7.23
Note 51
3.67 Note 51
3.67 Note 51
4.54 Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE TO PRODUCE
AND CONTINUING WITH GREEN MANURE HIGH N WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR CATTLE DAIRY

Year Fertilizer/manure # Store Amounts Field Or-ganic 1/0 Nnorm propor tion, % Name Crop Straw used 1/0 Cereal benefit 1/0 N crop Food/ #71/ bevs other #72 #8 Fuel/ #9 N2O-N emission IPCC 1996 N2O-N emission IPCC 2006

Total N Year 1-10 N leach	RATIO OF N2O-N TO N IN FIRST CROP				TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED				TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3			
	ACCORDING TO IPCC 1996				IPCC 2006				28.8			
	FIRST YEAR				0.0366				28.7			
	TOTAL				0.0688				61.9			
					0.0472				100.5			
					TOTAL N AMOUNTS IN KG AND %				100.0			
									2.59			
									4.42			
									2.28			
									0.29			
									0.46			
									3.04			
									Note 45			
									Note 45			
									Note 45			
									Note 45			

N2O-N/N in food/beverage/fuel/other

Year 1	N	1	1	100.0	100.0	0	100	119	0	0	97.8	71	0.0	0.0	64.3	0.0	0.0	71	64.3	1.49	2.35	1.25	1.52
	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WWHB	1.000	NO	33.5	N crop	0.84					0.0	0.0	0.02	0.0125	0.02	0.0100
	N leach		1.022	1.000	ORG	1.00	1.000		0.343	0.0	33.5	high N	71				21.4	High	0.0	0.84	0.0000	0.25	0.0000
Year 2	N	71	1	64.3	64.3	0	100	11	0	0	48.2	21	28.9	6.8	0.0	0.0	0.0	21	22.1	0.75	1.42	0.72	1.04
	Vol/NH3	Green	YES	0.0	16.1	NON	100.00	WWH	1.000	NO	19.3	Cattle	0.67					0.0	Cattle	1.8	0.18	0.0125	0.18
	N leach	High	0.933	1.000	ORG	1.00	1.000		0.400	0.0	19.3	Dairy	2				10.5	Liquid	0.0	0.48	0.0010	0.14	0.0050
Year 3	N	21	1	20.7	20.2	0	100	11	0	0	15.2	21	9.1	2.1	0.0	0.0	0.0	21	7.0	0.24	0.45	0.22	0.33
	Vol/NH3	Cattle	YES	0.5	5.1	NON	100.00	WWH	1.000	NO	6.1	Cattle	0.67					0.0	Cattle	0.6	0.06	0.0125	0.06
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.400	0.0	6.1	Dairy	2				3.3	Liquid	0.0	0.15	0.0010	0.05	0.0050
Year 4	N	21	1	6.5	6.4	0	100	1	0	0	4.8	21	2.7	0.6	0.0	0.0	0.0	21	2.0	0.07	0.15	0.07	0.10
	Vol/NH3	Cattle	YES	0.1	1.6	NON	100.00	SBA	1.000	NO	2.1	Cattle	0.65					0.0	Cattle	0.2	0.02	0.0125	0.02
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.443	0.0	2.1	Dairy	2				1.0	Liquid	0.0	0.05	0.0010	0.02	0.0100
Year 5	N	21	1	1.9	1.9	0	100	10	0	0	1.4	21	0.8	0.2	0.0	0.0	0.0	21	0.6	0.02	0.04	0.02	0.03
	Vol/NH3	Cattle	YES	0.0	0.5	NON	100.00	WBA	1.000	NO	0.6	Cattle	0.66					0.0	Cattle	0.0	0.01	0.0125	0.01
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.444	0.0	0.6	Dairy	2				0.3	Liquid	0.0	0.02	0.0010	0.00	0.0050
Year 6	N	21	1	0.6	0.5	0	100	119	0	0	0.4	71	0.0	0.0	0.2	0.0	0.0	71	0.2	0.01	0.01	0.01	0.01
	Vol/NH3	Cattle	YES	0.0	0.1	NON	100.00	WWHB	1.000	NO	0.2	N crop	0.84				0.0	Green	0.0	0.00	0.0125	0.00	0.0100
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.400	0.0	0.2	high N	71				0.1	High	0.0	0.00	0.0000	0.00	0.0000
Year 7	N	71	1	0.2	0.2	0	100	11	0	0	0.2	21	0.1	0.0	0.0	0.0	0.0	21	0.1	0.00	0.01	0.00	0.00
	Vol/NH3	Green	YES	0.0	0.1	NON	100.00	WWH	1.000	NO	0.1	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100
	N leach	High	0.933	1.000	ORG	1.00	1.000		0.400	0.0	0.1	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050
Year 8	N	21	1	0.1	0.1	0	100	11	0	0	0.1	21	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.400	0.0	0.0	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050
Year 9	N	21	1	0.0	0.0	0	100	1	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.443	0.0	0.0	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050
Year 10	N	21	1	0.0	0.0	0	100	10	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WBA	1.000	NO	0.0	Cattle	0.66				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100
	N leach	Liquid	0.933	1.016	ORG	1.00	1.000		0.444	0.0	0.0	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050

Year Year 1 Year 2 Year 3 Year 4 Year 5 Year 6 Year 7 Year 8 Year 9 Year 10 Total Total/year 1

Area with crop, ha 0.64 0.37 0.12 0.05 0.01 0.00 0.00 0.00 0.00 0.00 1.19 1.88 Note 50

Possible additional non IPCC N2O-N emissions Value
N residues emissions, ratio of N2O-N to N: 0.0000
Increased soil N emissions, kg N2O-N/ha: 0.00
Natural background emissions, kg N2O-N/ha: 1.00
Kind of source
Total IPCC and non IPCC N2O
4.42
3.04 Note 51
3.04 Note 51
4.23 Note 51

N CHAIN STARTING WITH
AND CONTINUING WITH

N FERTILIZER
NO MANURE

WINTER WHEAT FOR BIOETHANOL AND
NOTHING FOR

FOOD
FOOD

Note 43
Note 43

Year

Fertilizer/manure
#

Store
1/0

Amounts
Store

Field

Or-
ganic
1/0

Nnorm
proportion, %

Crop
#

Cereal
benefit
1/0

Straw
used
1/0

Fodder:
Uses #21-61
Fed

Use
#

N crop
#71/
#72

Fuel/
bev
#8
#9

Manure
handling
#

Final
N a-
mounts

N2O-N emission
IPCC 1996
Each

N2O-N emission
IPCC 2006
Total

Note 44
Note 44
Note 44

Total N	RATIO OF N2O-N TO N IN FIRST CROP										TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED										TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										TOTAL N AMOUNTS IN KG AND % LEACHED										TOTAL N AMOUNTS IN KG AND %									
Year	IPCC 1996										IPCC 2006																																							
1-10 N	0.0366										0.0236																																							
NH3	0.0366										0.0236																																							
N leach	0.0366										0.0236																																							
	TOTAL																																																	
																															</																			

N CHAIN STARTING WITH
AND CONTINUING WITH

N FERTILIZER
NO MANURE

WINTER WHEAT FOR BIOETHANOL AND
NOTHING FOR

FUEL
FUEL

Note 43
Note 43

Year

Fertilizer/manure
#

Store
1/0

Amounts
Store

Field

Or-
ganic
1/0

Nnorm
proportion,
%

Crop
#

Straw
used
1/0

Cereal
benefit
1/0

Use
#

Fodder:
Uses #21-61
Fed

N crop
#71/
#72

Food
#8

Fuel/
beverage
#9

Manure
handling
#

Final
N a-
mounts

N2O-N emission
IPCC 1996

N2O-N emission
Each

Total

Note 44
Note 44
Note 44

Total N	RATIO OF N2O-N TO N IN FIRST CROP										TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED										TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										TOTAL N AMOUNTS IN KG AND % LEACHED										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND 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WASTE, DUMPED ELSEWHERE

Note 43
Note 43

Year	Fertilizer/manure		Or- ganic 1/0	Nnorm proportion, %	Crop #	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use #	Fodder: Uses #21-61 Fed	Food #72	N crop #71/ #8	Fuel/ other #9	Manure handling #	Final N a- mounts	N2O-N emission IPCC 1996	N2O-N emission Each	Total	Total	Note 44 Note 44
	Name	Store 1/0																		
Total	N																			
Year	N NH3																			
1-10	N leach																			
RATIO OF N2O-N TO N IN FIRST CROP																				
ACCORDING TO		IPCC 1996		IPCC 2006		TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED														
FIRST YEAR		0.0366		0.0236		TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3														
TOTAL		0.0366		0.0236		TOTAL N AMOUNTS IN KG AND % LEACHED														
						TOTAL N AMOUNTS IN KG AND %														

N2O-N/N in food/beverage/fuel/other																								
Year	N	1	1	100.0	0	100	119	0	0	97.8	-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.49	2.35	1.25	No use	Note 46	
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WWHB	1.000	NO	33.5	Waste	0.84	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0125	0.02	1.52	Note 47
	N leach		1.022	1.000	ORG	1.00	1.000	0.343	0.0	33.5	moved	0	21.4	0.0	0.0	0.0	0.0	0.0	0.84	0.0000	0.25	0.0100	Note 48	
Year	N	0	1	0.0	0.0	0	100	11	0	0	-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47	
2	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000	0.357	0.0	0.0	moved	0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49	
Year	N	0	1	0.0	0.0	0	100	11	0	0	-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47	
3	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000	0.357	0.0	0.0	moved	0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49	
Year	N	0	1	0.0	0.0	0	100	1	0	0	-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47	
4	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.65	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000	0.403	0.0	0.0	moved	0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49	
Year	N	0	1	0.0	0.0	0	100	10	0	0	-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47	
5	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.66	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000	0.404	0.0	0.0	moved	0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49	
Year	N	0	1	0.0	0.0	0	100	119	0	0	-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47	
6	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.84	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000	0.357	0.0	0.0	moved	0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49	
Year	N	0	1	0.0	0.0	0	100	11	0	0	-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47	
7	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000	0.357	0.0	0.0	moved	0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49	
Year	N	0	1	0.0	0.0	0	100	11	0	0	-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47	
8	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000	0.357	0.0	0.0	moved	0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49	
Year	N	0	1	0.0	0.0	0	100	1	0	0	-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47	
9	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.65	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000	0.403	0.0	0.0	moved	0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49	
Year	N	0	1	0.0	0.0	0	100	10	0	0	-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	Note 47	
10	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.66	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000	0.404	0.0	0.0	moved	0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49	

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total	Total/year 1
Area with crop, ha	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	1.00
Note 50												

Possible additional non IPCC N2O-N emissions	Value	Kind of source	Total IPCC and non IPCC N2O	Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00 Current crops	2.35	1.52 Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00 Total anthropogenic	2.35	1.52 Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.64 Total including natural	2.99	2.16 Note 51

N CHAIN STARTING WITH N FERTILIZER AND CONTINUING WITH NO MANURE TO PRODUCE TO PRODUCE WINTER WHEAT FOR BIOETHANOL AND NOTHING FOR WASTE DUMPED IN FIELD AND LOST TO LEACH WASTE DUMPED IN FIELD

Year Fertilizer/manure # Store Amounts Name 1/0 Store Field Or-ganic 1/0 Nnorm propor tion, % Name Crop use & leach Straw used 1/0 Cereal benefit 1/0 N crop #71/ #72 Food Fed Fodder: Uses #21-61 Fuel/ bev #8 other #9 Manure Final handling N a- # Name mounts Each Total N2O-N emission IPCC 1996 N2O-N emission IPCC 2006 Total

Total N	RATIO OF N2O-N TO N IN FIRST CROP										TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED										0.0	0.0	1.49	3.96	1.25	2.00	Note 45
Year N NH3	IPCC 1996										TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										2.2	2.2	0.02		0.02		Note 45
1-10 N leach	FIRST YEAR										TOTAL N AMOUNTS IN KG AND % LEACHED										97.8	97.8	2.45		0.73		Note 45
	TOTAL										TOTAL N AMOUNTS IN KG AND %										100.0	100.0					Note 45

N2O-N/N in food/beverage/fuel/other

Year N	1	1	100.0	100.0	0	100	119	0	0	97.8	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	64.3	1.49	3.96	1.25	2.00	Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WWHB	1.000	NO	33.5	Waste	0.84	0.0	0.0	0.0	0.0	0.0	0.0	None	0.02	0.0125	0.02	0.0100	Note 48
	N leach		1.022	1.000	ORG	1.00	1.000		0.343	0.0	33.5	in field	0	21.4						64.3	2.45	0.0000	0.73	0.0000	Note 49
Year N	0	1	0.0	0.0	0.0	0	100	11	0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.00	0.00	0.00	0.000	Note 47
2	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67	0	0.0	0.0	0.0	0.0	0.0	None	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000		0.357	0.0	0.0	in field	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49
Year N	0	1	0.0	0.0	0.0	0	100	11	0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.00	0.00	0.00	0.000	Note 47
3	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67	0	0.0	0.0	0.0	0.0	0.0	None	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000		0.357	0.0	0.0	in field	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49
Year N	0	1	0.0	0.0	0.0	0	100	1	0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.00	0.00	0.00	0.000	Note 47
4	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.65	0	0.0	0.0	0.0	0.0	0.0	None	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000		0.403	0.0	0.0	in field	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49
Year N	0	1	0.0	0.0	0.0	0	100	10	0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.00	0.00	0.00	0.000	Note 47
5	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.66	0	0.0	0.0	0.0	0.0	0.0	None	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000		0.404	0.0	0.0	in field	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49
Year N	0	1	0.0	0.0	0.0	0	100	119	0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.00	0.00	0.00	0.000	Note 47
6	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.84	0	0.0	0.0	0.0	0.0	0.0	None	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000		0.357	0.0	0.0	in field	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49
Year N	0	1	0.0	0.0	0.0	0	100	11	0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.00	0.00	0.00	0.000	Note 47
7	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67	0	0.0	0.0	0.0	0.0	0.0	None	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000		0.357	0.0	0.0	in field	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49
Year N	0	1	0.0	0.0	0.0	0	100	11	0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.00	0.00	0.00	0.000	Note 47
8	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67	0	0.0	0.0	0.0	0.0	0.0	None	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000		0.357	0.0	0.0	in field	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49
Year N	0	1	0.0	0.0	0.0	0	100	1	0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.00	0.00	0.00	0.000	Note 47
9	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.65	0	0.0	0.0	0.0	0.0	0.0	None	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000		0.403	0.0	0.0	in field	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49
Year N	0	1	0.0	0.0	0.0	0	100	10	0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.00	0.00	0.00	0.000	Note 47
10	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.66	0	0.0	0.0	0.0	0.0	0.0	None	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000	ORG	1.00	1.000		0.404	0.0	0.0	in field	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0000	0.00	0.0000	Note 49

Year Year 1 Year 2 Year 3 Year 4 Year 5 Year 6 Year 7 Year 8 Year 9 Year 10 Total Total/year 1

Area with crop, ha 0.64 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.64 1.00 Note 50

Possible additional non IPCC N2O-N emissions	Value	Kind of source	Total IPCC and non IPCC N2O	Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00 Current crops	3.96	2.00 Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00 Total anthropogenic	3.96	2.00 Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.64 Total including natural	4.59	2.64 Note 51

SUMMARY CATTLE DAIRY

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER LIQUID CATTLE MANURE

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

CATTLE DAIRY CATTLE DAIRY

Total N	RATIO OF N2O-N TO N IN FIRST CROP	TO PRODUCE	TOTAL N AMOUNTS IN KG AND %	2.24	3.77	2.12	2.75
Year N NH3	IPCC 1996	TO PRODUCE	TOTAL N AMOUNTS IN KG AND %	25.30	25.06	0.24	Note 45
1-10 N leach	0.0378	IPCC 2006	TOTAL N AMOUNTS IN KG AND %	23.88	23.66	0.24	Note 45
TOTAL	0.0587	0.0274	TOTAL N AMOUNTS IN KG AND %	51.78	51.28	0.39	Note 45
		0.0428	TOTAL N AMOUNTS IN KG AND %	100.97	100.00		Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha	Total/year 1	0.1490	0.1087
Natural background emissions, kg N2O-N/ha:	0.99		
	1.56		
	0.99	4.77	3.74
			Note 51

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER SEPARATED CATTLE MANURE

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

CATTLE DAIRY CATTLE DAIRY

Total N	RATIO OF N2O-N TO N IN FIRST CROP	TO PRODUCE	TOTAL N AMOUNTS IN KG AND %	2.75	4.30	2.07	2.71
Year N NH3	IPCC 1996	TO PRODUCE	TOTAL N AMOUNTS IN KG AND %	24.41	24.18	0.24	Note 45
1-10 N leach	0.0439	IPCC 2006	TOTAL N AMOUNTS IN KG AND %	24.42	24.19	0.24	Note 45
TOTAL	0.0669	0.0273	TOTAL N AMOUNTS IN KG AND %	52.13	51.64	0.39	Note 45
		0.0422	TOTAL N AMOUNTS IN KG AND %	100.96	100.00		Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha	Total/year 1	0.1762	0.1110
Natural background emissions, kg N2O-N/ha:	0.94		
	1.48		
	0.94	5.24	3.65
			Note 51

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER CATTLE DEEP LITTER

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

CATTLE DAIRY CATTLE DAIRY

Total N	RATIO OF N2O-N TO N IN FIRST CROP	TO PRODUCE	TOTAL N AMOUNTS IN KG AND %	2.99	4.64	1.90	2.63
Year N NH3	IPCC 1996	TO PRODUCE	TOTAL N AMOUNTS IN KG AND %	21.79	20.15	0.34	Note 45
1-10 N leach	0.0502	IPCC 2006	TOTAL N AMOUNTS IN KG AND %	33.66	31.12	0.40	Note 45
TOTAL	0.0722	0.0274	TOTAL N AMOUNTS IN KG AND %	52.69	48.73	0.40	Note 45
		0.0409	TOTAL N AMOUNTS IN KG AND %	108.14	100.00		Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha	Total/year 1	0.2130	0.1207
Natural background emissions, kg N2O-N/ha:	0.79		
	1.25		
	0.79	5.43	3.42
			Note 51

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER MANURE FROM GRAZING CATTLE

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

CATTLE DAIRY CATTLE DAIRY

Total N	RATIO OF N2O-N TO N IN FIRST CROP	TO PRODUCE	TOTAL N AMOUNTS IN KG AND %	3.47	5.31	3.10	3.69
Year N NH3	IPCC 1996	TO PRODUCE	TOTAL N AMOUNTS IN KG AND %	22.91	22.91	0.06	Note 45
1-10 N leach	0.0507	IPCC 2006	TOTAL N AMOUNTS IN KG AND %	6.27	6.27	0.53	Note 45
TOTAL	0.0826	0.0377	TOTAL N AMOUNTS IN KG AND %	70.82	70.82		Note 45
		0.0574	TOTAL N AMOUNTS IN KG AND %	100.00	100.00		Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha	Total/year 1	0.2317	0.1610
Natural background emissions, kg N2O-N/ha:	0.81		
	1.28		
	0.81	6.12	4.50
			Note 51

SUMMARY CATTLE BEEF

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER LIQUID CATTLE MANURE

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

CATTLE BEEF CATTLE BEEF

Total N	RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND %	ENDING AS FOOD/FUEL/OTHER/REMOVED	22.69	22.45	2.29	3.87	2.18	2.83
Year N NH3	ACCORDING TO		IPCC 1996	IPCC 2006	25.34	25.08	0.25	0.25	0.25	Note 45
1-10 N leach	FIRST YEAR		0.0378	0.0276	53.01	52.47	1.33	0.40	0.40	Note 45
TOTAL	TOTAL		0.0602	0.0441	101.03	100.00				Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha		Total/year 1		0.1704	0.1249	Note 46
Natural background emissions, kg N2O-N/ha:		1.02		1.60		Note 50
		1.02		4.89	3.85	Note 51

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER SEPARATED CATTLE MANURE

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

CATTLE BEEF CATTLE BEEF

Total N	RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND %	ENDING AS FOOD/FUEL/OTHER/REMOVED	21.83	21.61	2.83	4.43	2.13	2.79
Year N NH3	ACCORDING TO		IPCC 1996	IPCC 2006	25.85	25.59	0.26	0.26	0.26	Note 45
1-10 N leach	FIRST YEAR		0.0443	0.0275	53.34	52.80	1.33	0.40	0.40	Note 45
TOTAL	TOTAL		0.0689	0.0434	101.02	100.00				Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha		Total/year 1		0.2028	0.1277	Note 46
Natural background emissions, kg N2O-N/ha:		0.96		1.51		Note 50
		0.79		5.39	3.75	Note 51

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER CATTLE DEEP LITTER

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

CATTLE BEEF CATTLE BEEF

Total N	RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND %	ENDING AS FOOD/FUEL/OTHER/REMOVED	19.36	17.82	3.07	4.77	1.94	2.69
Year N NH3	ACCORDING TO		IPCC 1996	IPCC 2006	35.46	32.65	0.35	0.35	0.35	Note 45
1-10 N leach	FIRST YEAR		0.0509	0.0276	53.79	49.53	1.34	0.40	0.40	Note 45
TOTAL	TOTAL		0.0743	0.0419	108.61	100.00				Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha		Total/year 1		0.2466	0.1391	Note 46
Natural background emissions, kg N2O-N/ha:		0.80		1.26		Note 50
		0.80		5.57	3.49	Note 51

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER MANURE FROM GRAZING CATTLE

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

CATTLE BEEF CATTLE BEEF

Total N	RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND %	ENDING AS FOOD/FUEL/OTHER/REMOVED	20.41	20.41	3.59	5.49	3.21	3.82
Year N NH3	ACCORDING TO		IPCC 1996	IPCC 2006	6.51	6.51	0.07	0.07	0.07	Note 45
1-10 N leach	FIRST YEAR		0.0514	0.0384	73.08	73.08	1.83	0.55	0.55	Note 45
TOTAL	TOTAL		0.0854	0.0594	100.00	100.00				Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha		Total/year 1		0.2688	0.1871	Note 46
Natural background emissions, kg N2O-N/ha:		0.82		1.30		Note 50
		0.82		6.31	4.64	Note 51

SUMMARY POULTRY MEAT

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER LIQUID POULTRY MANURE

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

POULTRY MEAT POULTRY MEAT

Total N	RATIO OF N2O-N TO N IN FIRST CROP	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	39.98	39.98	1.91	3.18	1.74	2.23
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	15.20	15.20	0.15		0.15	Note 45
1-10 N leach	FIRST YEAR	0.0375	0.0263	TOTAL N AMOUNTS IN KG AND % LEACHED	44.82	44.82	1.12		0.34	Note 45
TOTAL	TOTAL	0.0495	0.0347	TOTAL N AMOUNTS IN KG AND %	100.00	100.00				Note 45

N2O-N/N in food/beverage/fuel/other							0.0796		0.0558	Note 46
Area with crop, ha						Total/year 1				
Natural background emissions, kg N2O-N/ha:						0.82	1.29			Note 50
						0.82		4.00	3.05	Note 51

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER SEPARATED POULTRY MANURE

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

POULTRY MEAT POULTRY MEAT

Total N	RATIO OF N2O-N TO N IN FIRST CROP	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	37.69	37.69	2.04	3.28	1.60	2.12
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	21.10	21.10	0.21		0.21	Note 45
1-10 N leach	FIRST YEAR	0.0416	0.0267	TOTAL N AMOUNTS IN KG AND % LEACHED	41.21	41.21	1.03		0.31	Note 45
TOTAL	TOTAL	0.0510	0.0330	TOTAL N AMOUNTS IN KG AND %	100.00	100.00				Note 45

N2O-N/N in food/beverage/fuel/other							0.0870		0.0563	Note 46
Area with crop, ha						Total/year 1				
Natural background emissions, kg N2O-N/ha:						0.76	1.20			Note 50
						0.76		4.04	2.88	Note 51

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER POULTRY DEEP LITTER

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

POULTRY MEAT POULTRY MEAT

Total N	RATIO OF N2O-N TO N IN FIRST CROP	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	35.28	35.19	2.09	3.36	1.51	2.06
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	23.62	23.55	0.24		0.24	Note 45
1-10 N leach	FIRST YEAR	0.0444	0.0271	TOTAL N AMOUNTS IN KG AND % LEACHED	41.37	41.26	1.03		0.31	Note 45
TOTAL	TOTAL	0.0523	0.0320	TOTAL N AMOUNTS IN KG AND %	100.26	100.00				Note 45

N2O-N/N in food/beverage/fuel/other							0.0953		0.0583	Note 46
Area with crop, ha						Total/year 1				
Natural background emissions, kg N2O-N/ha:						0.70	1.10			Note 50
						0.70		4.06	2.76	Note 51

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER MANURE FROM SCRAPING POULTRY

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

POULTRY MEAT POULTRY MEAT

Total N	RATIO OF N2O-N TO N IN FIRST CROP	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	38.18	38.18	2.74	4.22	2.41	2.89
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	4.77	4.77	0.05		0.05	Note 45
1-10 N leach	FIRST YEAR	0.0464	0.0334	TOTAL N AMOUNTS IN KG AND % LEACHED	57.05	57.05	1.43		0.43	Note 45
TOTAL	TOTAL	0.0656	0.0449	TOTAL N AMOUNTS IN KG AND %	100.00	100.00				Note 45

N2O-N/N in food/beverage/fuel/other							0.1104		0.0757	Note 46
Area with crop, ha						Total/year 1				
Natural background emissions, kg N2O-N/ha:						0.75	1.17			Note 50
						0.75		4.96	3.64	Note 51

SUMMARY POULTRY EGGS

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER LIQUID POULTRY MANURE

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

POULTRY EGGS POULTRY EGGS

Total N	RATIO OF N2O-N TO N IN FIRST CROP	TO PRODUCE	TOTAL N AMOUNTS IN KG AND %	21.46	21.46	2.23	3.82	2.12	2.77
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	25.08	25.08	0.25		0.25	45
1-10 N leach	FIRST YEAR	0.0380	0.0278	53.46	53.46	1.34		0.40	Note 45
TOTAL	TOTAL	0.0594	0.0431	100.00	100.00				Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha	Total/year 1	0.1779	0.1291	Note 46
Natural background emissions, kg N2O-N/ha:	0.96	1.52		Note 50
	0.96	4.78		3.73 Note 51

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER SEPARATED POULTRY MANURE

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

POULTRY EGGS POULTRY EGGS

Total N	RATIO OF N2O-N TO N IN FIRST CROP	TO PRODUCE	TOTAL N AMOUNTS IN KG AND %	19.40	19.40	2.42	3.92	1.85	2.54
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	34.08	34.08	0.34		0.34	Note 45
1-10 N leach	FIRST YEAR	0.0444	0.0284	46.52	46.52	1.16		0.35	Note 45
TOTAL	TOTAL	0.0610	0.0395	100.00	100.00				Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha	Total/year 1	0.2020	0.1307	Note 46
Natural background emissions, kg N2O-N/ha:	0.85	1.33		Note 50
	0.85	4.77		3.38 Note 51

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER POULTRY DEEP LITTER

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

POULTRY EGGS POULTRY EGGS

Total N	RATIO OF N2O-N TO N IN FIRST CROP	TO PRODUCE	TOTAL N AMOUNTS IN KG AND %	17.40	17.33	2.46	3.98	1.67	2.39
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	36.82	36.67	0.37		0.37	Note 45
1-10 N leach	FIRST YEAR	0.0487	0.0289	46.20	46.00	1.16		0.35	Note 45
TOTAL	TOTAL	0.0620	0.0371	100.43	100.00				Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha	Total/year 1	0.2290	0.1372	Note 46
Natural background emissions, kg N2O-N/ha:	0.74	1.16		Note 50
	0.74	4.72		3.13 Note 51

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER MANURE FROM SCRAPING POULTRY

WINTER WHEAT FOR BIOETHANOL AND WINTER WHEAT FOR

POULTRY EGGS POULTRY EGGS

Total N	RATIO OF N2O-N TO N IN FIRST CROP	TO PRODUCE	TOTAL N AMOUNTS IN KG AND %	19.83	19.83	3.62	5.53	3.23	3.85
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	6.57	6.57	0.07		0.07	Note 45
1-10 N leach	FIRST YEAR	0.0517	0.0388	73.60	73.60	1.84		0.55	Note 45
TOTAL	TOTAL	0.0860	0.0599	100.00	100.00				Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha	Total/year 1	0.2788	0.1942	Note 46
Natural background emissions, kg N2O-N/ha:	0.83	1.30		Note 50
	0.83	6.36		4.68 Note 51

SUMMARY SHEEP AND GOATS

N CHAIN STARTING WITH
AND CONTINUING WITH

N FERTILIZER
SHEEP DEEP LITTER

TO PRODUCE
TO PRODUCE

WINTER WHEAT FOR BIOETHANOL AND
WINTER WHEAT FOR

SHEEP MILK/MUTTON
SHEEP MILK/MUTTON

Note 43
Note 43

Total N

RATIO OF N2O-N TO N IN FIRST CROP

Year N NH3

1-10 N leach

ACCORDING TO

FIRST YEAR

TOTAL

IPCC 1996

IPCC 2006

0.0524

0.0286

0.0985

0.0527

13.51

12.15

4.10

6.33

2.62

3.39

Note 45

Note 45

Note 45

Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha

Natural background emissions, kg N2O-N/ha:

Total/year 1

0.95

1.49

0.95

0.4685

0.2506

Note 46

Note 50

4.33

Note 51

N CHAIN STARTING WITH
AND CONTINUING WITH

N FERTILIZER
MANURE FROM GRAZING SHEEP

TO PRODUCE
TO PRODUCE

WINTER WHEAT FOR BIOETHANOL AND
WINTER WHEAT FOR

SHEEP MILK/MUTTON
SHEEP MILK/MUTTON

Note 43
Note 43

Total N

RATIO OF N2O-N TO N IN FIRST CROP

Year N NH3

1-10 N leach

ACCORDING TO

FIRST YEAR

TOTAL

IPCC 1996

IPCC 2006

0.0537

0.0236

0.0946

0.0434

12.12

12.12

3.99

6.08

2.11

2.79

Note 45

Note 45

Note 45

Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha

Natural background emissions, kg N2O-N/ha:

Total/year 1

0.86

1.35

0.86

0.5014

0.2301

Note 46

Note 50

3.65

Note 51

N CHAIN STARTING WITH
AND CONTINUING WITH

N FERTILIZER
GOAT DEEP LITTER

TO PRODUCE
TO PRODUCE

WINTER WHEAT FOR BIOETHANOL AND
WINTER WHEAT FOR

GOAT MILK/MEAT
GOAT MILK/MEAT

Note 43
Note 43

Total N

RATIO OF N2O-N TO N IN FIRST CROP

Year N NH3

1-10 N leach

ACCORDING TO

FIRST YEAR

TOTAL

IPCC 1996

IPCC 2006

0.0533

0.0288

0.0844

0.0471

7.90

7.16

3.47

5.43

2.16

3.02

Note 45

Note 45

Note 45

Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha

Natural background emissions, kg N2O-N/ha:

Total/year 1

0.87

1.37

0.87

0.6870

0.3830

Note 46

Note 50

3.90

Note 51

N CHAIN STARTING WITH
AND CONTINUING WITH

N FERTILIZER
MANURE FROM GRAZING GOATS

TO PRODUCE
TO PRODUCE

WINTER WHEAT FOR BIOETHANOL AND
WINTER WHEAT FOR

GOAT MILK/MEAT
GOAT MILK/MEAT

Note 43
Note 43

Total N

RATIO OF N2O-N TO N IN FIRST CROP

Year N NH3

1-10 N leach

ACCORDING TO

FIRST YEAR

TOTAL

IPCC 1996

IPCC 2006

0.0546

0.0327

0.0988

0.0570

8.34

8.34

4.17

6.35

2.96

3.67

Note 45

Note 45

Note 45

Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha

Natural background emissions, kg N2O-N/ha:

Total/year 1

0.88

1.38

0.88

0.7611

0.4396

Note 46

Note 50

4.54

Note 51

SUMMARY N CROP

N CHAIN STARTING WITH
AND CONTINUING WITH

N FERTILIZER
GREEN MANURE HIGH N

TO PRODUCE
TO PRODUCE

HIGH N CROP
CATTLE DAIRY

Note 43
Note 43

Total N

RATIO OF N2O-N TO N IN FIRST CROP

Year N NH3

IPCC 1996

IPCC 2006

1-10 N leach

0.0366

0.0236

0.0472

0.0688

TOTAL N AMOUNTS IN KG AND %

9.77

9.73

2.59

4.42

2.28

3.04

Note 45

Note 45

Note 45

Note 45

N2O-N/N in food/beverage/fuel/other

0.4526

0.3107

Note 46

Area with crop, ha

Total/year 1

1.19

1.88

Natural background emissions, kg N2O-N/ha:

1.19

5.62

Note 50

4.23

Note 51

N amount in reference crop year 2 after use of N crop as green manure, kg

28.91

N amount in reference crop year 1 after synthetic N fertilizer, kg

64.27

Relative value of green manure, %

44.99

N CHAIN STARTING WITH
AND CONTINUING WITH

N FERTILIZER
GREEN MANURE LOW N

TO PRODUCE
TO PRODUCE

LOW N CROP
CATTLE DAIRY

Note 43
Note 43

Total N

RATIO OF N2O-N TO N IN FIRST CROP

Year N NH3

IPCC 1996

IPCC 2006

1-10 N leach

0.0366

0.0236

0.0447

0.0690

TOTAL N AMOUNTS IN KG AND %

5.58

5.56

2.43

4.43

2.10

2.87

Note 45

Note 45

Note 45

Note 45

N2O-N/N in food/beverage/fuel/other

0.7954

0.5153

Note 46

Area with crop, ha

Total/year 1

0.95

1.50

Natural background emissions, kg N2O-N/ha:

0.95

5.39

Note 50

3.83

Note 51

N amount in reference crop year 2 after use of N crop as green manure, kg

16.52

N amount in reference crop year 1 after synthetic N fertilizer, kg

64.27

Relative value of green manure, %

25.71

SUMMARY FOOD, FUEL, AND WASTE

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER NO MANURE

WINTER WHEAT FOR BIOETHANOL AND NOTHING FOR

FOOD FOOD

Note 43 Note 43

Total N

RATIO OF N2O-N TO N IN FIRST CROP

Year N NH3

IPCC 1996

1-10 N leach

0.0366

TOTAL N AMOUNTS IN KG AND %

64.27

64.27

1.49

2.35

1.25

1.52

Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha

Natural background emissions, kg N2O-N/ha:

Total/year 1

0.64

1.00

0.64

0.0366

2.99

2.16

Note 46

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER NO MANURE

WINTER WHEAT FOR BIOETHANOL AND NOTHING FOR

FUEL FUEL

Note 43 Note 43

Total N

RATIO OF N2O-N TO N IN FIRST CROP

Year N NH3

IPCC 1996

1-10 N leach

0.0366

TOTAL N AMOUNTS IN KG AND %

64.27

64.27

1.49

2.35

1.25

1.52

Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha

Natural background emissions, kg N2O-N/ha:

Total/year 1

0.64

1.00

0.64

0.0366

2.99

2.16

Note 46

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER NO MANURE

WINTER WHEAT FOR BIOETHANOL AND NOTHING FOR

WASTE DUMPED ELSEWHERE WITHOUT LEACHING WASTE, DUMPED ELSEWHERE

Note 43 Note 43

Total N

RATIO OF N2O-N TO N IN FIRST CROP

Year N NH3

IPCC 1996

1-10 N leach

0.0366

TOTAL N AMOUNTS IN KG AND %

64.27

64.27

1.49

2.35

1.25

1.52

Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha

Natural background emissions, kg N2O-N/ha:

Total/year 1

0.64

1.00

0.64

No use

2.99

2.16

Note 46

N CHAIN STARTING WITH AND CONTINUING WITH

N FERTILIZER NO MANURE

WINTER WHEAT FOR BIOETHANOL AND NOTHING FOR

WASTE DUMPED IN FIELD AND LOST TO LEACH WASTE DUMPED IN FIELD

Note 43 Note 43

Total N

RATIO OF N2O-N TO N IN FIRST CROP

Year N NH3

IPCC 1996

1-10 N leach

0.0616

TOTAL N AMOUNTS IN KG AND %

0.00

0.00

1.49

3.96

1.25

2.00

Note 45

N2O-N/N in food/beverage/fuel/other

Area with crop, ha

Natural background emissions, kg N2O-N/ha:

Total/year 1

0.64

1.00

0.64

No use

4.59

2.64

Note 46

SUMMARY CATTLE	RATIO OF N2O-N TO N IN FIRST CROP ACCORDING TO	IPCC 1996		IPCC 2006		N2O-N emission IPCC 1996		N2O-N emission IPCC 2006	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
	FIRST YEAR	0.0378	0.0514	0.0273	0.0384	3.77	5.49	2.63	3.82

TOTAL	0.0587	0.0854	0.0409	0.0594
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N2O-N/N in food/beverage/fuel/other

Natural background emissions in kg N2O-N/ha, area with crop in ha, and total emissions in kg N2O-N/ha:

SUMMARY PIGS	RATIO OF N2O-N TO N IN FIRST CROP ACCORDING TO	IPCC 1996		IPCC 2006		N2O-N emission IPCC 1996		N2O-N emission IPCC 2006	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
	FIRST YEAR	0.0379	0.0482	0.0269	0.0353	3.32	4.7	2.24	3.31

TOTAL	0.0516	0.0732	0.0349	0.0516
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N2O-N/N in food/beverage/fuel/other

Natural background emissions in kg N2O-N/ha, area with crop in ha, and total emissions in kg N2O-N/ha:

SUMMARY POULTRY	RATIO OF N2O-N TO N IN FIRST CROP ACCORDING TO	IPCC 1996		IPCC 2006		N2O-N emission IPCC 1996		N2O-N emission IPCC 2006	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
	FIRST YEAR	0.0375	0.0517	0.0263	0.0388	3.18	5.53	2.06	3.85

TOTAL	0.0495	0.0860	0.0320	0.0599
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N2O-N/N in food/beverage/fuel/other

Natural background emissions in kg N2O-N/ha, area with crop in ha, and total emissions in kg N2O-N/ha:

SUMMARY SHEEP AND GOATS	RATIO OF N2O-N TO N IN FIRST CROP ACCORDING TO	IPCC 1996		IPCC 2006		N2O-N emission IPCC 1996		N2O-N emission IPCC 2006	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
	FIRST YEAR	0.0524	0.0546	0.0236	0.0327	5.43	6.35	2.79	3.67

TOTAL	0.0844	0.0988	0.0434	0.0570
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N2O-N/N in food/beverage/fuel/other

Natural background emissions in kg N2O-N/ha, area with crop in ha, and total emissions in kg N2O-N/ha:

SUMMARY FODDER	RATIO OF N2O-N TO N IN FIRST CROP ACCORDING TO	IPCC 1996		IPCC 2006		N2O-N emission IPCC 1996		N2O-N emission IPCC 2006	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
	FIRST YEAR	0.0375	0.0546	0.0236	0.0388	3.18	6.35	2.06	3.85

TOTAL	0.0495	0.0988	0.0320	0.0599
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N2O-N/N in food/beverage/fuel/other

Natural background emissions in kg N2O-N/ha, area with crop in ha, and total emissions in kg N2O-N/ha:

MIN	MAX	MIN	MAX
0.79	1.02	0.79	1.30

MIN	MAX	MIN	MAX
0.75	0.89	0.75	0.89

MIN	MAX	MIN	MAX
0.70	0.96	0.70	0.96

MIN	MAX	MIN	MAX
0.86	0.95	0.86	0.95

MIN	MAX	MIN	MAX
0.70	1.02	0.70	1.30