

Crop, fodder/food	WRS	WWH	WWB	WBA	WYE	TRI	SBA	SWH	OAT	MCC	MCW	GRO	GCR	GHP	GRP	CGR0	CONC
Crop #	22	11	13	10	14	16	1	2	3	5	216	263	260	2520	252	2610	9999
<NUE/e>	0.64	0.64	0.54	0.60	0.59	0.53	0.60	0.58	0.73	0.62	1.05	0.83	1.33	11.68	0.44	0.81	1.00
N digestibility, crop/crop part with N	0.84	0.67	0.68	0.66	0.62	0.65	0.65	0.67	0.64	0.62	0.63	0.78	0.80	0.80	0.66	0.78	0.80
<NUE/e> addition before cereal	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.04	0.11	29.21	0.00	0.00	0.00
<NUE/e> addition from straw	0.15	0.11	0.09	0.12	0.17	0.13	0.12	0.07	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recalculated N norm, kg N/ha	144	157	198	147	117	141	118	118	93	140	160	309	199	21	132	132	-87

Crop, PPO/biodiesel/bioethanol	WRB	WWHB	WWBB	WBB	RYB	TRB	SBB	SWB	OAB	MCB
Crop #	229	119	139	109	149	169	19	29	39	59
<NUE/e>	0.64	0.64	0.54	0.60	0.59	0.53	0.60	0.58	0.73	0.62
N digestibility, crop part with N	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.83
<NUE/e> addition before cereal	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<NUE/e> addition from straw	0.15	0.11	0.09	0.12	0.17	0.13	0.12	0.07	0.13	0.00
Recalculated N norm, kg N/ha	144	157	198	147	117	141	118	118	93	140

<NUE/e> amounts from crop res	0.03	0.11	0.09	0.08	0.15	0.12	0.09	0.12	0.11	0.21	0.04	0.04	0.13	1.28	0.15	0.15	-0.30
<NUE/e> amounts from N fixation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	11.96	0.00	0.00	-4.05

Manure/fertilizer kind, #	None	0	1	2	2	2	2	2	3	3	3	3	3	4	4	4	4	5	5	6	6	71	72	72	None	None	
Manure handling	None	None	Liquid	Deep litter	Deep litter	Deep litter	Deep litter	Deep litter	Deep litter	Deep litter	Deep litter	Deep litter	Deep litter	Deep litter	Deep litter	Deep litter	Deep litter	Deep litter	Deep litter	Deep litter	Deep litter	Green high N	Green low N	Green	None	None	
Manure+straw, relative	1.000	1.016	1.016	1.159	1.000	1.000	1.024	1.127	1.000	1.000	1.000	1.000	1.000	1.000	1.013	1.000	1.162	1.000	1.162	1.000	1.162	1.000	1.000	1.000	1.000	0	
Vol/NH3 House	0.000	0.080	0.050	0.060	0.000	0.140	0.180	0.250	0.000	0.100	0.250	0.400	0.150	0.000	0.400	0.000	0.150	0.000	0.150	0.000	0.150	0.000	0.000	0.000	0.000	0	
Vol/NH3 Store	0.000	0.022	0.085	0.300	0.000	0.027	0.214	0.400	0.000	0.020	0.150	0.175	0.150	0.000	0.175	0.000	0.150	0.000	0.150	0.000	0.150	0.000	0.000	0.000	0.000	0	
% use of field store																											
Vol/NH3 Field	0.000	0.022	0.250	0.250	0.070	0.250	0.250	0.250	0.070	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0	
N efficiency	0.000	1.000	0.700	0.650	0.450	0.750	0.650	0.650	0.650	0.650	0.450	0.450	0.450	0.450	0.450	0.450	0.450	0.450	0.450	0.450	0.450	0.450	0.450	0.400	0.400	0.400	0
N-Vol/NH3 efficiency	1.022	0.933	0.867	0.600	0.484	1.000	0.867	0.867	0.699	0.867	0.867	0.867	0.867	0.867	0.600	0.484	0.600	0.484	0.600	0.484	0.600	0.484	0.933	0.533	0.533	0	

Use Kind	Waste moved in field	Cattle Dairy	Cattle Beef	Pig Pork	Poultry Meat	Poultry Eggs	Sheep Milk/mutton	Goat Milk/meat	N crop high N	N crop low N	Food/ beverage	Fuel/ other
#	-1	0	21	32	42	43	51	61	71	72	8	9
Fodder to food	N eff	NON	0.264	0.227	0.510	0.241	0.142	0.096	0.096	0.096	0.096	0.096
Fodder to food	N eff	ORG	0.264	0.146	0.328	0.272	0.142	0.096	0.096	0.096	0.096	0.096
Fodder to food	ND eff	NON	0.351	0.310								
Fodder to food	ND eff	ORG	0.351	0.199								

Ratios of N2O-N to N according to Fertilizer/manure	IPCC 1996 (current inventories)	IPCC 2006 (newest values, not yet used for inventories)
Handling/ house/store	N Animal	N Animal
Slurry and liquid manure	0	0
Solid manure and deep litter	0	0
Application/field	0.0125	0.0100
Grazing cattle, rooting pigs, craping poultry	0	0
Grazing, others	0	0
Volatilisation/NH3	0.0100	0.0100
Crop residues	0	0
N fixing crops	0	0
Leaching	0.0250	0.0075

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE CATTLE DAIRY Note 43  
 AND CONTINUING WITH LIQUID CATTLE MANURE TO PRODUCE CATTLE DAIRY Note 43

Year Fertilizer/manure Or- Nnorm Crop Straw Crop Fuel/ Fuel/ N2O-N emission N2O-N emission  
 # Store Amounts ganic propor # use & #71/ other #71/ other IPCC 1996 IPCC 2006  
 Name 1/0 Store Field 1/0 Name 1/0 leach leach #9 #9 # Name Total Each Total Each Total

Total N		RATIO OF N2O-N TO N IN FIRST CROP										23.7		23.5	
Year	N NH3	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED										23.7	23.5
1-10	N leach	0.0421	0.0293	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										21.6	21.4
TOTAL		0.0634	0.0450	TOTAL N AMOUNTS IN KG AND % LEACHED										55.6	55.1
		TOTAL N AMOUNTS IN KG AND %										100.9	100.0		

N2O-N in food/beverage/fuel/other 0.1595 0.1131 Note 46

Year	N	Vol/NH3	N	100.0	0	100	109	0	0	97.8	21	59.6	17.6	0.0	0.0	0.0	42.0	2.17	3.78	2.05	2.68
1	N leach	1.022	1.000	2.2	NON	100.00	WBB	1.000	NO	38.2	Cattle	0.84	0.0	0.0	0.0	0.0	3.4	0.06	0.0125	0.06	1.75
Year	N	21	0	39.3	0	100	11	0	0	29.5	Dairy	2	4.2	0.0	0.0	0.0	0.0	0.95	0.0010	0.29	0.0050
2	N leach	0.933	1.016	9.8	NON	100.00	WWH	1.000	NO	11.8	Cattle	0.67	0.0	0.0	0.0	0.0	1.1	0.11	0.0125	0.11	0.0100
Year	N	21	0	12.6	0	100	11	0	0	9.5	Dairy	2	1.3	0.0	0.0	0.0	0.0	0.29	0.0010	0.09	0.0050
3	N leach	0.933	1.016	3.2	NON	100.00	WWH	1.000	NO	3.8	Cattle	0.67	0.0	0.0	0.0	0.0	0.3	0.04	0.0125	0.04	0.0100
Year	N	21	0	4.1	0	100	11	0	0	3.0	Dairy	2	0.4	0.0	0.0	0.0	0.0	0.09	0.0010	0.03	0.0050
4	N leach	0.933	1.016	1.0	NON	100.00	WWH	1.000	NO	1.2	Cattle	0.67	0.0	0.0	0.0	0.0	0.1	0.01	0.0125	0.01	0.0100
Year	N	21	0	1.3	0	100	1	0	0	1.0	Dairy	2	0.1	0.0	0.0	0.0	0.0	0.03	0.0010	0.01	0.0050
5	N leach	0.933	1.016	0.3	NON	100.00	SBA	1.000	NO	0.4	Cattle	0.65	0.0	0.0	0.0	0.0	0.0	0.02	0.03	0.01	0.02
Year	N	21	0	0.4	0	100	109	0	0	0.3	Dairy	2	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
6	N leach	0.933	1.016	0.1	NON	100.00	WBB	1.000	NO	0.1	Cattle	0.84	0.0	0.0	0.0	0.0	0.0	0.01	0.0010	0.00	0.0050
Year	N	21	0	0.1	0	100	11	0	0	0.1	Dairy	2	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
7	N leach	0.933	1.016	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0050
Year	N	21	0	0.0	0	100	11	0	0	0.0	Dairy	2	0.0	0.0	0.0	0.0	0.0	0.00	0.0010	0.00	0.0050
8	N leach	0.933	1.016	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
Year	N	21	0	0.0	0	100	11	0	0	0.0	Dairy	2	0.0	0.0	0.0	0.0	0.0	0.00	0.0010	0.00	0.0050
9	N leach	0.933	1.016	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
Year	N	21	0	0.0	0	100	1	0	0	0.0	Dairy	2	0.0	0.0	0.0	0.0	0.0	0.00	0.0010	0.00	0.0050
10	N leach	0.933	1.016	0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	0.65	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
Year	N	21	0	0.0	0	100	1000	0.443	0.0	0.0	Dairy	2	0.0	0.0	0.0	0.0	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	0.68	0.23	0.07	0.02	0.01	0.00	0.00	0.00	0.00	0.00	1.02	1.50
Possible additional non IPCC N2O-N emissions	Value	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Kind of source
N residues emissions, ratio of N2O-N to N:	Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops
Increased soil N emissions, kg N2O-N/ha:	Value	1.00	0.68	0.23	0.07	0.02	0.01	0.00	0.00	0.00	1.02	Total anthropogenic
Natural background emissions, kg N2O-N/ha:	Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total including natural
Total IPCC and non IPCC N2O	Value	3.78	2.68	0.51	0.23	0.07	0.02	0.01	0.00	0.00	4.80	Note 51
Total	Value	2.68	0.51	0.23	0.07	0.02	0.01	0.00	0.00	0.00	3.70	Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE CATTLE DAIRY Note 43  
 AND CONTINUING WITH SEPARATED CATTLE MANURE TO PRODUCE CATTLE DAIRY Note 43

Year Fertilizer/manure # Store Amounts Name 1/0 Store Field 1/0 Or-ganic 1/0 Nnorm propor 1/0 Crop # Name 1/0 Cereal benefit 1/0 Straw used 1/0 Crop use & leach Name Use # Fodder: Uses #21-61 Food #72 N crop #71/ bev #78 Fuel/ other #9 Manure Final handling N a- # Name mounts Each Total N2O-N emission IPCC 1996 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													
Year N NH3	1	0	100.0	2.2	NON	100.00	WBB	1000	NO	0	0	97.8	21	59.6	17.6	0.0	0.0	22	23.3	23.1	2.73	4.37	2.06	2.69	
1-10 N leach	1.022	1.000	0.0	0.391	0.0	1.000	NO	0	0	0	0	38.2	Cattle	0.84	0.0	0.0	0.0	0.0	19.9	19.7	0.20	0.20	0.20	Note 45	
	22	0	40.5	40.5	0	100	11	0	0	0	0	30.4	Dairy	2	0.0	0.0	0.0	22	57.7	57.2	1.44	1.44	0.43	Note 45	
												13.5	Cattle	0.67	0.0	0.0	0.0	0.0	100.9	100.0					Note 45

N2O-N in food/beverage/fuel/other 0.1873 0.1153 Note 46

Year N	1	0	100.0	2.2	NON	100.00	WBB	1000	NO	0	0	97.8	21	59.6	17.6	0.0	0.0	22	42.0	42.0	1.88	2.87	1.41	1.74	
1	Vol/NH3	N	NO	0.0	1.000	NO	1.000	NO	0	0	0	38.2	Cattle	0.84	0.0	0.0	0.0	0.0	2.1	2.1	0.04	0.125	0.04	0.100	
	N leach	1.022	1.000	0.0	0.391	0.0	1.000	NO	0	0	0	38.2	Dairy	2	18.8	18.8	18.8	18.8	0.0	0.0	0.95	0.105	0.29	0.050	
Year	2	Vol/NH3	Cattle	NO	0.0	10.1	NON	100.00	WWH	1.000	NO	30.4	Dairy	2	16.9	4.0	0.0	0.0	22	13.0	13.0	0.99	0.105	0.45	0.66
	N leach	Sep	0.867	1.016	0.0	1.000	NO	0.443	0.0	0.0	0	13.5	Cattle	0.67	0.0	0.0	0.0	0.0	0.6	0.6	0.11	0.125	0.11	0.100	
Year	3	Vol/NH3	Cattle	NO	0.0	12.5	0	100	11	0	0	9.4	Dairy	2	5.2	1.2	0.0	0.0	22	4.0	4.0	0.18	0.32	0.14	0.20
	N leach	Sep	0.867	1.016	0.0	1.000	NO	0.443	0.0	0.0	0	4.2	Cattle	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.125	0.03	0.100	
Year	4	Vol/NH3	Cattle	NO	0.0	3.1	NON	100.00	WWH	1.000	NO	4.2	Dairy	2	0.67	0.0	0.0	0.0	2.1	0.0	0.0	0.03	0.125	0.03	0.100
	N leach	Sep	0.867	1.016	0.0	1.000	NO	0.443	0.0	0.0	0	4.2	Dairy	2	0.67	0.0	0.0	0.0	2.1	0.0	0.0	0.03	0.125	0.03	0.100
Year	5	Vol/NH3	Cattle	NO	0.0	3.9	0	100	11	0	0	2.9	Dairy	2	1.6	0.4	0.0	0.0	22	1.2	1.2	0.06	0.10	0.04	0.06
	N leach	Sep	0.867	1.016	0.0	1.000	NO	0.443	0.0	0.0	0	1.3	Cattle	0.67	0.0	0.0	0.0	0.0	0.1	0.1	0.01	0.125	0.01	0.100	
Year	6	Vol/NH3	Cattle	NO	0.0	1.2	0	100	1	0	0	0.9	Dairy	2	0.5	0.1	0.0	0.0	22	0.4	0.4	0.02	0.03	0.01	0.02
	N leach	Sep	0.867	1.016	0.0	1.000	NO	0.483	0.0	0.0	0	1.3	Dairy	2	0.65	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.01	0.0050	
Year	7	Vol/NH3	Cattle	NO	0.0	0.3	NON	100.00	SBA	1.000	NO	0.4	Cattle	0.65	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	
	N leach	Sep	0.867	1.016	0.0	1.000	NO	0.483	0.0	0.0	0	0.4	Dairy	2	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.105	0.00	0.0050	
Year	8	Vol/NH3	Cattle	NO	0.0	0.3	0	100	109	0	0	0.3	Dairy	2	0.1	0.0	0.0	0.0	22	0.1	0.1	0.00	0.01	0.00	0.01
	N leach	Sep	0.867	1.016	0.0	1.000	NO	0.483	0.0	0.0	0	0.1	Cattle	0.84	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	
Year	9	Vol/NH3	Cattle	NO	0.0	0.1	NON	100.00	WBB	1.000	NO	0.1	Dairy	2	0.0	0.0	0.0	0.0	22	0.0	0.0	0.00	0.015	0.00	0.0050
	N leach	Sep	0.867	1.016	0.0	1.000	NO	0.483	0.0	0.0	0	0.1	Dairy	2	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.105	0.00	0.0050	
Year	10	Vol/NH3	Cattle	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67	0.0	0.0	0.0	0.0	22	0.0	0.0	0.00	0.00	0.00	0.00
	N leach	Sep	0.867	1.016	0.0	1.000	NO	0.443	0.0	0.0	0	0.0	Cattle	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	
Year	11	Vol/NH3	Cattle	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Dairy	2	0.0	0.0	0.0	0.0	22	0.0	0.0	0.00	0.00	0.00	0.00
	N leach	Sep	0.867	1.016	0.0	1.000	NO	0.443	0.0	0.0	0	0.0	Dairy	2	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.105	0.00	0.0050	
Year	12	Vol/NH3	Cattle	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67	0.0	0.0	0.0	0.0	22	0.0	0.0	0.00	0.00	0.00	0.00
	N leach	Sep	0.867	1.016	0.0	1.000	NO	0.443	0.0	0.0	0	0.0	Cattle	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	
Year	13	Vol/NH3	Cattle	NO	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Dairy	2	0.0	0.0	0.0	0.0	22	0.0	0.0	0.00	0.00	0.00	0.00
	N leach	Sep	0.867	1.016	0.0	1.000	NO	0.483	0.0	0.0	0	0.0	Dairy	2	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	

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 0.68 0.22 0.07 0.02 0.01 0.00 0.00 0.00 0.00 0.00 0.00 1.47 Note 50

Possible additional non IPCC N2O-N emissions Value 0.0000  
 N residues emissions, ratio of N2O-N to N: 0.00  
 Increased soil N emissions, kg N2O-N/ha: 1.00  
 Natural background emissions, kg N2O-N/ha: 0.68

Total IPCC and non IPCC N2O 4.37  
 Total anthropogenic 4.37  
 Total including natural 5.37

Kind of source  
 Current crops 0.00  
 Total anthropogenic 0.00  
 Total including natural 1.00

Year 1 0.68  
 Year 2 0.22  
 Year 3 0.07  
 Year 4 0.02  
 Year 5 0.01  
 Year 6 0.00  
 Year 7 0.00  
 Year 8 0.00  
 Year 9 0.00  
 Year 10 0.00  
 Total 1.47

Year 1 0.0000  
 Year 2 0.00  
 Year 3 0.00  
 Year 4 0.00  
 Year 5 0.00  
 Year 6 0.00  
 Year 7 0.00  
 Year 8 0.00  
 Year 9 0.00  
 Year 10 0.00  
 Total 0.00

Year 1 1.00  
 Year 2 0.68  
 Year 3 0.07  
 Year 4 0.02  
 Year 5 0.01  
 Year 6 0.00  
 Year 7 0.00  
 Year 8 0.00  
 Year 9 0.00  
 Year 10 0.00  
 Total 5.37

Year 1 0.00  
 Year 2 0.00  
 Year 3 0.00  
 Year 4 0.00  
 Year 5 0.00  
 Year 6 0.00  
 Year 7 0.00  
 Year 8 0.00  
 Year 9 0.00  
 Year 10 0.00  
 Total 0.00

Year 1 0.00  
 Year 2 0.00  
 Year 3 0.00  
 Year 4 0.00  
 Year 5 0.00  
 Year 6 0.00  
 Year 7 0.00  
 Year 8 0.00  
 Year 9 0.00  
 Year 10 0.00  
 Total 0.00

Year 1 0.00  
 Year 2 0.00  
 Year 3 0.00  
 Year 4 0.00  
 Year 5 0.00  
 Year 6 0.00  
 Year 7 0.00  
 Year 8 0.00  
 Year 9 0.00  
 Year 10 0.00  
 Total 0.00

Year 1 0.00  
 Year 2 0.00  
 Year 3 0.00  
 Year 4 0.00  
 Year 5 0.00  
 Year 6 0.00  
 Year 7 0.00  
 Year 8 0.00  
 Year 9 0.00  
 Year 10 0.00  
 Total 0.00

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE TO PRODUCE  
 AND CONTINUING WITH CATTLE DEEP LITTER TO PRODUCE

Year Fertilizer/manure # Store Amounts Field Or-ganic 1/0 Nnorm Crop # N crop Food/ Fuel/ other #71/#72 #8 #9 Manure Final N2O-N emission N2O-N emission  
 Name 1/0 Store Amounts Field 1/0 ganic 1/0 Nnorm Crop # N crop Food/ Fuel/ other #71/#72 #8 #9 # Name mounts Each 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									
Year N NH3	IPCC 1996					IPCC 2006					TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3					TOTAL N AMOUNTS IN KG AND % LEACHED				
1-10 N leach	0.0545					0.0293					66.0					60.9				
TOTAL	0.0846					0.0461					108.3					100.0				

N2O-N in food/beverage/fuel/other

Year N	1	0	100.0	100.0	0	100	109	0	0	97.8	21	59.6	17.6	0.0	0.0	23	42.0	2.25	3.25	1.41	2.05	5.04	2.75	2.05
1	Vol/NH3	N	NO	0.0	2.2	NON	100.00	WBB	1.000	NO	0.391	0.0	38.2	Cattle	0.84	0.0	0.0	2.5	0.05	0.0125	1.41	0.21	0.21	2.05
N leach	1.022	1.000	1.000	1.000	ORG	1.00	1.000	0.391	0.0	38.2	Dairy	2	18.8	Deep	0.29	0.0200	0.0	0.95	0.0200	0.29	0.49	0.49	2.75	2.05
Year N	23	0	45.8	45.8	0	100	11	0	0	34.3	21	13.2	3.1	0.0	0.0	23	10.1	0.71	1.36	0.48	0.48	0.48	2.05	2.05
2	Vol/NH3	Cattle	NO	0.0	11.4	NON	100.00	WWH	1.000	NO	0.67	0.67	0.0	0.0	0.0	0.0	0.6	0.12	0.125	0.12	0.12	0.12	0.12	0.12
N leach	0.600	1.159	1.159	1.159	ORG	1.00	1.000	0.67	0.0	21.1	Cattle	2	7.5	Deep	0.16	0.0050	0.0	0.53	0.0200	0.16	0.16	0.16	0.16	0.16
Year N	23	0	11.0	11.0	0	100	11	0	0	8.3	21	3.2	0.8	0.0	0.0	23	2.4	0.17	0.33	0.12	0.12	0.12	0.12	0.12
3	Vol/NH3	Cattle	NO	0.0	2.8	NON	100.00	WWH	1.000	NO	0.67	0.67	0.0	0.0	0.0	0.0	0.1	0.03	0.0125	0.03	0.03	0.03	0.03	0.03
N leach	0.600	1.159	1.159	1.159	ORG	1.00	1.000	0.67	0.0	5.1	Cattle	2	1.8	Deep	0.04	0.0050	0.0	0.13	0.0200	0.04	0.04	0.04	0.04	0.04
Year N	23	0	2.7	2.7	0	100	11	0	0	2.0	21	0.8	0.2	0.0	0.0	23	0.6	0.04	0.08	0.03	0.03	0.03	0.03	0.03
4	Vol/NH3	Cattle	NO	0.0	0.7	NON	100.00	WWH	1.000	NO	0.67	0.67	0.0	0.0	0.0	0.0	0.0	0.01	0.0125	0.01	0.01	0.01	0.01	0.01
N leach	0.600	1.159	1.159	1.159	ORG	1.00	1.000	0.67	0.0	1.2	Cattle	2	0.4	Deep	0.01	0.0050	0.0	0.03	0.0200	0.01	0.01	0.01	0.01	0.01
Year N	23	0	0.6	0.6	0	100	1	0	0	0.5	21	0.2	0.0	0.0	0.0	23	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01
5	Vol/NH3	Cattle	NO	0.0	0.2	NON	100.00	SBA	1.000	NO	0.642	0.65	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.00	0.00	0.00	0.00
N leach	0.600	1.159	1.159	1.159	ORG	1.00	1.000	0.642	0.0	0.3	Dairy	2	0.1	Deep	0.00	0.0050	0.0	0.01	0.0200	0.00	0.00	0.00	0.00	0.00
Year N	23	0	0.1	0.1	0	100	109	0	0	0.1	21	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Vol/NH3	Cattle	NO	0.0	0.0	NON	100.00	WBB	1.000	NO	0.642	0.84	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.00	0.00	0.00	0.00
N leach	0.600	1.159	1.159	1.159	ORG	1.00	1.000	0.642	0.0	0.1	Dairy	2	0.0	Deep	0.00	0.0050	0.0	0.01	0.0200	0.00	0.00	0.00	0.00	0.00
Year N	23	0	0.0	0.0	0.0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Vol/NH3	Cattle	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.642	0.67	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.00	0.00	0.00	0.00
N leach	0.600	1.159	1.159	1.159	ORG	1.00	1.000	0.642	0.0	0.0	Dairy	2	0.0	Deep	0.00	0.0050	0.0	0.00	0.0200	0.00	0.00	0.00	0.00	0.00
Year N	23	0	0.0	0.0	0.0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Vol/NH3	Cattle	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.614	0.67	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.00	0.00	0.00	0.00
N leach	0.600	1.159	1.159	1.159	ORG	1.00	1.000	0.614	0.0	0.0	Dairy	2	0.0	Deep	0.00	0.0050	0.0	0.00	0.0200	0.00	0.00	0.00	0.00	0.00
Year N	23	0	0.0	0.0	0.0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Vol/NH3	Cattle	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.614	0.67	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.00	0.00	0.00	0.00
N leach	0.600	1.159	1.159	1.159	ORG	1.00	1.000	0.614	0.0	0.0	Dairy	2	0.0	Deep	0.00	0.0050	0.0	0.00	0.0200	0.00	0.00	0.00	0.00	0.00
Year N	23	0	0.0	0.0	0.0	100	1	0	0	0.0	21	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	Vol/NH3	Cattle	NO	0.0	0.0	NON	100.00	SBA	1.000	NO	0.642	0.65	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.00	0.00	0.00	0.00
N leach	0.600	1.159	1.159	1.159	ORG	1.00	1.000	0.642	0.0	0.0	Dairy	2	0.0	Deep	0.00	0.0050	0.0	0.00	0.0200	0.00	0.00	0.00	0.00	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 0.68 0.17 0.04 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.91 1.33

Possible additional non IPCC N2O-N emissions Value 0.0000  
 N residues emissions, ratio of N2O-N to N: 0.00  
 Increased soil N emissions, kg N2O-N/ha: 1.00  
 Natural background emissions, kg N2O-N/ha: 0.68  
 Total IPCC and non IPCC N2O 5.04  
 Total anthropogenic 5.04  
 Total including natural 5.95  
 Note 51 2.75 Note 51 2.75 Note 51 3.66 Note 51



N CHAIN STARTING WITH N FERTILIZER TO PRODUCE CATTLE BEEF  
 AND CONTINUING WITH LIQUID CATTLE MANURE TO PRODUCE CATTLE BEEF

Year	Fertilizer/manure #	Store Name	Amounts 1/0	Field 1/0	Or-ganic 1/0	Nnorm propor-tion, %	Crop #	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use #	Feeder: 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 IPCC 2006	Total	Note	
Total N																							
Year 1-10																							
RATIO OF N2O-N TO N IN FIRST CROP ACCORDING TO FIRST YEAR TOTAL IPCC 1996 0.0421 IPCC 2006 0.0295 TOTAL 0.0650																							

Year	N	Vol/NH3	N	100.0	0	100	109	0	0	97.8	22	59.6	15.5	0.0	0.0	0.0	21	44.1	1.50	2.22	3.87	2.11	2.76
1	Vol/NH3	N	100.0	0	100	109	0	0	97.8	22	59.6	15.5	0.0	0.0	0.0	0.0	21	44.1	1.50	2.22	3.87	2.11	2.76
	N leach		2.2	NON	100.00	WBB	1.000	NO	38.2	Cattle	0.84	0.84	0.0	0.0	0.0	0.0	Cattle	3.5	0.06	0.0125	1.42	1.76	
	Year 2		41.2	0	100	11	0.391	0.0	38.2	Beef	2	2	0.0	0.0	0.0	0.0	Liquid	0.0	0.95	0.0010	0.29	0.0050	
	N leach		10.3	NON	100.00	WWH	1.000	NO	30.9	0	0.67	18.5	3.8	0.0	0.0	21	14.7	0.48	0.01	0.0010	0.46	0.67	
	Year 3		13.7	0	100	11	0.400	0.0	12.4	Cattle	2	2	1.3	0.0	0.0	21	0.0	0.11	0.0125	0.11	0.0100	0.48	
	N leach		3.4	NON	100.00	WWH	1.000	NO	10.3	0	0.67	6.2	0.0	0.0	0.0	21	0.0	0.09	0.0050	0.09	0.0050	0.48	
	Year 4		4.6	0	100	11	0.400	0.0	4.1	Cattle	2	2	0.4	0.0	0.0	21	4.9	0.16	0.03	0.15	0.22	0.47	
	N leach		1.1	NON	100.00	WWH	1.000	NO	4.1	0	0.67	2.1	0.0	0.0	0.0	21	0.4	0.04	0.0125	0.04	0.0100	0.48	
	Year 5		1.5	0	100	1	0.400	0.0	3.4	0	0.67	0.6	0.1	0.0	0.0	21	1.6	0.05	0.03	0.05	0.07	0.47	
	N leach		0.4	NON	100.00	SBA	1.000	NO	1.4	Cattle	2	2	0.0	0.0	0.0	21	0.1	0.01	0.0125	0.01	0.0100	0.48	
	Year 6		0.5	0	100	109	0.443	0.0	1.1	0	0.65	0.6	0.1	0.0	0.0	21	0.0	0.03	0.03	0.02	0.02	0.47	
	N leach		0.1	NON	100.00	WBB	1.000	NO	0.5	Cattle	2	2	0.0	0.0	0.0	21	0.0	0.01	0.0125	0.00	0.0100	0.48	
	Year 7		0.1	0	100	11	0.444	0.0	0.4	0	0.84	0.2	0.1	0.0	0.0	21	0.0	0.01	0.01	0.01	0.01	0.47	
	N leach		0.0	NON	100.00	WWH	1.000	NO	0.2	Cattle	2	2	0.0	0.0	0.0	21	0.0	0.00	0.0125	0.00	0.0100	0.48	
	Year 8		0.0	0	100	11	0.400	0.0	0.1	0	0.67	0.1	0.0	0.0	0.0	21	0.0	0.00	0.0125	0.00	0.0050	0.49	
	N leach		0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	2	2	0.0	0.0	0.0	21	0.0	0.00	0.0125	0.00	0.0050	0.48	
	Year 9		0.0	0	100	11	0.400	0.0	0.0	0	0.67	0.0	0.0	0.0	0.0	21	0.0	0.00	0.0125	0.00	0.0050	0.49	
	N leach		0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	2	2	0.0	0.0	0.0	21	0.0	0.00	0.0125	0.00	0.0050	0.48	
	Year 10		0.0	0	100	1	0.400	0.0	0.0	0	0.65	0.0	0.0	0.0	0.0	21	0.0	0.00	0.0125	0.00	0.0050	0.48	
	N leach		0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	2	2	0.0	0.0	0.0	21	0.0	0.00	0.0125	0.00	0.0050	0.49	

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
Year		0.68	0.24	0.08	0.03	0.01	0.00	0.00	0.00	0.00	0.00	1.04	1.53	Note 50
Area with crop, ha		0.68	0.24	0.08	0.03	0.01	0.00	0.00	0.00	0.00	0.00	1.04	1.53	Note 50
Possible additional non IPCC N2O-N emissions	Value	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	2.76 Note 51
Increased soil N emissions, kg N2O-N/ha:		1.00	0.68	0.24	0.08	0.03	0.01	0.00	0.00	0.00	0.00	1.04	1.53	2.76 Note 51
Natural background emissions, kg N2O-N/ha:		1.00	0.68	0.24	0.08	0.03	0.01	0.00	0.00	0.00	0.00	1.04	1.53	3.80 Note 51



N CHAIN STARTING WITH N FERTILIZER TO PRODUCE CATTLE BEEF  
 AND CONTINUING WITH CATTLE DEEP LITTER TO PRODUCE CATTLE BEEF

Year Fertilizer/manure # Store Amounts Field 1/0 Or-ganic 1/0 Nnorm propor-tion, % Crop # Name Use Fuel/other #9 N crop Food/bev #72 #71 #8 #70 Final N a-mounts N2O-N emission IPCC 2006 Total Each Total

Year		Fertilizer/manure		Field		Or-ganic		Nnorm		Crop		Use		Fuel/other		N crop		Food/bev		Final N a-mounts		N2O-N emission		Total		
Year	#	Store	Amounts	1/0	Field	1/0	Or-ganic	1/0	Nnorm	propor	#	Name	Use	Fuel/other	#9	N crop	#72	#71	#8	#70	N a-mounts	Each	Total	Each	Total	
Total N		1	0	100.0	100.0	2.2	NON	0	100	109	0	0	97.8	22	59.6	15.5	0.0	0.0	0.0	0.0	19.4	17.8	3.29	5.20	2.10	2.82
Year N NH3		NO	0.0	0.0	0.0	1.000	NO	0	0	0	0	0	0	0.84	0.84	0.0	0.0	0.0	0.0	21.7	20.0	0.22	0.22	0.22	0.22	
1-10 N leach		1.022	1.000	1.000	1.000	0.391	ORG	1.00	1.000	0	0	0	0	2	2	18.8	0.0	0.0	0.0	67.7	62.2	1.69	1.69	0.51	0.51	
Year 2		23	0	48.0	48.0	12.0	NON	0	100	11	0	0	36.0	22	13.9	2.9	0.0	0.0	0.0	23	11.0	1.44	0.95	1.44	0.29	0.29
Year N NH3		Cattle	NO	0.0	0.0	1.000	NO	1.00	1.000	0	0	0	0	0.67	0.67	0.0	0.0	0.0	0.0	7.9	7.9	0.13	0.13	0.13	0.13	
Year N leach		Deep	0.600	1.159	1.159	0.614	ORG	1.00	1.000	0	0	0	0	2	2	7.9	0.0	0.0	0.0	23	2.7	0.36	0.55	0.200	0.17	0.0050
Year 3		23	0	12.0	12.0	3.0	NON	0	100	11	0	0	9.0	22	3.5	0.7	0.0	0.0	0.0	23	2.7	0.19	0.36	0.13	0.20	
Year N NH3		Cattle	NO	0.0	0.0	1.000	NO	1.00	1.000	0	0	0	0	0.67	0.67	0.0	0.0	0.0	0.0	23	0.2	0.03	0.03	0.03	0.03	
Year N leach		Deep	0.600	1.159	1.159	0.614	ORG	1.00	1.000	0	0	0	0	2	2	2.0	0.0	0.0	0.0	23	0.0	0.14	0.0200	0.04	0.0050	
Year 4		23	0	3.0	3.0	0.7	NON	0	100	11	0	0	2.2	22	0.9	0.2	0.0	0.0	0.0	23	0.7	0.05	0.09	0.03	0.05	
Year N NH3		Cattle	NO	0.0	0.0	1.000	NO	1.00	1.000	0	0	0	0	0.67	0.67	0.0	0.0	0.0	0.0	23	0.0	0.01	0.0125	0.01	0.0100	
Year N leach		Deep	0.600	1.159	1.159	0.614	ORG	1.00	1.000	0	0	0	0	2	2	0.5	0.0	0.0	0.0	23	0.0	0.03	0.0200	0.01	0.0050	
Year 5		23	0	0.7	0.7	0.2	NON	0	100	1	0	0	0.6	22	0.2	0.0	0.0	0.0	0.0	23	0.2	0.01	0.02	0.01	0.01	
Year N NH3		Cattle	NO	0.0	0.0	1.000	NO	1.00	1.000	0	0	0	0	0.65	0.65	0.0	0.0	0.0	0.0	23	0.0	0.00	0.0125	0.00	0.0100	
Year N leach		Deep	0.600	1.159	1.159	0.642	ORG	1.00	1.000	0	0	0	0	2	2	0.1	0.0	0.0	0.0	23	0.0	0.00	0.0125	0.00	0.0050	
Year 6		23	0	0.2	0.2	0.2	NON	0	100	109	0	0	0.1	22	0.0	0.0	0.0	0.0	0.0	23	0.0	0.00	0.01	0.00	0.00	
Year N NH3		Cattle	NO	0.0	0.0	1.000	NO	1.00	1.000	0	0	0	0	0.84	0.84	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	
Year N leach		Deep	0.600	1.159	1.159	0.642	ORG	1.00	1.000	0	0	0	0	2	2	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	
Year 7		23	0	0.0	0.0	0.0	NON	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	
Year N NH3		Cattle	NO	0.0	0.0	1.000	NO	1.00	1.000	0	0	0	0	0.67	0.67	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	
Year N leach		Deep	0.600	1.159	1.159	0.614	ORG	1.00	1.000	0	0	0	0	2	2	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	
Year 8		23	0	0.0	0.0	0.0	NON	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	
Year N NH3		Cattle	NO	0.0	0.0	1.000	NO	1.00	1.000	0	0	0	0	0.67	0.67	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	
Year N leach		Deep	0.600	1.159	1.159	0.614	ORG	1.00	1.000	0	0	0	0	2	2	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	
Year 9		23	0	0.0	0.0	0.0	NON	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	
Year N NH3		Cattle	NO	0.0	0.0	1.000	NO	1.00	1.000	0	0	0	0	0.67	0.67	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	
Year N leach		Deep	0.600	1.159	1.159	0.614	ORG	1.00	1.000	0	0	0	0	2	2	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	
Year 10		23	0	0.0	0.0	0.0	NON	0	100	1	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	
Year N NH3		Cattle	NO	0.0	0.0	1.000	NO	1.00	1.000	0	0	0	0	0.65	0.65	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	
Year N leach		Deep	0.600	1.159	1.159	0.642	ORG	1.00	1.000	0	0	0	0	2	2	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	

N2O-N in food/beverage/fuel/other 0.2688

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Area with crop, ha	0.68	0.18	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.35
Possible additional non IPCC N2O-N emissions	Value	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N residues emissions, ratio of N2O-N to N:	Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Increased soil N emissions, kg N2O-N/ha:	Value	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Natural background emissions, kg N2O-N/ha:	Value	1.00	0.68	0.18	0.04	0.01	0.00	0.00	0.00	0.00	0.92
Total IPCC and non IPCC N2O	Value	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20
Total anthropogenic	Value	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20
Total including natural	Value	6.12	6.12	6.12	6.12	6.12	6.12	6.12	6.12	6.12	6.12

Kind of source  
 Current crops  
 Total anthropogenic  
 Total including natural



N CHAIN STARTING WITH N FERTILIZER TO PRODUCE CATTLE BEEF Note 43  
 AND CONTINUING WITH MANURE FROM GRAZING CATTLE TO PRODUCE CATTLE BEEF Note 43

Year Fertilizer/manure N crop Food/ Fuel/ Manure Final N2O-N emission N2O-N emission  
 # Store Amounts #71/ bev other handling N a- IPCC 1996 IPCC 2006  
 Name 1/0 Store Field 1/0 Or- ganic 1/0 Crop # use & #9 # Name mounts Each 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									
Year N NH3	IPCC 1996					IPCC 2006					TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3					TOTAL N AMOUNTS IN KG AND % LEACHED				
1-10 N leach	0.0556					0.0403					18.9					6.2				
TOTAL	0.0897					0.0614					100.0					74.9				

N2O-N in food/beverage/fuel/other

Year N	1	0	100.0	100.0	0	100	109	0	0	97.8	22	59.6	15.5	0.0	0.0	0.0	24	44.1	3.41	5.34	3.03	3.66
1	Vol/NH3	N	NO	0.0	2.2	NON	100.00	WBB	1.000	NO	0.391	0.0	0.84	0.0	0.0	0.0	0.0	0.0	0.02	0.06	0.06	0.06
N leach	1.022	1.000	ORG	1.00	1.000	0.0	0.0	38.2	Cattle	0.84	2	0.84	18.8	Graz	0.0	0.0	0.0	0.0	0.95	0.0200	0.0200	0.0200
Year N	2	0	44.1	44.1	0	100	11	0	0	41.0	22	12.8	2.6	0.0	0.0	0.0	24	10.1	0.83	1.56	0.72	0.97
2	Vol/NH3	Cattle	NO	0.0	3.1	NON	100.00	WWH	1.000	NO	0.67	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0125	0.03	0.1000
N leach	0.484	1.000	ORG	1.00	1.000	0.0	0.0	28.3	Cattle	0.67	2	0.67	9.0	Graz	0.0	0.0	0.0	0.0	0.71	0.0200	0.0200	0.0200
Year N	3	0	10.1	10.1	0	100	11	0	0	9.4	22	2.9	0.6	0.0	0.0	0.0	24	2.3	0.19	0.36	0.17	0.22
3	Vol/NH3	Cattle	NO	0.0	0.7	NON	100.00	WWH	1.000	NO	0.67	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0125	0.01	0.0100
N leach	0.484	1.000	ORG	1.00	1.000	0.0	0.0	6.5	Cattle	0.67	2	0.67	2.1	Graz	0.0	0.0	0.0	0.0	0.16	0.0200	0.05	0.0200
Year N	4	0	2.3	2.3	0	100	11	0	0	2.2	22	0.7	0.1	0.0	0.0	0.0	24	0.5	0.04	0.08	0.04	0.05
4	Vol/NH3	Cattle	NO	0.0	0.2	NON	100.00	WWH	1.000	NO	0.67	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
N leach	0.484	1.000	ORG	1.00	1.000	0.0	0.0	1.5	Cattle	0.67	2	0.67	0.5	Graz	0.0	0.0	0.0	0.0	0.04	0.0200	0.01	0.0200
Year N	5	0	0.5	0.5	0	100	1	0	0	0.5	22	0.1	0.0	0.0	0.0	0.0	24	0.1	0.01	0.02	0.01	0.01
5	Vol/NH3	Cattle	NO	0.0	0.0	NON	100.00	SBA	1.000	NO	0.65	0.65	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
N leach	0.484	1.000	ORG	1.00	1.000	0.0	0.0	0.4	Cattle	0.65	2	0.65	0.1	Graz	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0200
Year N	6	0	0.1	0.1	0	100	109	0	0	0.4	22	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00
6	Vol/NH3	Cattle	NO	0.0	0.0	NON	100.00	WBB	1.000	NO	0.84	0.84	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
N leach	0.484	1.000	ORG	1.00	1.000	0.0	0.0	0.1	Cattle	0.84	2	0.84	0.0	Graz	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0200
Year N	7	0	0.0	0.0	0	100	11	0	0	0.1	22	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00
7	Vol/NH3	Cattle	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.67	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
N leach	0.484	1.000	ORG	1.00	1.000	0.0	0.0	0.0	Cattle	0.67	2	0.67	0.0	Graz	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0200
Year N	8	0	0.0	0.0	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00
8	Vol/NH3	Cattle	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.67	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
N leach	0.484	1.000	ORG	1.00	1.000	0.0	0.0	0.0	Cattle	0.67	2	0.67	0.0	Graz	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0200
Year N	9	0	0.0	0.0	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00
9	Vol/NH3	Cattle	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.67	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
N leach	0.484	1.000	ORG	1.00	1.000	0.0	0.0	0.0	Cattle	0.67	2	0.67	0.0	Graz	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0200
Year N	10	0	0.0	0.0	0	100	1	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00
10	Vol/NH3	Cattle	NO	0.0	0.0	NON	100.00	SBA	1.000	NO	0.65	0.65	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100
N leach	0.484	1.000	ORG	1.00	1.000	0.0	0.0	0.0	Cattle	0.65	2	0.65	0.0	Graz	0.0	0.0	0.0	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 0.68 0.13 0.03 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.85 1.25

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 5.34  
 3.66 Note 51  
 3.66 Note 51  
 4.51 Note 51



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

Year Fertilizer/manure # Store Amounts Field Name 1/0 Or-ganic 1/0 Nnorm propor-tion, % Crop # Name Use Fuel/other #9 N crop #71/ #72 Food #8 Manure handling # Name Final N a-IPCC 1996 N2O-N emission Each Total N2O-N emission 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											
Year 1-10 N leach	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										TOTAL N AMOUNTS IN KG AND % LEACHED									
	0.0469	0.0290																				
TOTAL	0.0621	0.0388	TOTAL N AMOUNTS IN KG AND %										TOTAL N AMOUNTS IN KG AND %									

N2O-N in food/beverage/fuel/other

Year	N	1	0	100.0	100.0	0	100	109	0	0	97.8	32	59.6	24.9	0.0	0.0	0.0	34.7	31.0	2.25	3.70	1.74	2.31
1	Vol/NH3 N leach	NO	NO	2.2	NON	100.00	WBB	1.000	NO	1.000	NO	38.2	Pig	0.84	0.0	0.0	0.0	6.2	19.2	0.19	2.80	1.36	1.73
Year	N	32	0	29.1	0	100	11	0.391	0.0	0.391	0.0	38.2	Pork	3	18.8	18.8	0.0	6.2	19.2	0.19	2.80	1.36	1.73
2	Vol/NH3 Pig N leach	NO	NO	7.3	NON	100.00	WWH	1.000	NO	1.000	NO	9.7	Pig	0.67	0.0	0.0	0.0	1.3	19.0	1.26	3.70	1.74	2.31
Year	N	32	0	5.9	0	100	11	0.443	0.0	0.443	0.0	9.7	Pork	3	4.8	4.8	0.0	0.0	49.9	1.26	3.70	1.74	2.31
3	Vol/NH3 Pig N leach	NO	NO	1.5	NON	100.00	WWH	1.000	NO	1.000	NO	2.0	Pig	0.67	0.0	0.0	0.0	0.3	19.0	1.26	3.70	1.74	2.31
Year	N	32	0	1.2	1.2	100	11	0.443	0.0	0.443	0.0	2.0	Pork	3	1.0	1.0	0.0	0.3	19.0	1.26	3.70	1.74	2.31
4	Vol/NH3 Pig N leach	NO	NO	0.3	NON	100.00	WWH	1.000	NO	1.000	NO	0.4	Pig	0.67	0.0	0.0	0.0	0.1	19.0	1.26	3.70	1.74	2.31
Year	N	32	0	0.2	0.2	100	1	0.443	0.0	0.443	0.0	0.4	Pork	3	0.2	0.2	0.0	0.0	100.0	1.26	3.70	1.74	2.31
5	Vol/NH3 Pig N leach	NO	NO	0.1	NON	100.00	SBA	1.000	NO	1.000	NO	0.1	Pig	0.65	0.0	0.0	0.0	0.1	100.0	1.26	3.70	1.74	2.31
Year	N	32	0	0.0	0.0	100	109	0.483	0.0	0.483	0.0	0.1	Pork	3	0.0	0.0	0.0	0.1	100.0	1.26	3.70	1.74	2.31
6	Vol/NH3 Pig N leach	NO	NO	0.0	NON	100.00	WBB	1.000	NO	1.000	NO	0.0	Pig	0.84	0.0	0.0	0.0	0.0	100.0	1.26	3.70	1.74	2.31
Year	N	32	0	0.0	0.0	100	11	0.483	0.0	0.483	0.0	0.0	Pork	3	0.0	0.0	0.0	0.0	100.0	1.26	3.70	1.74	2.31
7	Vol/NH3 Pig N leach	NO	NO	0.0	NON	100.00	WWH	1.000	NO	1.000	NO	0.0	Pig	0.67	0.0	0.0	0.0	0.0	100.0	1.26	3.70	1.74	2.31
Year	N	32	0	0.0	0.0	100	11	0.483	0.0	0.483	0.0	0.0	Pork	3	0.0	0.0	0.0	0.0	100.0	1.26	3.70	1.74	2.31
8	Vol/NH3 Pig N leach	NO	NO	0.0	NON	100.00	WWH	1.000	NO	1.000	NO	0.0	Pig	0.67	0.0	0.0	0.0	0.0	100.0	1.26	3.70	1.74	2.31
Year	N	32	0	0.0	0.0	100	11	0.443	0.0	0.443	0.0	0.0	Pork	3	0.0	0.0	0.0	0.0	100.0	1.26	3.70	1.74	2.31
9	Vol/NH3 Pig N leach	NO	NO	0.0	NON	100.00	WWH	1.000	NO	1.000	NO	0.0	Pig	0.67	0.0	0.0	0.0	0.0	100.0	1.26	3.70	1.74	2.31
Year	N	32	0	0.0	0.0	100	1	0.443	0.0	0.443	0.0	0.0	Pork	3	0.0	0.0	0.0	0.0	100.0	1.26	3.70	1.74	2.31
10	Vol/NH3 Pig N leach	NO	NO	0.0	NON	100.00	SBA	1.000	NO	1.000	NO	0.0	Pig	0.65	0.0	0.0	0.0	0.0	100.0	1.26	3.70	1.74	2.31
Year	N	32	0	0.0	0.0	100	1000	0.483	0.0	0.483	0.0	0.0	Pork	3	0.0	0.0	0.0	0.0	100.0	1.26	3.70	1.74	2.31

Year Area with crop, ha

Year 1 0.68 Year 2 0.16 Year 3 0.03 Year 4 0.01 Year 5 0.00 Year 6 0.00 Year 7 0.00 Year 8 0.00 Year 9 0.00 Year 10 0.00 Total 1.29

Possible additional non IPCC N2O-N emissions Value 0.0000  
 N residues emissions, ratio of N2O-N to N: 0.00  
 Increased soil N emissions, kg N2O-N/ha: 1.00  
 Natural background emissions, kg N2O-N/ha: 0.68

Total IPCC and non IPCC N2O 3.70  
 Total anthropogenic 3.70  
 Total including natural 4.58  
 Note 51 2.31 Note 51 2.31 Note 51 3.19 Note 51 5.00

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE CEREAL STRAW CROP TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND PIG PORK  
 AND CONTINUING WITH PIG DEEP LITTER TO PRODUCE TO PRODUCE WINTER WHEAT FOR PIG PORK

Year	Fertilizer/manure #	Store	Amounts	Field	1/0	Or-ganic	Nnorm	Crop	use & leach	Straw	Cereal	benefit	1/0	Use #	Food	N crop	Fuel/	Fuel/	Manure	Final	N2O-N emission	Total	Each	Total	Each	Total	
	Name	1/0	Store	Field	1/0	1/0	1/0	1/0	1/0	1/0	1/0	1/0	1/0	Name	Food	#72	#8	#9	# Name	N a-	IPCC 1996	Total	Each	Total	Each	Total	
RATIO OF N2O-N TO N IN FIRST CROP TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED ACCORDING TO IPCC 1996 IPCC 2006 FIRST YEAR 0.0510 0.0292 TOTAL 0.0674 0.0391 TOTAL N AMOUNTS IN KG AND % LEACHED TOTAL N AMOUNTS IN KG AND %																											

Year	N	1	0	100.0	100.0	0	100	109	0	0	97.8	32	59.6	24.9	0.0	0.0	0.0	0.0	33	34.7	1.98	4.02	1.73	2.33	1.34	1.74
1	Vol/NH3	N	NO	0.0	0.0	2.2	NON	100.00	WBB	1.000	NO	1.000	0.84	0.84	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.0125	0.11	0.0100	0.11	0.0100
	N leach			1.000	1.000	ORG	1.00	1.000	0.391	0.0	38.2	Pig	0.84	3	18.8	Deep	0.0	0.0	0.0	0.0	0.95	0.0200	0.29	0.0050	0.29	0.0050
Year	N	33	0	29.3	29.3	0	100	11	0	0	22.0	32	12.2	5.1	0.0	0.0	0.0	0.0	33	7.1	0.44	0.78	0.31	0.47	0.31	0.47
2	Vol/NH3	Pig	NO	0.0	0.0	7.3	NON	100.00	WWH	1.000	NO	1.000	0.67	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0125	0.09	0.0100	0.09	0.0100
	N leach	Deep		1.127	1.127	ORG	1.00	1.000	0.443	0.0	9.7	Pork	0.67	3	4.8	Deep	0.0	0.0	0.0	0.0	0.24	0.0200	0.07	0.0050	0.07	0.0050
Year	N	33	0	6.0	6.0	0	100	11	0	0	4.5	32	2.5	1.1	0.0	0.0	0.0	0.0	33	1.5	0.09	0.16	0.06	0.10	0.06	0.10
3	Vol/NH3	Pig	NO	0.0	0.0	1.5	NON	100.00	WWH	1.000	NO	1.000	0.67	0.67	0.0	0.0	0.0	0.0	0.0	0.4	0.02	0.0125	0.02	0.0100	0.02	0.0100
	N leach	Deep		1.127	1.127	ORG	1.00	1.000	0.443	0.0	2.0	Pork	0.67	3	1.0	Deep	0.0	0.0	0.0	0.0	0.05	0.0200	0.02	0.0050	0.02	0.0050
Year	N	33	0	1.2	1.2	0	100	11	0	0	0.9	32	0.5	0.2	0.0	0.0	0.0	0.0	33	0.3	0.02	0.03	0.01	0.02	0.01	0.02
4	Vol/NH3	Pig	NO	0.0	0.0	0.3	NON	100.00	WWH	1.000	NO	1.000	0.67	0.67	0.0	0.0	0.0	0.0	0.0	0.1	0.00	0.0125	0.01	0.0100	0.01	0.0100
	N leach	Deep		1.127	1.127	ORG	1.00	1.000	0.443	0.0	0.4	Pork	0.67	3	0.2	Deep	0.0	0.0	0.0	0.0	0.01	0.0200	0.00	0.0050	0.01	0.0050
Year	N	33	0	0.3	0.3	0	100	1	0	0	0.2	32	0.1	0.0	0.0	0.0	0.0	0.0	33	0.1	0.00	0.01	0.00	0.00	0.00	0.00
5	Vol/NH3	Pig	NO	0.0	0.0	0.1	NON	100.00	SBA	1.000	NO	1.000	0.65	0.65	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100	0.00	0.0100
	N leach	Deep		1.127	1.127	ORG	1.00	1.000	0.483	0.0	0.1	Pork	0.65	3	0.0	Deep	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0050	0.00	0.0050
Year	N	33	0	0.0	0.0	0.0	0	109	0	0	0.1	32	0.0	0.0	0.0	0.0	0.0	0.0	33	0.0	0.00	0.00	0.00	0.00	0.00	0.00
6	Vol/NH3	Pig	NO	0.0	0.0	0.0	NON	100.00	WBB	1.000	NO	1.000	0.84	0.84	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100	0.00	0.0100
	N leach	Deep		1.127	1.127	ORG	1.00	1.000	0.483	0.0	0.0	Pork	0.84	3	0.0	Deep	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0050	0.00	0.0050
Year	N	33	0	0.0	0.0	0.0	0	11	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	0.0	33	0.0	0.00	0.00	0.00	0.00	0.00	0.00
7	Vol/NH3	Pig	NO	0.0	0.0	0.0	NON	100.00	WWH	1.000	NO	1.000	0.67	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100	0.00	0.0100
	N leach	Deep		1.127	1.127	ORG	1.00	1.000	0.443	0.0	0.0	Pork	0.67	3	0.0	Deep	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0050	0.00	0.0050
Year	N	33	0	0.0	0.0	0.0	0	11	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	0.0	33	0.0	0.00	0.00	0.00	0.00	0.00	0.00
8	Vol/NH3	Pig	NO	0.0	0.0	0.0	NON	100.00	WWH	1.000	NO	1.000	0.67	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100	0.00	0.0100
	N leach	Deep		1.127	1.127	ORG	1.00	1.000	0.443	0.0	0.0	Pork	0.67	3	0.0	Deep	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0050	0.00	0.0050
Year	N	33	0	0.0	0.0	0.0	0	11	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	0.0	33	0.0	0.00	0.00	0.00	0.00	0.00	0.00
9	Vol/NH3	Pig	NO	0.0	0.0	0.0	NON	100.00	WWH	1.000	NO	1.000	0.67	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100	0.00	0.0100
	N leach	Deep		1.127	1.127	ORG	1.00	1.000	0.443	0.0	0.0	Pork	0.67	3	0.0	Deep	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0050	0.00	0.0050
Year	N	33	0	0.0	0.0	0.0	0	1	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	0.0	33	0.0	0.00	0.00	0.00	0.00	0.00	0.00
10	Vol/NH3	Pig	NO	0.0	0.0	0.0	NON	100.00	SBA	1.000	NO	1.000	0.65	0.65	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0125	0.00	0.0100	0.00	0.0100
	N leach	Deep		1.127	1.127	ORG	1.00	1.000	0.483	0.0	0.0	Pork	0.65	3	0.0	Deep	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0050	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	0.68	0.16	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.88	1.29
Possible additional non IPCC N2O-N emissions	Value	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.02
N residues emissions, ratio of N2O-N to N:	Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.02
Increased soil N emissions, kg N2O-N/ha:	Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.90
Natural background emissions, kg N2O-N/ha:	Value	1.00	0.68	0.16	0.03	0.01	0.00	0.00	0.00	0.00	0.88	4.90
Total IPCC and non IPCC N2O	Value	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.02
Total anthropogenic	Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.90
Total including natural	Value	1.00	0.68	0.16	0.03	0.01	0.00	0.00	0.00	0.00	0.88	4.90
Kind of source	Value	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.02
Current crops	Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.02
Total anthropogenic	Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.90
Total including natural	Value	1.00	0.68	0.16	0.03	0.01	0.00	0.00	0.00	0.00	0.88	4.90



N CHAIN STARTING WITH N FERTILIZER TO PRODUCE CEREAL TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND POULTRY MEAT  
 AND CONTINUING WITH LIQUID POULTRY MANURE TO PRODUCE WINTER WHEAT FOR POULTRY MEAT

Year Fertilizer/manure # Store Amounts Field Name 1/0 Store 1/0 Or-ganic 1/0 Nnorm propor tion, % Name 1/0 Crop use & leach 1/0 Straw used 1/0 Use # Name Fed Fodder: Uses #21-61 Food #72 N crop #71/ bev #8 Fuel/ other #9 Manure handling # Name Final N a- mounts Total N2O-N emission IPCC 1996 Each Total N2O-N emission IPCC 2006 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									
Year N NH3	ACCORDING TO IPCC 1996					IPCC 2006					TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3					37.3				
1-10 N leach	0.0418					0.0282					13.8					13.8				
TOTAL	0.0540					0.0367					TOTAL N AMOUNTS IN KG AND % LEACHED					48.9				
											TOTAL N AMOUNTS IN KG AND %					100.0				

N2O-N in food/beverage/fuel/other

Year N	1	0	100.0	100.0	0	100	109	0	0	97.8	42	59.6	30.4	0.0	0.0	0.0	41	29.2	1.48	3.22	1.86	3.22	1.68	2.19	Note 45
1	Vol/NH3	N	NO	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Poultry	0.84	0.0	0.0	0.0	41	2.9	0.05	0.125	0.14	0.14	0.05	1.68	Note 45
	N leach			1.022	1.000	ORG	1.00	1.000	0.391	0.0	38.2	Meat	4	18.8	Liquid	0.0	41	2.9	0.95	0.0010	1.22	0.37	0.05	1.68	Note 45
Year N	2	41	0	26.3	26.3	0	100	11	0	19.7	42	11.0	5.6	0.0	0.0	0.0	41	5.4	0.31	0.59	1.22	0.28	0.41	Note 44	
2	Vol/NH3	Poultry	NO	0.0	6.6	NON	100.00	WWH	1.000	NO	8.7	Poultry	0.67	0.0	0.0	0.0	41	0.5	0.07	0.125	1.22	0.28	0.41	Note 44	
	N leach	Liquid		0.867	1.000	ORG	1.00	1.000	0.443	0.0	8.7	Meat	4	4.3	Liquid	0.0	41	0.0	0.22	0.0010	1.22	0.07	0.100	Note 48	
Year N	3	41	0	4.8	4.8	0	100	11	0	3.6	42	2.0	1.0	0.0	0.0	0.0	41	1.0	0.06	0.11	1.22	0.07	0.0050	Note 49	
3	Vol/NH3	Poultry	NO	0.0	1.2	NON	100.00	WWH	1.000	NO	1.6	Poultry	0.67	0.0	0.0	0.0	41	0.1	0.01	0.125	1.22	0.07	0.0050	Note 49	
	N leach	Liquid		0.867	1.000	ORG	1.00	1.000	0.443	0.0	1.6	Meat	4	0.8	Liquid	0.0	41	0.0	0.04	0.0010	1.22	0.07	0.0050	Note 49	
Year N	4	41	0	0.9	0.9	0	100	11	0	0.7	42	0.4	0.2	0.0	0.0	0.0	41	0.2	0.01	0.02	1.22	0.07	0.0050	Note 49	
4	Vol/NH3	Poultry	NO	0.0	0.2	NON	100.00	WWH	1.000	NO	0.3	Poultry	0.67	0.0	0.0	0.0	41	0.0	0.00	0.0125	1.22	0.07	0.0050	Note 49	
	N leach	Liquid		0.867	1.000	ORG	1.00	1.000	0.443	0.0	0.3	Meat	4	0.1	Liquid	0.0	41	0.0	0.01	0.0010	1.22	0.07	0.0050	Note 49	
Year N	5	41	0	0.2	0.2	0	100	1	0	0.1	42	0.1	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
5	Vol/NH3	Poultry	NO	0.0	0.0	NON	100.00	SBA	1.000	NO	0.1	Poultry	0.65	0.0	0.0	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
	N leach	Liquid		0.867	1.000	ORG	1.00	1.000	0.483	0.0	0.1	Meat	4	0.0	Liquid	0.0	41	0.0	0.00	0.0125	1.22	0.00	0.00	Note 47	
Year N	6	41	0	0.0	0.0	0	100	109	0	0.0	42	0.0	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
6	Vol/NH3	Poultry	NO	0.0	0.0	NON	100.00	WBB	1.000	NO	0.0	Poultry	0.84	0.0	0.0	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
	N leach	Liquid		0.867	1.000	ORG	1.00	1.000	0.483	0.0	0.0	Meat	4	0.0	Liquid	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
Year N	7	41	0	0.0	0.0	0	100	11	0	0.0	42	0.0	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
7	Vol/NH3	Poultry	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67	0.0	0.0	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
	N leach	Liquid		0.867	1.000	ORG	1.00	1.000	0.443	0.0	0.0	Meat	4	0.0	Liquid	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
Year N	8	41	0	0.0	0.0	0	100	11	0	0.0	42	0.0	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
8	Vol/NH3	Poultry	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67	0.0	0.0	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
	N leach	Liquid		0.867	1.000	ORG	1.00	1.000	0.443	0.0	0.0	Meat	4	0.0	Liquid	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
Year N	9	41	0	0.0	0.0	0	100	11	0	0.0	42	0.0	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
9	Vol/NH3	Poultry	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67	0.0	0.0	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
	N leach	Liquid		0.867	1.000	ORG	1.00	1.000	0.443	0.0	0.0	Meat	4	0.0	Liquid	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
Year N	10	41	0	0.0	0.0	0	100	1	0	0.0	42	0.0	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
10	Vol/NH3	Poultry	NO	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65	0.0	0.0	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	
	N leach	Liquid		0.867	1.000	ORG	1.00	1.000	0.483	0.0	0.0	Meat	4	0.0	Liquid	0.0	41	0.0	0.00	0.00	1.22	0.00	0.00	Note 47	

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 0.68 0.14 0.03 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.85 1.26

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

Total IPCC and non IPCC N2O 3.22  
 Total anthropogenic 3.22  
 Total including natural 4.07

Kind of source  
 Current crops  
 Total anthropogenic  
 Total including natural

Note 51  
 Note 51  
 Note 51  
 Note 51







N CHAIN STARTING WITH N FERTILIZER TO PRODUCE TO PRODUCE  
 AND CONTINUING WITH MANURE FROM SCRAPING POULTRY TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND POULTRY MEAT  
 WINTER WHEAT FOR POULTRY MEAT

Year Fertilizer/manure N Store Amounts Field 1/0 Or-ganic 1/0 Nnorm propor # Crop use & leach Straw used 1/0 Cereal benefit 1/0 N crop Food/ #71/ bev #72 #8 Fuel/ other #9 Manure Final handling N a- # Name mounts Each Total N2O-N emission IPCC 1996 N2O-N emission IPCC 2006 Total Each Total Note 43 Note 43 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										35.4	35.4
Year N NH3	ACCORDING TO										TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										4.6	4.6
1-10 N leach	FIRST YEAR										TOTAL N AMOUNTS IN KG AND % LEACHED										60.0	60.0
	TOTAL										TOTAL N AMOUNTS IN KG AND %										100.0	100.0

N2O-N in food/beverage/fuel/other

Year	N	1	0	100.0	100.0	0	100	109	0	0	97.8	42	59.6	30.4	0.0	0.0	0.0	0.0	0.0	29.2	2.62	4.17	2.30	2.79	Note 45
1	Vol/NH3	N	NO	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Poultry	0.84	0.84	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.05	1.80	2.11	Note 47
	N leach	1.022	1.000	1.000	0.391	0.0	1.000	0.0	0.391	0.0	38.2	Meat	4	18.8	Scrap	0.0	0.0	0.0	0.0	0.0	0.95	0.0200	0.29	0.0200	Note 48
Year	N	44	0	29.2	2.0	NON	100.00	WWH	1.000	NO	27.2	42	8.4	4.3	0.0	0.0	0.0	0.0	0.0	4.1	0.50	0.98	0.43	0.59	Note 49
2	Vol/NH3	Poultry	NO	0.0	2.0	NON	100.00	WWH	1.000	NO	18.7	Poultry	0.67	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.125	0.02	0.0200	Note 48
	N leach	Scrap	0.484	1.000	0.689	0.0	1.000	0.0	0.689	0.0	18.7	Meat	4	5.9	Scrap	0.0	0.0	0.0	0.0	0.0	0.47	0.0200	0.14	0.0200	Note 49
Year	N	44	0	4.1	0.3	NON	100.00	WWH	1.000	NO	3.8	42	1.2	0.6	0.0	0.0	0.0	0.0	0.0	0.6	0.07	0.14	0.06	0.08	Note 47
3	Vol/NH3	Poultry	NO	0.0	0.6	0.6	100.00	WWH	1.000	NO	2.7	Poultry	0.67	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	Scrap	0.484	1.000	0.689	0.0	1.000	0.0	0.689	0.0	2.7	Meat	4	0.8	Scrap	0.0	0.0	0.0	0.0	0.0	0.07	0.0200	0.02	0.0200	Note 49
Year	N	44	0	0.6	0.0	0.0	100.00	WWH	1.000	NO	0.5	42	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.01	0.02	0.01	0.01	Note 47
4	Vol/NH3	Poultry	NO	0.0	0.0	0.0	100.00	WWH	1.000	NO	0.4	Poultry	0.67	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	Scrap	0.484	1.000	0.689	0.0	1.000	0.0	0.689	0.0	0.4	Meat	4	0.1	Scrap	0.0	0.0	0.0	0.0	0.0	0.01	0.0200	0.00	0.0200	Note 49
Year	N	44	0	0.1	0.1	0.1	100.00	SBA	1.000	NO	0.1	42	0.0	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	Poultry	NO	0.0	0.0	0.0	100.00	SBA	1.000	NO	0.1	Poultry	0.65	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	Scrap	0.484	1.000	0.711	0.0	1.000	0.0	0.711	0.0	0.1	Meat	4	0.0	Scrap	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	44	0	0.0	0.0	0.0	100.00	WBB	1.000	NO	0.0	42	0.0	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	Poultry	NO	0.0	0.0	0.0	100.00	WBB	1.000	NO	0.0	Poultry	0.84	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	Scrap	0.484	1.000	0.712	0.0	1.000	0.0	0.712	0.0	0.0	Meat	4	0.0	Scrap	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	44	0	0.0	0.0	0.0	100.00	WWH	1.000	NO	0.0	42	0.0	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	Poultry	NO	0.0	0.0	0.0	100.00	WWH	1.000	NO	0.0	Poultry	0.67	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	Scrap	0.484	1.000	0.689	0.0	1.000	0.0	0.689	0.0	0.0	Meat	4	0.0	Scrap	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	44	0	0.0	0.0	0.0	100.00	WWH	1.000	NO	0.0	42	0.0	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	Poultry	NO	0.0	0.0	0.0	100.00	WWH	1.000	NO	0.0	Poultry	0.67	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	Scrap	0.484	1.000	0.689	0.0	1.000	0.0	0.689	0.0	0.0	Meat	4	0.0	Scrap	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	44	0	0.0	0.0	0.0	100.00	WWH	1.000	NO	0.0	42	0.0	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	Poultry	NO	0.0	0.0	0.0	100.00	WWH	1.000	NO	0.0	Poultry	0.67	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	Scrap	0.484	1.000	0.689	0.0	1.000	0.0	0.689	0.0	0.0	Meat	4	0.0	Scrap	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	44	0	0.0	0.0	0.0	100.00	SBA	1.000	NO	0.0	42	0.0	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	Poultry	NO	0.0	0.0	0.0	100.00	SBA	1.000	NO	0.0	Poultry	0.65	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	Scrap	0.484	1.000	0.711	0.0	1.000	0.0	0.711	0.0	0.0	Meat	4	0.0	Scrap	0.0	0.0	0.0	0.0	0.0	0.00	0.0200	0.00	0.0200	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 0.68 0.09 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.78 1.15 Note 50

Possible additional non IPCC N2O-N emissions Value 0.0000 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.78 Total including natural 4.95

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 Current crops 4.17 Total IPCC and non IPCC N2O 4.17 Note 51

Increased soil N emissions, kg N2O-N/ha: 1.00 0.68 0.09 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.78 Total anthropogenic 4.17 2.79 Note 51

Natural background emissions, kg N2O-N/ha: 1.00 0.68 0.09 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.78 Total including natural 4.95 3.58 Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND POULTRY EGGS  
AND CONTINUING WITH LIQUID POULTRY MANURE TO PRODUCE WINTER WHEAT FOR POULTRY EGGS

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

Table with 14 columns: Total N, Year, N NH3, N leach, etc. Rows include 'RATIO OF N2O-N TO N IN FIRST CROP' and 'TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED'.

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

Main data table with 14 columns: Year, N NH3, N leach, etc. Rows 1-10 represent different years and stages of production, showing various N amounts and emissions.

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 Total/year 10 Total/year 10 Total/year 10 Total/year 10 Total/year 10 Total/year 10 Total/year 10 Total/year 10 Total/year 10

Possible additional non IPCC N2O-N emissions Value 0.0000  
N residues emissions, ratio of N2O-N to N: 0.00  
Increased soil N emissions, kg N2O-N/ha: 1.00  
Natural background emissions, kg N2O-N/ha: 0.68  
Total IPCC and non IPCC N2O 3.82  
Kind of source Current crops  
Total anthropogenic 3.82  
Total including natural 4.81  
Note 51 2.70  
Note 51 2.70  
Note 51 3.69

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

Year Fertilizer/manure # Store Amounts Field Name 1/0 Or-ganic 1/0 Nnorm propor 1/0 Crop # Name 1/0 Cereal benefit 1/0 Straw used 1/0 Crop use & leach Name Use # Fodder: Uses #21-61 Food #72 N crop #71/ bev #72 Food #72 Fuel/ other #9 Manure Final handling N a- # Name mounts N2O-N emission IPCC 1996 Each Total N2O-N emission IPCC 2006 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										18.8	18.8
Year N NH3	ACCORDING TO IPCC 1996										TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										28.2	28.2
1-10 N leach	FIRST YEAR										TOTAL N AMOUNTS IN KG AND % LEACHED										53.0	53.0
	TOTAL										TOTAL N AMOUNTS IN KG AND %										100.0	100.0

N2O-N in food/beverage/fuel/other

Year N	1	0	100.0	100.0	0	100	109	0	0	97.8	43	59.6	14.4	0.0	0.0	0.0	42	45.2	1.81	2.90	1.38	1.80	Note 47
1	Vol/NH3	N	NO	0.0	2.2	NON	100.00	WBB	1.000	NO	0.391	0.84	0.84	0.0	0.0	0.0	Poultry	11.3	0.14	0.0125	0.14	0.0100	Note 48
	N leach			1.000	1.000	ORG	1.00	1.000	0.0	0.0	38.2	4	18.8	18.8	18.8	18.8	Sep	0.0	0.95	0.0105	0.29	0.0050	Note 49
Year N	2	0	33.9	0	100	11	0	0	0	25.4	43	14.2	3.4	0.0	0.0	0.0	42	10.8	0.47	0.087	0.36	0.56	Note 47
2	Vol/NH3	Poultry	NO	0.0	8.5	NON	100.00	WWH	1.000	NO	0.443	0.67	0.67	0.0	0.0	0.0	Poultry	2.7	0.11	0.0125	0.11	0.0100	Note 48
	N leach	Sep		1.000	1.000	ORG	1.00	1.000	0.0	0.0	11.3	4	5.6	5.6	5.6	5.6	Sep	0.0	0.28	0.0105	0.08	0.0050	Note 49
Year N	3	0	8.1	0	100	11	0	0	0	6.1	43	3.4	0.8	0.0	0.0	0.0	42	2.6	0.11	0.021	0.09	0.13	Note 47
3	Vol/NH3	Poultry	NO	0.0	2.0	NON	100.00	WWH	1.000	NO	0.443	0.67	0.67	0.0	0.0	0.0	Poultry	0.6	0.03	0.0125	0.03	0.0100	Note 48
	N leach	Sep		1.000	1.000	ORG	1.00	1.000	0.0	0.0	2.7	4	1.3	1.3	1.3	1.3	Sep	0.0	0.07	0.0105	0.02	0.0050	Note 49
Year N	4	0	1.9	0	100	11	0	0	0	1.4	43	0.8	0.2	0.0	0.0	0.0	42	0.6	0.03	0.005	0.02	0.03	Note 47
4	Vol/NH3	Poultry	NO	0.0	0.5	NON	100.00	WWH	1.000	NO	0.443	0.67	0.67	0.0	0.0	0.0	Poultry	0.2	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Sep		1.000	1.000	ORG	1.00	1.000	0.0	0.0	0.6	4	0.3	0.3	0.3	0.3	Sep	0.0	0.02	0.0105	0.00	0.0050	Note 49
Year N	5	0	0.5	0	100	1	1	0	0	0.3	43	0.2	0.0	0.0	0.0	0.0	42	0.1	0.01	0.001	0.00	0.01	Note 47
5	Vol/NH3	Poultry	NO	0.0	0.1	NON	100.00	SBA	1.000	NO	0.483	0.65	0.65	0.0	0.0	0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep		1.000	1.000	ORG	1.00	1.000	0.0	0.0	0.2	4	0.1	0.1	0.1	0.1	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year N	6	0	0.1	0	100	109	0	0	0	0.1	43	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.000	0.00	0.00	Note 47
6	Vol/NH3	Poultry	NO	0.0	0.0	NON	100.00	WBB	1.000	NO	0.483	0.84	0.84	0.0	0.0	0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep		1.000	1.000	ORG	1.00	1.000	0.0	0.0	0.0	4	0.0	0.0	0.0	0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year N	7	0	0.0	0	100	11	0	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.000	0.00	0.00	Note 47
7	Vol/NH3	Poultry	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.443	0.67	0.67	0.0	0.0	0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep		1.000	1.000	ORG	1.00	1.000	0.0	0.0	0.0	4	0.0	0.0	0.0	0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year N	8	0	0.0	0	100	11	0	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.000	0.00	0.00	Note 47
8	Vol/NH3	Poultry	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.443	0.67	0.67	0.0	0.0	0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep		1.000	1.000	ORG	1.00	1.000	0.0	0.0	0.0	4	0.0	0.0	0.0	0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year N	9	0	0.0	0	100	11	0	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.000	0.00	0.00	Note 47
9	Vol/NH3	Poultry	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.443	0.67	0.67	0.0	0.0	0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep		1.000	1.000	ORG	1.00	1.000	0.0	0.0	0.0	4	0.0	0.0	0.0	0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year N	10	0	0.0	0	100	1	1	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.000	0.00	0.00	Note 47
10	Vol/NH3	Poultry	NO	0.0	0.0	NON	100.00	SBA	1.000	NO	0.483	0.65	0.65	0.0	0.0	0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep		1.000	1.000	ORG	1.00	1.000	0.0	0.0	0.0	4	0.0	0.0	0.0	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 0.68 0.18 0.04 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.92 1.35 Note 50

Possible additional non IPCC N2O-N emissions Value 0.0000  
 N residues emissions, ratio of N2O-N to N: 0.00  
 Increased soil N emissions, kg N2O-N/ha: 1.00  
 Natural background emissions, kg N2O-N/ha: 0.68

Total IPCC and non IPCC N2O 4.04  
 Total anthropogenic 4.04  
 Total including natural 4.96

Kind of source  
 Current crops 0.00  
 Total anthropogenic 0.00  
 Total including natural 0.92

Note 51 2.54  
 Note 51 2.54  
 Note 51 3.46



N CHAIN STARTING WITH N FERTILIZER TO PRODUCE TO PRODUCE  
 AND CONTINUING WITH MANURE FROM SCRAPING POULTRY TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND POULTRY EGGS  
 WINTER WHEAT FOR POULTRY EGGS

Year Fertilizer/manure N Store Amounts Field 1/0 Or-ganic 1/0 Nnorm propor # Crop use & leach Straw used 1/0 Cereal benefit 1/0 Use # Name Fed Fodder: Uses #21-61 Food #72 N crop #71/ bev #8 Fuel/ other #9 Manure Final N a-IPCC 1996 N2O-N emission IPCC 2006 N2O-N emission IPCC 2006 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												
Year N NH3	1	0	100.0	100.0	0	100	109	0	0	97.8	43	59.6	14.4	0.0	0.0	0.0	44	45.2	18.4	3.06	5.38	3.69	3.06
1-10 N leach																							
	IPCC 1996										IPCC 2006												
	0.0560										0.0407												
TOTAL	0.0903										0.0618												

N2O-N in food/beverage/fuel/other

Year N	1	0	100.0	100.0	0	100	109	0	0	97.8	43	59.6	14.4	0.0	0.0	0.0	44	45.2	18.4	3.44	5.38	3.06	5.38		
1	Vol/NH3	N	NO	0.0	2.2	NON	100.00	WBB	1.000	NO	0.391	0.0	0.84	0.0	0.0	0.0	0.0	Poultry	0.0	0.02	0.125	2.12	2.43	Note 47	
	N leach			1.022	1.000	ORG	1.00	1.000	0.391	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Scrap	0.0	0.95	0.0200	0.02	0.0100	Note 48	
Year	2	Vol/NH3	Poultry NO	0.0	45.2	0	100	11	0	0	42.1	43	13.1	3.2	0.0	0.0	44	9.9	0.84	1.60	0.73	1.60	0.29	0.0200	Note 49
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000	1.000	NO	0.689	0.0	0.67	0.0	0.0	0.0	0.0	0.0	Poultry	0.0	0.03	0.0125	0.03	0.0100	Note 48	
Year	3	Vol/NH3	Poultry NO	0.0	9.9	0	100	11	0	0	9.2	43	2.9	0.7	0.0	0.0	44	2.2	0.18	0.35	0.72	0.22	0.22	0.0200	Note 49
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000	1.000	NO	0.689	0.0	0.67	0.0	0.0	0.0	0.0	0.0	Poultry	0.0	0.01	0.0125	0.01	0.0100	Note 48	
Year	4	Vol/NH3	Poultry NO	0.0	2.2	0	100	11	0	0	2.0	43	0.6	0.2	0.0	0.0	44	0.5	0.04	0.08	0.04	0.05	0.05	0.0200	Note 49
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000	1.000	NO	0.689	0.0	0.67	0.0	0.0	0.0	0.0	0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48	
Year	5	Vol/NH3	Poultry NO	0.0	0.5	0	100	1	0	0	0.4	43	0.1	0.0	0.0	0.0	44	0.1	0.01	0.02	0.03	0.01	0.01	0.01	Note 47
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000	1.000	NO	0.711	0.0	0.65	0.0	0.0	0.0	0.0	0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48	
Year	6	Vol/NH3	Poultry NO	0.0	0.1	0	100	109	0	0	0.3	43	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.01	0.00	0.00	0.00	Note 49
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000	1.000	NO	0.712	0.0	0.84	0.0	0.0	0.0	0.0	0.0	Scrap	0.0	0.00	0.0125	0.00	0.0200	Note 49	
Year	7	Vol/NH3	Poultry NO	0.0	0.0	0	100	11	0	0	0.1	43	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00	0.00	0.00	Note 47
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000	1.000	NO	0.712	0.0	0.67	0.0	0.0	0.0	0.0	0.0	Scrap	0.0	0.00	0.0125	0.00	0.0200	Note 49	
Year	8	Vol/NH3	Poultry NO	0.0	0.0	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00	0.00	0.00	Note 47
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000	1.000	NO	0.689	0.0	0.67	0.0	0.0	0.0	0.0	0.0	Scrap	0.0	0.00	0.0125	0.00	0.0200	Note 49	
Year	9	Vol/NH3	Poultry NO	0.0	0.0	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00	0.00	0.00	Note 47
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000	1.000	NO	0.689	0.0	0.67	0.0	0.0	0.0	0.0	0.0	Scrap	0.0	0.00	0.0125	0.00	0.0200	Note 49	
Year	10	Vol/NH3	Poultry NO	0.0	0.0	0	100	1	0	0	0.0	43	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00	0.00	0.00	Note 47
	N leach	Scrap	0.484	1.000	ORG	1.00	1.000	1.000	NO	0.711	0.0	0.65	0.0	0.0	0.0	0.0	0.0	Scrap	0.0	0.00	0.0125	0.00	0.0200	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 0.68 0.14 0.03 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.86 1.26 Note 50

Possible additional non IPCC N2O-N emissions Value 0.0000 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.86 Total IPCC and non IPCC N2O 5.38 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 0.86 Total anthropogenic 5.38 3.69 Note 51  
 Increased soil N emissions, kg N2O-N/ha: 1.00 0.68 0.14 0.03 0.01 0.00 0.00 0.00 0.00 0.00 0.86 Total including natural 6.24 4.54 Note 51  
 Natural background emissions, kg N2O-N/ha:



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

Year	Fertilizer/manure #	Store	Amounts	Field	1/0	Or-ganic	Nhorm	Crop	Straw	Cereal	benefit	used	1/0	leach	Crop use & leach	Use #	Food	Fed	Uses #21-61	N crop #71/	Food #72	bevs #8	Fuel/ other #9	Manure handling #	Final N a-	N2O-N emission IPCC 1996	N2O-N emission IPCC 2006	Total	Each	Total	Each	Total
RATIO OF N2O-N TO N IN FIRST CROP TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED ACCORDING TO IPCC 1996 IPCC 2006 11.3 11.3 FIRST YEAR 0.0580 0.0255 TOTAL N AMOUNTS IN KG AND % LEACHED 7.0 7.0 TOTAL 0.0989 0.0453 TOTAL N AMOUNTS IN KG AND % LEACHED 81.8 81.8 TOTAL N AMOUNTS IN KG AND % 100.0 100.0																																

N2O-N in food/beverage/fuel/other

Year	N	1	0	100.0	100.0	0	100	109	0	0	97.8	51	59.6	8.5	0.0	0.0	0.0	54	51.1	2.48	3.46	1.21	5.89	3.78	0.07	2.02	2.70	Note 45
1	Vol/NH3	N	NO	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Sheep	0.84	0.0	0.0	0.0	0.0	Sheep	0.0	0.02	0.0125	1.21	5.89	0.07	2.02	2.70	Note 45	
	N leach			1.000	1.022	ORG	1.00	1.000	0.391	0.0	38.2	Milk/mutt	5	18.8	Graz	0.0	0.0	Graz	0.0	0.95	0.0200	0.02	5.89	2.04	0.61	0.07	Note 45	
2	Vol/NH3	Sheep	NO	0.0	51.1	0	100	11	0	0	47.6	51	14.8	2.1	0.0	0.0	0.0	54	12.7	0.98	1.83	0.61	3.78	2.04	0.61	0.07	Note 45	
	N leach	Graz	0.484	1.000	3.6	NON	100.00	WWH	1.000	NO	32.8	Sheep	0.67	10.4	Graz	0.0	0.0	Sheep	0.0	0.04	0.0125	0.04	5.89	2.04	0.61	0.07	Note 45	
3	Vol/NH3	Sheep	NO	0.0	12.7	0	100	11	0	0	11.8	51	3.7	0.5	0.0	0.0	0.0	54	3.1	0.24	0.45	0.15	5.89	2.04	0.61	0.07	Note 45	
	N leach	Graz	0.484	1.000	0.9	NON	100.00	WWH	1.000	NO	8.1	Sheep	0.67	0.0	0.0	0.0	0.0	Sheep	0.0	0.01	0.0125	0.01	5.89	2.04	0.61	0.07	Note 45	
4	Vol/NH3	Sheep	NO	0.0	3.1	0	100	11	0	0	2.9	51	0.9	0.1	0.0	0.0	0.0	54	0.8	0.06	0.11	0.04	5.89	2.04	0.61	0.07	Note 45	
	N leach	Graz	0.484	1.000	0.2	NON	100.00	WWH	1.000	NO	2.0	Sheep	0.67	0.0	0.0	0.0	0.0	Sheep	0.0	0.00	0.0125	0.00	5.89	2.04	0.61	0.07	Note 45	
5	Vol/NH3	Sheep	NO	0.0	0.8	0	100	1	0	0	0.7	51	0.2	0.0	0.0	0.0	0.0	54	0.2	0.01	0.03	0.01	5.89	2.04	0.61	0.07	Note 45	
	N leach	Graz	0.484	1.000	0.1	NON	100.00	SBA	1.000	NO	0.5	Sheep	0.65	0.0	0.0	0.0	0.0	Sheep	0.0	0.00	0.0125	0.00	5.89	2.04	0.61	0.07	Note 45	
6	Vol/NH3	Sheep	NO	0.0	0.2	0	100	109	0	0	0.5	Milk/mutt	5	0.0	0.0	0.0	0.0	54	0.0	0.00	0.03	0.01	5.89	2.04	0.61	0.07	Note 45	
	N leach	Graz	0.484	1.000	0.2	ORG	1.00	1.000	0.711	0.0	0.5	Milk/mutt	5	0.1	Graz	0.0	0.0	Graz	0.0	0.00	0.0125	0.00	5.89	2.04	0.61	0.07	Note 45	
7	Vol/NH3	Sheep	NO	0.0	0.0	0.0	100	11	0	0	0.1	Sheep	0.84	0.0	0.0	0.0	0.0	54	0.0	0.00	0.01	0.00	5.89	2.04	0.61	0.07	Note 45	
	N leach	Graz	0.484	1.000	0.0	NON	100.00	WBB	1.000	NO	0.1	Sheep	0.84	0.0	0.0	0.0	0.0	Sheep	0.0	0.00	0.0125	0.00	5.89	2.04	0.61	0.07	Note 45	
8	Vol/NH3	Sheep	NO	0.0	0.0	0.0	100	11	0	0	0.0	51	0.0	0.0	0.0	0.0	0.0	54	0.0	0.00	0.01	0.00	5.89	2.04	0.61	0.07	Note 45	
	N leach	Graz	0.484	1.000	0.0	ORG	1.00	1.000	0.689	0.0	0.0	Milk/mutt	5	0.0	Graz	0.0	0.0	Graz	0.0	0.00	0.0125	0.00	5.89	2.04	0.61	0.07	Note 45	
9	Vol/NH3	Sheep	NO	0.0	0.0	0.0	100	11	0	0	0.0	51	0.0	0.0	0.0	0.0	0.0	54	0.0	0.00	0.01	0.00	5.89	2.04	0.61	0.07	Note 45	
	N leach	Graz	0.484	1.000	0.0	NON	100.00	WWH	1.000	NO	0.0	Sheep	0.67	0.0	0.0	0.0	0.0	Sheep	0.0	0.00	0.0125	0.00	5.89	2.04	0.61	0.07	Note 45	
10	Vol/NH3	Sheep	NO	0.0	0.0	0.0	100	1	0	0	0.0	51	0.0	0.0	0.0	0.0	0.0	54	0.0	0.00	0.01	0.00	5.89	2.04	0.61	0.07	Note 45	
	N leach	Graz	0.484	1.000	0.0	NON	100.00	SBA	1.000	NO	0.0	Sheep	0.65	0.0	0.0	0.0	0.0	Sheep	0.0	0.00	0.0125	0.00	5.89	2.04	0.61	0.07	Note 45	

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 0.68 0.15 0.04 0.01 0.00 0.00 0.00 0.00 0.00 0.89 1.30

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

Total IPCC and non IPCC N2O 5.89  
 Total anthropogenic 5.89  
 Total including natural 6.78  
 Note 51 2.70  
 Note 51 2.70  
 Note 51 3.59

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE Cereal Straw Crop N crop Food/ Fuel/ Manure Final N2O-N emission  
 AND CONTINUING WITH GOAT DEEP LITTER TO PRODUCE benefit used & leach use # Uses #21-61 #71/ bev other handling N a- IPCC 2006  
 GOAT MILK/MEAT GOAT MILK/MEAT

Year	Fertilizer/manure #	Store	Amounts	Field	Or-ganic	Nnorm	Crop	Use	Fodder:	N crop	Food/	Fuel/	Manure	Final	N2O-N emission
Name	1/0	1/0	1/0	1/0	1/0	1/0	1/0	Name	Fed	#72	#8	#9	# Name	N a-	Total
1-10	N leach		1st Year		IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % LEACHED	TOTAL N AMOUNTS IN KG AND % LEACHED	TOTAL N AMOUNTS IN KG AND % LEACHED	Total	Total	Total	Total	Total	Total

RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	
Year	N/NH3	IPCC 1996	IPCC 2006
1-10	N leach	0.0576	0.0307
TOTAL		0.0940	0.0512

Year	N	1	0	100.0	100.0	0	100	109	0	0	0	59.6	5.7	0.0	0.0	63	53.9	3.51	5.60	2.21	3.05
Year	N	NH3	N	NO	0.0	2.2	NON	100.00	WBB	1.000	NO	0.84	0.84	0.0	0.0	63	8.1	2.37	3.43	1.44	1.83
Year	N	leach	N	leach	1.000	1.000	ORG	1.00	1.000	0.391	0.0	6	6	18.8	Deep	0.0	0.0	0.95	0.0200	0.29	0.0050
Year	2	NH3	Goat	NO	0.0	53.2	0	100	11	1.000	NO	0.67	15.4	1.5	0.0	63	13.9	0.84	1.61	0.57	0.91
Year	N	leach	Deep	NO	1.162	13.3	NON	100.00	WWH	1.000	NO	24.5	61	0.0	0.0	63	2.1	0.15	0.0125	0.15	0.0100
Year	3	NH3	Goat	NO	0.0	13.7	0	100	11	1.000	NO	6	6	8.7	Deep	0.0	0.0	0.61	0.0200	0.18	0.0050
Year	N	leach	Deep	NO	1.162	3.4	NON	100.00	WWH	1.000	NO	6.3	61	0.0	0.0	63	3.6	0.22	0.42	0.15	0.23
Year	4	NH3	Goat	NO	0.0	3.5	0	100	11	1.000	NO	0.67	6	2.3	Deep	0.0	0.5	0.04	0.0125	0.04	0.0100
Year	N	leach	Deep	NO	1.162	0.9	NON	100.00	WWH	1.000	NO	6	61	0.0	0.0	63	0.9	0.16	0.0200	0.05	0.0050
Year	4	NH3	Goat	NO	0.0	0.9	NON	100.00	WWH	1.000	NO	1.6	1.0	0.0	0.0	63	0.1	0.01	0.0125	0.01	0.0100
Year	N	leach	Deep	NO	1.162	0.9	ORG	1.00	1.000	1.000	NO	6	61	0.6	Deep	0.0	0.1	0.04	0.0200	0.01	0.0050
Year	5	NH3	Goat	NO	0.0	0.2	NON	100.00	SBA	1.000	NO	0.65	6	0.0	0.0	63	0.2	0.01	0.03	0.01	0.02
Year	N	leach	Deep	NO	1.162	0.2	ORG	1.00	1.000	1.000	NO	6	61	0.0	0.0	63	0.0	0.00	0.0125	0.00	0.0100
Year	6	NH3	Goat	NO	0.0	0.2	0	100	109	1.000	NO	6	61	0.1	0.0	63	0.0	0.01	0.0200	0.00	0.0050
Year	N	leach	Deep	NO	1.162	0.1	NON	100.00	WBB	1.000	NO	0.84	6	0.0	0.0	63	0.0	0.00	0.0125	0.00	0.0050
Year	7	NH3	Goat	NO	0.0	0.1	0	100	11	1.000	NO	6	61	0.0	0.0	63	0.0	0.00	0.0200	0.00	0.0050
Year	N	leach	Deep	NO	1.162	0.1	ORG	1.00	1.000	1.000	NO	6	61	0.0	0.0	63	0.0	0.00	0.0125	0.00	0.0050
Year	8	NH3	Goat	NO	0.0	0.0	0.0	NON	100.00	WWH	1.000	0.67	6	0.0	0.0	63	0.0	0.00	0.0200	0.00	0.0050
Year	N	leach	Deep	NO	1.162	0.0	ORG	1.00	1.000	1.000	NO	6	61	0.0	0.0	63	0.0	0.00	0.0125	0.00	0.0050
Year	9	NH3	Goat	NO	0.0	0.0	0.0	NON	100.00	WWH	1.000	0.67	6	0.0	0.0	63	0.0	0.00	0.0200	0.00	0.0050
Year	N	leach	Deep	NO	1.162	0.0	ORG	1.00	1.000	1.000	NO	6	61	0.0	0.0	63	0.0	0.00	0.0125	0.00	0.0050
Year	10	NH3	Goat	NO	0.0	0.0	0.0	NON	100.00	SBA	1.000	0.65	6	0.0	0.0	63	0.0	0.00	0.0200	0.00	0.0050
Year	N	leach	Deep	NO	1.162	0.0	ORG	1.00	1.000	1.000	NO	6	61	0.0	0.0	63	0.0	0.00	0.0125	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
Area with crop, ha	0.68	0.20	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.40

Possible additional non IPCC N2O-N emissions	Value	Kind of source	Total IPCC and non IPCC N2O
N residues emissions, ratio of N2O-N to N:	0.0000	Current crops	5.60
Increased soil N emissions, kg N2O-N/ha:	0.00	Total anthropogenic	5.60
Natural background emissions, kg N2O-N/ha:	1.00	Total including natural	6.55



N CHAIN STARTING WITH N FERTILIZER TO PRODUCE Cereal Straw Crop N crop Food/ Fuel/ Manure Final N2O-N emission  
 AND CONTINUING WITH MANURE FROM GRAZING GOATS TO PRODUCE benefit used & leach use # Uses #21-61 #71/ bev #72 #8 #9 # Name mounts Each Total IPCC 2006  
 WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR

Year	Fertilizer/manure #	Store 1/0	Amounts Store	Field 1/0	Or-ganic 1/0	Nhorm propor 1/0	Crop # Name	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	7.7	7.7	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total	Total/year 1					
Total N	1	0	100.0	100.0	0	100	109	0	0	97.8	61	59.6	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.95	6.15	2.81	3.52	Note 45
Year N NH3	NO	0.0	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Goat	0.84	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.125	1.75	2.06	Note 47
1-10 N leach	1.022	1.000	1.000	0.391	0.0	1.00	1.000	0.391	0.0	38.2	Milk/meat	6	18.8	Graz	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.125	0.02	0.100	Note 48
Year N	64	0	53.9	53.9	0	100	11	0	0	50.1	61	15.6	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.95	0.200	0.29	0.100	Note 49
2 Voi/NH3	Goat	NO	0.0	3.8	NON	100.00	WWH	1.000	NO	34.5	Goat	0.67	11.0	Graz	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.125	0.04	0.100	Note 48
N leach	Graz	0.484	1.000	0.689	0.0	1.00	1.000	0.689	0.0	34.5	Milk/meat	6	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.86	0.200	0.26	0.100	Note 49
Year N	64	0	14.1	14.1	0	100	11	0	0	13.1	61	4.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.27	0.51	0.20	0.28	Note 47
3 Voi/NH3	Goat	NO	0.0	1.0	NON	100.00	WWH	1.000	NO	9.0	Goat	0.67	2.9	Graz	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.125	0.01	0.100	Note 48
N leach	Graz	0.484	1.000	0.689	0.0	1.00	1.000	0.689	0.0	9.0	Milk/meat	6	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.23	0.200	0.07	0.100	Note 49
Year N	64	0	3.7	3.7	0	100	11	0	0	3.4	61	1.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.13	0.05	0.07	Note 47	
4 Voi/NH3	Goat	NO	0.0	0.3	NON	100.00	WWH	1.000	NO	2.4	Goat	0.67	0.7	Graz	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	Note 48
N leach	Graz	0.484	1.000	0.689	0.0	1.00	1.000	0.689	0.0	2.4	Milk/meat	6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.200	0.02	0.100	Note 49
Year N	64	0	1.0	1.0	0	100	1	0	0	0.9	61	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.03	0.01	0.02	Note 47	
5 Voi/NH3	Goat	NO	0.0	0.1	NON	100.00	SBA	1.000	NO	0.6	Goat	0.65	0.2	Graz	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	Note 48
N leach	Graz	0.484	1.000	0.711	0.0	1.00	1.000	0.711	0.0	0.6	Milk/meat	6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.200	0.00	0.100	Note 49
Year N	64	0	0.2	0.2	0	100	109	0	0	0.2	61	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.01	0.00	0.00	Note 47	
6 Voi/NH3	Goat	NO	0.0	0.0	NON	100.00	WBB	1.000	NO	0.2	Goat	0.84	0.2	Graz	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	Note 48
N leach	Graz	0.484	1.000	0.712	0.0	1.00	1.000	0.712	0.0	0.2	Milk/meat	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.200	0.00	0.100	Note 49
Year N	64	0	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	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	Note 47	
7 Voi/NH3	Goat	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Goat	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	Note 48
N leach	Graz	0.484	1.000	0.689	0.0	1.00	1.000	0.689	0.0	0.0	Milk/meat	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.200	0.00	0.100	Note 49
Year N	64	0	0.0	0.0	0.0	100	11	0	0	0.0	Goat	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	Note 47	
8 Voi/NH3	Goat	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Goat	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	Note 48
N leach	Graz	0.484	1.000	0.689	0.0	1.00	1.000	0.689	0.0	0.0	Milk/meat	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.200	0.00	0.100	Note 49
Year N	64	0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	Note 47	
9 Voi/NH3	Goat	NO	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Goat	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	Note 48
N leach	Graz	0.484	1.000	0.689	0.0	1.00	1.000	0.689	0.0	0.0	Milk/meat	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.200	0.00	0.100	Note 49
Year N	64	0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	Note 47	
10 Voi/NH3	Goat	NO	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Goat	0.65	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.125	0.00	0.100	Note 48
N leach	Graz	0.484	1.000	0.711	0.0	1.00	1.000	0.711	0.0	0.0	Milk/meat	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.200	0.00	0.100	Note 49

N2O-N in food/beverage/fuel/other 0.7936 0.4540 Note 46

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
Year		0.68	0.16	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.90	1.32
Area with crop, ha		0.68	0.16	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.90	1.32

Possible additional non IPCC N2O-N emissions Value 0.0000  
 N residues emissions, ratio of N2O-N to N: 0.00  
 Increased soil N emissions, kg N2O-N/ha: 1.00  
 Natural background emissions, kg N2O-N/ha: 0.68  
 Total IPCC and non IPCC N2O 6.15  
 Total anthropogenic 6.15  
 Total including natural 7.05  
 Note 51 3.52  
 Note 51 3.52  
 Note 51 4.42

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

Year	Fertilizer/manure #	Store 1/0	Amounts 1/0	Field 1/0	Or-ganic 1/0	Nnorm propor-tion, %	Crop #	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use #	Food Fed	N crop #71/	Food #72	Fuel/other #9	Manure handling #	Final N a-mounts	N2O-N emission IPCC 1996	N2O-N emission IPCC 2006	Total	
Total N																					
Year 1-10																					
RATIO OF N2O-N TO N IN FIRST CROP ACCORDING TO FIRST YEAR TOTAL IPCC 1996 0.0408 0.0733 IPCC 2006 0.0255 0.0493 TOTAL 0.0733 0.0493																					

Year	N	Vol/NH3	N	100.0	0	100	109	0	0	97.8	71	0.0	0.0	59.6	0.0	0.0	71	59.6	2.49	4.37	2.19
1	Vol/NH3	N	100.0	0	100	109	0	0	97.8	71	0.0	0.0	59.6	0.0	0.0	0.0	71	59.6	2.49	4.37	2.19
	N leach	1.022	1.000	0.0	1.000	1.000	0.391	0.0	38.2	N crop	0.84	0.0	0.0	0.0	0.0	0.0	Green	0.0	0.02	0.125	1.21
	Year 2	71	0	59.6	0	100	11	0	44.7	High N	71	0.0	0.0	0.0	0.0	0.0	High	0.0	0.95	0.0000	0.29
	Vol/NH3	Green	0.0	14.9	NON	100.00	WWH	1.000	17.9	Cattle	0.67	0.0	0.0	0.0	0.0	0.0	Cattle	20.5	0.70	1.31	0.66
	N leach	High	0.933	1.000	1.000	1.000	0.400	0.0	14.4	Dairy	2	0.0	0.0	0.0	0.0	0.0	Liquid	1.6	0.17	0.125	0.17
	Year 3	21	0	19.2	0	100	11	0	17.9	Dairy	2	0.0	0.0	0.0	0.0	0.0	Liquid	0.0	0.45	0.0010	0.13
	Vol/NH3	Cattle	0.0	4.8	NON	100.00	WWH	1.000	5.8	Cattle	0.67	0.0	0.0	0.0	0.0	0.0	Cattle	6.6	0.23	0.42	0.21
	N leach	Liquid	0.933	1.016	1.000	1.000	0.400	0.0	5.8	Dairy	2	0.0	0.0	0.0	0.0	0.0	Liquid	0.5	0.05	0.0125	0.05
	Year 4	21	0	6.2	0	100	11	0	4.6	Dairy	21	0.0	0.0	0.0	0.0	0.0	Liquid	0.0	0.14	0.0010	0.04
	Vol/NH3	Cattle	0.0	1.5	NON	100.00	WWH	1.000	1.8	Cattle	0.67	0.0	0.0	0.0	0.0	0.0	Cattle	2.1	0.07	0.14	0.07
	N leach	Liquid	0.933	1.016	1.000	1.000	0.400	0.0	1.8	Dairy	2	0.0	0.0	0.0	0.0	0.0	Liquid	0.2	0.02	0.0125	0.02
	Year 5	21	0	2.0	0	100	1	0	1.5	Dairy	21	0.0	0.0	0.0	0.0	0.0	Liquid	0.0	0.05	0.0010	0.01
	Vol/NH3	Cattle	0.0	0.5	NON	100.00	SBA	1.000	0.7	Cattle	0.65	0.0	0.0	0.0	0.0	0.0	Cattle	0.6	0.02	0.04	0.02
	N leach	Liquid	0.933	1.016	1.000	1.000	0.443	0.0	0.7	Dairy	2	0.0	0.0	0.0	0.0	0.0	Liquid	0.1	0.01	0.0125	0.01
	Year 6	21	0	0.6	0	100	109	0	0.4	Dairy	71	0.0	0.0	0.0	0.0	0.0	Liquid	0.0	0.02	0.0010	0.00
	Vol/NH3	Cattle	0.0	0.1	NON	100.00	WBB	1.000	0.2	N crop	0.84	0.0	0.0	0.0	0.0	0.0	Green	0.0	0.00	0.0125	0.00
	N leach	Liquid	0.933	1.016	1.000	1.000	0.444	0.0	0.2	high N	71	0.0	0.0	0.0	0.0	0.0	High	0.0	0.00	0.0000	0.00
	Year 7	71	0	0.2	0	100	11	0	0.2	Dairy	21	0.0	0.0	0.0	0.0	0.0	High	0.0	0.00	0.0125	0.00
	Vol/NH3	Green	0.0	0.1	NON	100.00	WWH	1.000	0.1	Cattle	0.67	0.0	0.0	0.0	0.0	0.0	Cattle	0.0	0.00	0.0125	0.00
	N leach	Liquid	0.933	1.000	1.000	1.000	0.400	0.0	0.1	Dairy	2	0.0	0.0	0.0	0.0	0.0	Liquid	0.0	0.00	0.0000	0.00
	Year 8	21	0	0.1	0	100	11	0	0.1	Dairy	21	0.0	0.0	0.0	0.0	0.0	Cattle	0.0	0.00	0.0125	0.00
	Vol/NH3	Cattle	0.0	0.0	NON	100.00	WWH	1.000	0.0	Cattle	0.67	0.0	0.0	0.0	0.0	0.0	Cattle	0.0	0.00	0.0125	0.00
	N leach	Liquid	0.933	1.016	1.000	1.000	0.400	0.0	0.0	Dairy	2	0.0	0.0	0.0	0.0	0.0	Liquid	0.0	0.00	0.0000	0.00
	Year 9	21	0	0.0	0	100	11	0	0.0	Dairy	21	0.0	0.0	0.0	0.0	0.0	Liquid	0.0	0.00	0.0125	0.00
	Vol/NH3	Cattle	0.0	0.0	NON	100.00	WWH	1.000	0.0	Cattle	0.67	0.0	0.0	0.0	0.0	0.0	Cattle	0.0	0.00	0.0125	0.00
	N leach	Liquid	0.933	1.016	1.000	1.000	0.400	0.0	0.0	Dairy	2	0.0	0.0	0.0	0.0	0.0	Liquid	0.0	0.00	0.0000	0.00
	Year 10	21	0	0.0	0	100	1	0	0.0	Dairy	21	0.0	0.0	0.0	0.0	0.0	Cattle	0.0	0.00	0.0125	0.00
	Vol/NH3	Cattle	0.0	0.0	NON	100.00	SBA	1.000	0.0	Cattle	0.65	0.0	0.0	0.0	0.0	0.0	Cattle	0.0	0.00	0.0125	0.00
	N leach	Liquid	0.933	1.016	1.000	1.000	0.443	0.0	0.0	Dairy	2	0.0	0.0	0.0	0.0	0.0	Liquid	0.0	0.00	0.0000	0.00

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
Year		0.68	0.35	0.11	0.04	0.02	0.00	0.00	0.00	0.00	0.00	1.20	1.76
Area with crop, ha		0.68	0.35	0.11	0.04	0.02	0.00	0.00	0.00	0.00	0.00	1.20	1.76
Possible additional non IPCC N2O-N emissions	Value	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N residues emissions, ratio of N2O-N to N:	Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Increased soil N emissions, kg N2O-N/ha:	Value	1.00	0.68	0.35	0.11	0.04	0.02	0.00	0.00	0.00	0.00	1.20	1.76
Natural background emissions, kg N2O-N/ha:	Value	1.00	0.68	0.35	0.11	0.04	0.02	0.00	0.00	0.00	0.00	1.20	1.76
Total IPCC and non IPCC N2O	Value	4.37	2.94	1.52	0.79	0.42	0.21	0.13	0.07	0.04	0.02	0.27	0.48
Note 51		2.94	1.52	0.79	0.42	0.21	0.13	0.07	0.04	0.02	0.02	0.27	0.48
Note 51		2.94	1.52	0.79	0.42	0.21	0.13	0.07	0.04	0.02	0.02	0.27	0.48
Note 51		4.14	2.94	1.52	0.79	0.42	0.21	0.13	0.07	0.04	0.02	0.27	0.48



N CHAIN STARTING WITH N FERTILIZER AND CONTINUING WITH NO MANURE TO PRODUCE TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND NOTHING FOR FOOD FOOD

Year	Fertilizer/manure #	Store 1/0	Amounts Store	Field 1/0	Or-ganic 1/0	Nnorm propor-tion, %	Crop #	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use #	Food Name	Fed	Uses #21-61	N crop #71/	Food/ bev #72	Fuel/ other #9	Manure handling # Name	Final N a-mounts	N2O-N emission IPCC 1996	N2O-N emission IPCC 2006	Total	Year	
Total N																								
Year 1-10																								
RATIO OF N2O-N TO N IN FIRST CROP ACCORDING TO 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 %																								

Year	N	Vol/NH3	N	100.0	0	100	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	Year	N	1	0	100.0	0	100	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	N	leach	1.022	1.000	0.0	1.000	1.000	0.391	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Year	N	0	0	0.0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	N	leach	1.000	1.000	0.0	1.000	1.000	0.357	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	Year	N	0	0	0.0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	N	leach	1.000	1.000	0.0	1.000	1.000	0.357	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Year	N	0	0	0.0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	N	leach	1.000	1.000	0.0	1.000	1.000	0.357	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Year	N	0	0	0.0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	N	leach	1.000	1.000	0.0	1.000	1.000	0.403	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	Year	N	0	0	0.0	0	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	N	leach	1.000	1.000	0.0	1.000	1.000	0.403	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	Year	N	0	0	0.0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	N	leach	1.000	1.000	0.0	1.000	1.000	0.357	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	Year	N	0	0	0.0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	N	leach	1.000	1.000	0.0	1.000	1.000	0.357	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	Year	N	0	0	0.0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	N	leach	1.000	1.000	0.0	1.000	1.000	0.357	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	Year	N	0	0	0.0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	N	leach	1.000	1.000	0.0	1.000	1.000	0.403	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	1.00
Possible additional non IPCC N2O-N emissions	Value	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Increased soil N emissions, kg N2O-N/ha:	1.00	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	1.00
Natural background emissions, kg N2O-N/ha:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total IPCC and non IPCC N2O	2.43	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.43	1.52
Total anthropogenic	2.43	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.43	1.52
Total including natural	3.11	2.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.11	2.20

Note 43 Note 43 Note 44 Note 44 Note 44 Note 45 Note 45 Note 46 Note 47 Note 48 Note 49 Note 48 Note 49 Note 47 Note 48 Note 49 Note 47 Note 48 Note 49 Note 47 Note 48 Note 49 Note 47 Note 48 Note 49 Note 50 Note 51 Note 51 Note 51 Note 51

N CHAIN STARTING WITH N FERTILIZER AND CONTINUING WITH NO MANURE TO PRODUCE TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND NOTHING FOR FUEL FUEL

Year	Fertilizer/manure #	Store 1/0	Amounts Store	Field 1/0	Or-ganic 1/0	Nnorm propor-tion, %	Crop #	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use #	Feeder: Uses #21-61	Food Fed	N crop #71/ #72	Food #72	Fuel/ bev #8	Fuel/ other #9	Manure handling # Name	Final N a-mounts	N2O-N emission IPCC 1996	N2O-N emission IPCC 2006	Total	Year				
Total N																											
Year 1-10																											
RATIO OF N2O-N TO N IN FIRST CROP ACCORDING TO FIRST YEAR TOTAL																							1.46	2.43	1.21	1.52	Note 45
TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED																							59.6	59.6	0	2.2	Note 45
TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3																							2.2	2.2	0	2.2	Note 45
TOTAL N AMOUNTS IN KG AND % LEACHED																							38.2	38.2	0	38.2	Note 45
TOTAL N AMOUNTS IN KG AND %																							100.0	100.0	0	100.0	Note 45

Year	N	Vol/NH3	N	100.0	0	100	109	0	0	97.8	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	59.6	0	0.0	1.46	2.43	1.21	1.52	Note 47
1																											
Year 1																											
Year 2																											
Year 3																											
Year 4																											
Year 5																											
Year 6																											
Year 7																											
Year 8																											
Year 9																											
Year 10																											
Year																											
Area with crop, ha																											

Possible additional non IPCC N2O-N emissions Value 0.0000  
 N residues emissions, ratio of N2O-N to N: 0.00  
 Increased soil N emissions, kg N2O-N/ha: 1.00  
 Natural background emissions, kg N2O-N/ha: 0.68

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

Kind of source  
 Current crops  
 Total anthropogenic  
 Total including natural

Total IPCC and non IPCC N2O 2.43  
 Total anthropogenic 2.43  
 Total including natural 3.11

Note 43  
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SUMMARY CATTLE DAIRY

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER LIQUID CATTLE MANURE	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	CATTLE DAIRY CATTLE DAIRY	Note 43 Note 43
Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		23.71 23.49	2.05 3.78
Year N NH3	IPCC 1996	IPCC 2006		21.60 21.41	0.22 0.22
1-10 N leach	0.0421	0.0293	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	55.60 55.10	0.42 0.42
TOTAL	0.0634	0.0450	TOTAL N AMOUNTS IN KG AND % LEACHED	100.91 100.00	
			TOTAL N AMOUNTS IN KG AND %		

N2O-N/N in food/beverage/fuel/other		0.1595		0.1131	Note 46
Area with crop, ha		Total/year 1			
Natural background emissions, kg N2O-N/ha:		1.02 1.50			Note 50
		1.02		3.70	Note 51

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER SEPARATED CATTLE MANURE	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	CATTLE DAIRY CATTLE DAIRY	Note 43 Note 43
Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		23.35 23.13	2.06 4.37
Year N NH3	IPCC 1996	IPCC 2006		19.87 19.69	0.20 0.20
1-10 N leach	0.0482	0.0292	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	57.70 57.17	0.43 0.43
TOTAL	0.0734	0.0452	TOTAL N AMOUNTS IN KG AND % LEACHED	100.92 100.00	
			TOTAL N AMOUNTS IN KG AND %		

N2O-N/N in food/beverage/fuel/other		0.1873		0.1153	Note 46
Area with crop, ha		Total/year 1			
Natural background emissions, kg N2O-N/ha:		1.00 1.47			Note 50
		1.00		3.69	Note 51

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER CATTLE DEEP LITTER	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	CATTLE DAIRY CATTLE DAIRY	Note 43 Note 43
Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		21.69 20.04	2.05 5.04
Year N NH3	IPCC 1996	IPCC 2006		20.59 19.02	0.21 0.21
1-10 N leach	0.0545	0.0293	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	65.99 60.95	0.49 0.49
TOTAL	0.0846	0.0461	TOTAL N AMOUNTS IN KG AND % LEACHED	108.27 100.00	
			TOTAL N AMOUNTS IN KG AND %		

N2O-N/N in food/beverage/fuel/other		0.2324		0.1267	Note 46
Area with crop, ha		Total/year 1			
Natural background emissions, kg N2O-N/ha:		0.91 1.33			Note 50
		0.91		3.66	Note 51

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER MANURE FROM GRAZING CATTLE	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	CATTLE DAIRY CATTLE DAIRY	Note 43 Note 43
Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		21.26 21.26	2.93 5.18
Year N NH3	IPCC 1996	IPCC 2006		5.97 5.97	0.06 0.06
1-10 N leach	0.0549	0.0396	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	72.76 72.76	0.55 0.55
TOTAL	0.0869	0.0593	TOTAL N AMOUNTS IN KG AND % LEACHED	100.00 100.00	
			TOTAL N AMOUNTS IN KG AND %		

N2O-N/N in food/beverage/fuel/other		0.2436		0.1663	Note 46
Area with crop, ha		Total/year 1			
Natural background emissions, kg N2O-N/ha:		0.84 1.24			Note 50
		0.84		4.38	Note 51



SUMMARY CATTLE BEEF

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER LIQUID CATTLE MANURE	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	CATTLE BEEF CATTLE BEEF	Note 43 Note 43
Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		21.27 21.07	2.11
Year N NH3	IPCC 1996	IPCC 2006		22.91 22.69	0.23
1-10 N leach	0.0421	0.0295	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	56.79 56.24	0.43
TOTAL	0.0650	0.0463	TOTAL N AMOUNTS IN KG AND % LEACHED	100.97 100.00	
			TOTAL N AMOUNTS IN KG AND %		

N2O-N/N in food/beverage/fuel/other		0.1820		0.1298	Note 46
Area with crop, ha		Total/year 1			
Natural background emissions, kg N2O-N/ha:		1.04			Note 50
		1.04		3.80	Note 51

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER SEPARATED CATTLE MANURE	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	CATTLE BEEF CATTLE BEEF	Note 43 Note 43
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Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		20.92 20.72	2.12
Year N NH3	IPCC 1996	IPCC 2006		21.05 20.85	0.21
1-10 N leach	0.0486	0.0294	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	59.01 58.43	0.44
TOTAL	0.0755	0.0465	TOTAL N AMOUNTS IN KG AND % LEACHED	100.98 100.00	
			TOTAL N AMOUNTS IN KG AND %		

N2O-N/N in food/beverage/fuel/other		0.2151		0.1324	Note 46
Area with crop, ha		Total/year 1			
Natural background emissions, kg N2O-N/ha:		1.02			Note 50
		0.91		3.79	Note 51

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER CATTLE DEEP LITTER	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	CATTLE BEEF CATTLE BEEF	Note 43 Note 43
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Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		19.35 17.79	2.10
Year N NH3	IPCC 1996	IPCC 2006		21.72 19.97	0.22
1-10 N leach	0.0552	0.0294	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	67.70 62.24	0.51
TOTAL	0.0873	0.0474	TOTAL N AMOUNTS IN KG AND % LEACHED	108.78 100.00	
			TOTAL N AMOUNTS IN KG AND %		

N2O-N/N in food/beverage/fuel/other		0.2688		0.1460	Note 46
Area with crop, ha		Total/year 1			
Natural background emissions, kg N2O-N/ha:		0.92			Note 50
		0.92		3.75	Note 51

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER MANURE FROM GRAZING CATTLE	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	CATTLE BEEF CATTLE BEEF	Note 43 Note 43
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Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		18.94 18.94	3.03
Year N NH3	IPCC 1996	IPCC 2006		6.20 6.20	0.06
1-10 N leach	0.0556	0.0403	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	74.85 74.85	0.56
TOTAL	0.0897	0.0614	TOTAL N AMOUNTS IN KG AND % LEACHED	100.00 100.00	
			TOTAL N AMOUNTS IN KG AND %		

N2O-N/N in food/beverage/fuel/other		0.2821		0.1930	Note 46
Area with crop, ha		Total/year 1			
Natural background emissions, kg N2O-N/ha:		0.85			Note 50
		1.25		4.51	Note 51
		0.85		6.20	

SUMMARY PIG PORK

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER LIQUID PIG MANURE	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	PIG PORK PIG PORK	Note 43 Note 43
Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		32.83	1.78
Year N NH3	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	18.43	0.18
1-10 N leach	0.0422	0.0288	TOTAL N AMOUNTS IN KG AND % LEACHED	48.75	0.37
TOTAL	0.0562	0.0392	TOTAL N AMOUNTS IN KG AND %	100.00	
N2O-N/N in food/beverage/fuel/other				0.1020	0.0711
Area with crop, ha		Total/year 1		1.36	Note 50
Natural background emissions, kg N2O-N/ha:		0.93		0.93	Note 51
		0.93		4.27	3.26
N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER SEPARATED PIG MANURE	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	PIG PORK PIG PORK	Note 43 Note 43
Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		31.30	1.74
Year N NH3	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	19.19	0.19
1-10 N leach	0.0469	0.0290	TOTAL N AMOUNTS IN KG AND % LEACHED	50.36	0.38
TOTAL	0.0621	0.0388	TOTAL N AMOUNTS IN KG AND %	100.86	
N2O-N/N in food/beverage/fuel/other				0.1183	0.0738
Area with crop, ha		Total/year 1		1.29	Note 50
Natural background emissions, kg N2O-N/ha:		0.88		0.88	Note 51
		0.88		4.58	3.19
N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER PIG DEEP LITTER	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	PIG PORK PIG PORK	Note 43 Note 43
Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		31.35	1.73
Year N NH3	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	22.34	0.22
1-10 N leach	0.0510	0.0292	TOTAL N AMOUNTS IN KG AND % LEACHED	50.47	0.38
TOTAL	0.0674	0.0391	TOTAL N AMOUNTS IN KG AND %	104.16	
N2O-N/N in food/beverage/fuel/other				0.1282	0.0743
Area with crop, ha		Total/year 1		1.29	Note 50
Natural background emissions, kg N2O-N/ha:		0.88		0.88	Note 51
		0.88		4.90	3.21
N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER MANURE FROM ROOTING PIGS	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	PIG PORK PIG PORK	Note 43 Note 43
Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		32.91	2.67
Year N NH3	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	5.41	0.05
1-10 N leach	0.0525	0.0372	TOTAL N AMOUNTS IN KG AND % LEACHED	61.69	0.46
TOTAL	0.0775	0.0535	TOTAL N AMOUNTS IN KG AND %	100.00	
N2O-N/N in food/beverage/fuel/other				0.1404	0.0969
Area with crop, ha		Total/year 1		1.29	Note 50
Natural background emissions, kg N2O-N/ha:		0.88		0.88	Note 51
		0.88		5.50	4.07

SUMMARY POULTRY MEAT

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER LIQUID POULTRY MANURE	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	POULTRY MEAT POULTRY MEAT	Note 43 Note 43
Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		37.26	1.68
Year N NH3	IPCC 1996	IPCC 2006		13.83	0.14
1-10 N leach	0.0418	0.0282	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	48.91	0.37
TOTAL	0.0540	0.0367	TOTAL N AMOUNTS IN KG AND % LEACHED	100.00	
			TOTAL N AMOUNTS IN KG AND %	100.00	

N2O-N/N in food/beverage/fuel/other		0.0864	0.0587	Note 46
Area with crop, ha		Total/year 1		
Natural background emissions, kg N2O-N/ha:		0.85	1.26	Note 50
		0.85	4.07	Note 51

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER SEPARATED POULTRY MANURE	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	POULTRY MEAT POULTRY MEAT	Note 43 Note 43
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Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		35.91	1.59
Year N NH3	IPCC 1996	IPCC 2006		17.29	0.17
1-10 N leach	0.0459	0.0286	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	46.80	0.35
TOTAL	0.0565	0.0355	TOTAL N AMOUNTS IN KG AND % LEACHED	100.00	
			TOTAL N AMOUNTS IN KG AND %	100.00	

N2O-N/N in food/beverage/fuel/other		0.0938	0.0588	Note 46
Area with crop, ha		Total/year 1		
Natural background emissions, kg N2O-N/ha:		0.82	1.21	Note 50
		0.82	4.19	Note 51

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER POULTRY DEEP LITTER	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	POULTRY MEAT POULTRY MEAT	Note 43 Note 43
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Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		33.26	1.49
Year N NH3	IPCC 1996	IPCC 2006		19.84	0.20
1-10 N leach	0.0487	0.0290	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	47.15	0.35
TOTAL	0.0577	0.0343	TOTAL N AMOUNTS IN KG AND % LEACHED	100.25	
			TOTAL N AMOUNTS IN KG AND %	100.00	

N2O-N/N in food/beverage/fuel/other		0.1034	0.0615	Note 46
Area with crop, ha		Total/year 1		
Natural background emissions, kg N2O-N/ha:		0.75	1.11	Note 50
		0.75	4.19	Note 51

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER MANURE FROM SCRAPING POULTRY	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	POULTRY MEAT POULTRY MEAT	Note 43 Note 43
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Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		35.42	2.30
Year N NH3	IPCC 1996	IPCC 2006		4.58	0.05
1-10 N leach	0.0506	0.0353	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	60.00	0.45
TOTAL	0.0699	0.0468	TOTAL N AMOUNTS IN KG AND % LEACHED	100.00	
			TOTAL N AMOUNTS IN KG AND %	100.00	

N2O-N/N in food/beverage/fuel/other		0.1176	0.0788	Note 46
Area with crop, ha		Total/year 1		
Natural background emissions, kg N2O-N/ha:		0.78	1.15	Note 50
		0.78	4.95	Note 51



SUMMARY SHEEP AND GOATS

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER SHEEP DEEP LITTER	TO PRODUCE TO PRODUCE	WINTER BARLEY 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	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		12.56 11.37 3.89	2.49
Year N NH3	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	13.58 12.30 0.14	0.14
1-10 N leach	0.0567	0.0305	TOTAL N AMOUNTS IN KG AND % LEACHED	84.31 76.33 2.11	0.63
TOTAL	0.1029	0.0546	TOTAL N AMOUNTS IN KG AND %	110.45 100.00	Note 45 Note 45

N2O-N/N in food/beverage/fuel/other		0.4883		0.2594	Note 46
Area with crop, ha	Total/year 1				
Natural background emissions, kg N2O-N/ha:	0.96	1.41			Note 50
	0.96				Note 51

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER MANURE FROM GRAZING SHEEP	TO PRODUCE TO PRODUCE	WINTER BARLEY 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	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		11.25 11.25 3.78	2.02
Year N NH3	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	6.96 6.96 0.07	0.07
1-10 N leach	0.0580	0.0255	TOTAL N AMOUNTS IN KG AND % LEACHED	81.79 81.79 2.04	0.61
TOTAL	0.0989	0.0453	TOTAL N AMOUNTS IN KG AND %	100.00 100.00	Note 45 Note 45

N2O-N/N in food/beverage/fuel/other		0.5238		0.2400	Note 46
Area with crop, ha	Total/year 1				
Natural background emissions, kg N2O-N/ha:	0.89	1.30			Note 50
	0.89				Note 51

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER GOAT DEEP LITTER	TO PRODUCE TO PRODUCE	WINTER BARLEY 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	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		7.71 7.01 3.51	2.21
Year N NH3	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	31.02 28.20 0.31	0.31
1-10 N leach	0.0576	0.0307	TOTAL N AMOUNTS IN KG AND % LEACHED	71.27 64.79 1.78	0.53
TOTAL	0.0940	0.0512	TOTAL N AMOUNTS IN KG AND %	110.00 100.00	Note 45 Note 45

N2O-N/N in food/beverage/fuel/other		0.7266		0.3957	Note 46
Area with crop, ha	Total/year 1				
Natural background emissions, kg N2O-N/ha:	0.95	1.40			Note 50
	0.95				Note 51

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER MANURE FROM GRAZING GOATS	TO PRODUCE TO PRODUCE	WINTER BARLEY 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	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		7.74 7.74 3.95	2.81
Year N NH3	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	7.30 7.30 0.07	0.07
1-10 N leach	0.0589	0.0346	TOTAL N AMOUNTS IN KG AND % LEACHED	84.95 84.95 2.12	0.64
TOTAL	0.1031	0.0590	TOTAL N AMOUNTS IN KG AND %	100.00 100.00	Note 45 Note 45

N2O-N/N in food/beverage/fuel/other		0.7936		0.4540	Note 46
Area with crop, ha	Total/year 1				
Natural background emissions, kg N2O-N/ha:	0.90	1.32			Note 50
	0.90				Note 51

## SUMMARY N CROP

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER GREEN MANURE HIGH N	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	HIGH N CROP CATTLE DAIRY	Note 43 Note 43
Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	9.22	9.18	2.49
Year N NH3	IPCC 1996	IPCC 2006	26.57	26.45	0.27
1-10 N leach	0.0408	0.0255	64.65	64.37	0.48
TOTAL	0.0733	0.0493	100.44	100.00	

N2O-N/N in food/beverage/fuel/other 0.4739 0.3188 Note 46

Area with crop, ha Total/year 1  
 Natural background emissions, kg N2O-N/ha: 1.20 1.76  
 1.20 5.57

N amount in reference crop year 2 after use of N crop as green manure, kg 26.81  
 N amount in reference crop year 1 after synthetic N fertilizer, kg 59.60

Relative value of green manure, % 44.99

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER GREEN MANURE LOW N	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND WINTER WHEAT FOR	LOW N CROP CATTLE DAIRY	Note 43 Note 43
Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	5.26	5.25	2.34
Year N NH3	IPCC 1996	IPCC 2006	22.50	22.44	0.22
1-10 N leach	0.0408	0.0255	72.49	72.31	0.54
TOTAL	0.0734	0.0467	100.25	100.00	

N2O-N/N in food/beverage/fuel/other 0.8317 0.5290 Note 46

Area with crop, ha Total/year 1  
 Natural background emissions, kg N2O-N/ha: 0.97 1.43  
 0.97 5.35

N amount in reference crop year 2 after use of N crop as green manure, kg 15.32  
 N amount in reference crop year 1 after synthetic N fertilizer, kg 59.60

Relative value of green manure, % 25.71

Note 47 Note 47

## SUMMARY FOOD, FUEL, AND WASTE

N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER NO MANURE	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND NOTHING FOR	FOOD FOOD	Note 43 Note 43
Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		59.60 59.60	1.21
Year N NH3	IPCC 1996	IPCC 2006		2.20 2.20	0.02
1-10 N leach	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	38.20 38.20	0.29
TOTAL	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND % LEACHED	100.00 100.00	
N2O-N/N in food/beverage/fuel/other			TOTAL N AMOUNTS IN KG AND %		0.0255
Area with crop, ha		Total/year 1			Note 46
Natural background emissions, kg N2O-N/ha:		0.68			Note 50
		0.68		3.11	2.20 Note 51
N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER NO MANURE	TO PRODUCE TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND NOTHING FOR	FUEL FUEL	Note 43 Note 43
Total N	RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		59.60 59.60	1.21
Year N NH3	IPCC 1996	IPCC 2006		2.20 2.20	0.02
1-10 N leach	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	38.20 38.20	0.29
TOTAL	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND % LEACHED	100.00 100.00	
N2O-N/N in food/beverage/fuel/other			TOTAL N AMOUNTS IN KG AND %		0.0255
Area with crop, ha		Total/year 1			Note 46
Natural background emissions, kg N2O-N/ha:		0.68			Note 50
		0.68		3.11	2.20 Note 51
N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER NO MANURE	TO PRODUCE TO PRODUCE	WINTER BARLEY 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	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		59.60 59.60	1.21
Year N NH3	IPCC 1996	IPCC 2006		2.20 2.20	0.02
1-10 N leach	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	38.20 38.20	0.29
TOTAL	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND % LEACHED	100.00 100.00	
N2O-N/N in food/beverage/fuel/other			TOTAL N AMOUNTS IN KG AND %		0.0255
Area with crop, ha		Total/year 1			Note 46
Natural background emissions, kg N2O-N/ha:		0.68			Note 50
		0.68		3.11	2.20 Note 51
N CHAIN STARTING WITH AND CONTINUING WITH	N FERTILIZER NO MANURE	TO PRODUCE TO PRODUCE	WINTER BARLEY 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	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED		0.00 0.00	1.21
Year N NH3	IPCC 1996	IPCC 2006		2.20 2.20	0.02
1-10 N leach	0.0658	0.0330	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	97.80 97.80	0.73
TOTAL	0.0658	0.0330	TOTAL N AMOUNTS IN KG AND % LEACHED	100.00 100.00	
N2O-N/N in food/beverage/fuel/other			TOTAL N AMOUNTS IN KG AND %		0.0330
Area with crop, ha		Total/year 1			Note 46
Natural background emissions, kg N2O-N/ha:		0.68			Note 50
		0.68		4.61	2.65 Note 51

SUMMARY CATTLE RATIO OF N2O-N TO N IN FIRST CROP  
 ACCORDING TO IPCC 1996 IPCC 2006  
 MIN MAX MIN MAX  
 FIRST YEAR 0.0421 0.0556 0.0292 0.0403  
 TOTAL 0.0634 0.0897 0.0450 0.0614

N2O-N emission N2O-N emission  
 IPCC 1996 IPCC 2006  
 MIN MAX MIN MAX  
 3.78 5.34 2.68 3.66

MIN MAX MIN MAX  
 0.1595 0.2821 0.1131 0.1930

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

MIN MAX  
 0.84 1.04  
 MIN MAX  
 0.84 1.25

MIN MAX MIN MAX  
 4.80 6.20 3.66 4.51

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  
 MIN MAX MIN MAX  
 FIRST YEAR 0.0422 0.0525 0.0288 0.0372  
 TOTAL 0.0562 0.0775 0.0388 0.0535

N2O-N emission N2O-N emission  
 IPCC 1996 IPCC 2006  
 MIN MAX MIN MAX  
 3.35 4.62 2.31 3.19

MIN MAX MIN MAX  
 0.1020 0.1404 0.0711 0.0969

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

MIN MAX  
 0.88 0.93  
 MIN MAX  
 0.88 0.93

MIN MAX MIN MAX  
 4.27 5.50 3.19 4.07

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  
 MIN MAX MIN MAX  
 FIRST YEAR 0.0418 0.0560 0.0282 0.0407  
 TOTAL 0.0540 0.0903 0.0343 0.0618

N2O-N emission N2O-N emission  
 IPCC 1996 IPCC 2006  
 MIN MAX MIN MAX  
 3.22 5.38 2.05 3.69

MIN MAX MIN MAX  
 0.0864 0.2926 0.0587 0.2003

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

MIN MAX  
 0.75 0.99  
 MIN MAX  
 0.75 0.99

MIN MAX MIN MAX  
 4.07 6.24 2.80 4.54

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  
 MIN MAX MIN MAX  
 FIRST YEAR 0.0567 0.0589 0.0255 0.0346  
 TOTAL 0.0940 0.1031 0.0453 0.0590

N2O-N emission N2O-N emission  
 IPCC 1996 IPCC 2006  
 MIN MAX MIN MAX  
 5.6 6.15 2.7 3.52

MIN MAX MIN MAX  
 0.4883 0.7936 0.2400 0.4540

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

MIN MAX  
 0.89 0.96  
 MIN MAX  
 0.89 0.96

MIN MAX MIN MAX  
 6.55 7.09 3.59 4.42

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  
 MIN MAX MIN MAX  
 FIRST YEAR 0.0418 0.0589 0.0255 0.0407  
 TOTAL 0.0540 0.1031 0.0343 0.0618

N2O-N emission N2O-N emission  
 IPCC 1996 IPCC 2006  
 MIN MAX MIN MAX  
 3.22 6.15 2.05 3.69

MIN MAX MIN MAX  
 0.0864 0.7936 0.0587 0.4540

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

MIN MAX  
 0.75 1.04  
 MIN MAX  
 0.75 1.25

MIN MAX MIN MAX  
 4.07 7.09 2.80 4.54

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