C1 N CHAIN CALCULATIONS SHEET C: N CHAINS BASED UPON DANISH VALUES AND WITH NORMAL IPCC N2O EMISSION VALUES BASIC VALUES By Jacob Bugge Version 310308, Available at www.ppo.bugge.com See terms of use on Sheet A C1

Note 33

Crop, fodder/food	WRS	WWH	WWB	WBA	RYE	TRI	SBA	SWH	OAT	MCC	MCW	GRO	GCR	CGR	GHP	GRP	CGR0	CONC	
Crop #	22	11	13	10	14	16	1	2	3	5	216	263	260	261	2520	252	2610	9999	Note 1
<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	-2.75	1.00	Note 16
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	0.87	Note 4
<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	-0.81	0.00	Note 34
<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	0.00	Note 34
Recalculated N norm, kg N/ha	144	157	198	147	117	141	118	118	93	140	160	309	199	21	132	132	-87		Note 14

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	Note 1
<NUE/e>	0.64	0.64	0.54	0.60	0.59	0.53	0.60	0.58	0.73	0.62	Note 16
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	Note 4
<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	Note 34
<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	Note 34
Recalculated N norm, kg N/ha	144	157	198	147	117	141	118	118	93	140	Note 14
<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	Note 34
<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	Note 34

Manure/fertilizer kind, #	None 0	N 1	Cattle manure 2	2	2	2	Pig manure 3	3	3	3	Poultry manure 4	4	4	4	Sheep manure 5	5	Goat manure 6	6	Green 71	Green 72	None 0	None 0	Note 35 Note 35
Manure handling	None		Liquid	Separated	Deep litter	Grazing	Liquid	Separated	Deep litter	Rooting	Liquid	Separated	Deep litter	Scraping	Deep litter	Grazing	Deep litter	Grazing	high N	low N	None	None	Note 35 Note 35
#	0	1	21	22	23	24	31	32	33	34	41	42	43	44	53	54	63	64	71	72	0	0	Note 35
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	1.013	1.000	1.162	1.000	1.162	1.000	1.000	1.000			Note 36
Vol/NH3 House	0.000	0.000	0.080	0.050	0.060	0.000	0.140	0.180	0.250	0.000	0.100	0.250	0.400	0.000	0.150	0.000	0.150	0.000	0.000	0.000			Note 37
Vol/NH3 Store	0.000	0.000	0.022	0.085	0.300	0.000	0.027	0.214	0.400	0.000	0.020	0.150	0.175	0.000	0.150	0.000	0.150	0.000	0.000	0.000			Note 37
% use of field store					20				70				85										Note 38
Vol/NH3 Field	0.000	0.022	0.250	0.250	0.250	0.070	0.250	0.250	0.250	0.070	0.250	0.250	0.250	0.070	0.250	0.070	0.250	0.070	0.250	0.250			Note 37
N efficiency	0.000	1.000	0.700	0.650	0.450	0.450	0.750	0.650	0.650	0.650	0.650	0.650	0.450	0.450	0.450	0.450	0.450	0.450	0.700	0.400			Note 39
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	0.600	0.484	0.600	0.484	0.600	0.484	0.933	0.533			Note 39

Use	Kind	Waste moved	Waste 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	22	32	42	43	51	61	71	72	8	9	Note 41
Fodder to food	N eff	NON		0.264	0.227	0.418	0.510	0.241	0.142	0.096					Note 41
Fodder to food	N eff	ORG		0.264	0.146	0.269	0.328	0.272	0.142	0.096					Note 41
Fodder to food	ND eff	NON		0.351	0.310										Note 41
Fodder to food	ND eff	ORG		0.351	0.199										Note 41

Ratios of N2O-N to N according to		IPCC 1996 (current inventories)			IPCC 2006 (newest values, not yet used for inventories)			Note 42
Fertilizer/manure		N	Animal	Green	N	Animal	Green	Note 42
Handling/	Slurry and liquid manure	0	0.0010	0	0	0.0050	0	Note 42
house/store	Solid manure and deep litter	0	0.0200	0	0	0.0050	0	Note 42
Application/field		0.0125	0.0125	0.0125	0.0100	0.0100	0.0100	Note 42
Grazing cattle, rooting pigs, craping poultry		0	0.0200	0	0	0.0200	0	Note 42
Grazing, others		0	0.0200	0	0	0.0100	0	Note 42
Volatilisation/NH3		0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	Note 42
Crop residues		0	0.0000	0.0125	0	0.0000	0.0100	Note 42
N fixing crops		0	0.0000	0.0125	0	0.0000	0.0000	Note 42
Leaching		0.0250	0.0250	0.0250	0.0075	0.0075	0.0075	Note 42

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND CATTLE DAIRY Note 43
AND CONTINUING WITH LIQUID CATTLE MANURE TO PRODUCE WINTER WHEAT FOR CATTLE DAIRY Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/#72	Food/bev #8	Fuel/other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44
Total	N																						Note 44
Year	N NH3																						Note 44
1-10	N leach																						Note 44
Year 1	N	1	1	100.0	100.0	0	100	109	0	0	97.8	21	59.6	17.6	0.0	0.0	0.0	21	42.0	1.50	2.51	1.41	1.75	Note 47
	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Cattle	0.84				0.0	Cattle	3.4	0.06	0.0125	0.06	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Dairy	2				18.8	Liquid	0.0	0.95	0.0010	0.29	0.0050	Note 49
Year 2	N	21	1	39.3	38.4	0	100	11	0	0	28.8	21	17.3	4.1	0.0	0.0	0.0	21	13.2	0.45	0.85	0.43	0.63	Note 47
	Vol/NH3	Cattle	YES	0.9	9.6	NON	100.00	WWH	1.000	NO	11.5	Cattle	0.67				0.0	Cattle	1.1	0.12	0.0125	0.12	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.400	0.0	11.5	Dairy	2				6.3	Liquid	0.0	0.29	0.0010	0.09	0.0050	Note 49
Year 3	N	21	1	12.3	12.1	0	100	11	0	0	9.1	21	5.4	1.3	0.0	0.0	0.0	21	4.2	0.14	0.27	0.13	0.20	Note 47
	Vol/NH3	Cattle	YES	0.3	3.0	NON	100.00	WWH	1.000	NO	3.6	Cattle	0.67				0.0	Cattle	0.3	0.04	0.0125	0.04	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.400	0.0	3.6	Dairy	2				2.0	Liquid	0.0	0.09	0.0010	0.03	0.0050	Note 49
Year 4	N	21	1	3.9	3.8	0	100	11	0	0	2.8	21	1.7	0.4	0.0	0.0	0.0	21	1.3	0.04	0.08	0.04	0.06	Note 47
	Vol/NH3	Cattle	YES	0.1	0.9	NON	100.00	WWH	1.000	NO	1.1	Cattle	0.67				0.0	Cattle	0.1	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.400	0.0	1.1	Dairy	2				0.6	Liquid	0.0	0.03	0.0010	0.01	0.0050	Note 49
Year 5	N	21	1	1.2	1.2	0	100	1	0	0	0.9	21	0.5	0.1	0.0	0.0	0.0	21	0.4	0.01	0.03	0.01	0.02	Note 47
	Vol/NH3	Cattle	YES	0.0	0.3	NON	100.00	SBA	1.000	NO	0.4	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.443	0.0	0.4	Dairy	2				0.2	Liquid	0.0	0.01	0.0010	0.00	0.0050	Note 49
Year 6	N	21	1	0.4	0.4	0	100	109	0	0	0.3	21	0.1	0.0	0.0	0.0	0.0	21	0.1	0.00	0.01	0.00	0.01	Note 47
	Vol/NH3	Cattle	YES	0.0	0.1	NON	100.00	WBB	1.000	NO	0.1	Cattle	0.84				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.444	0.0	0.1	Dairy	2				0.1	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year 7	N	21	1	0.1	0.1	0	100	11	0	0	0.1	21	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.400	0.0	0.0	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year 8	N	21	1	0.0	0.0	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.400	0.0	0.0	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year 9	N	21	1	0.0	0.0	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.400	0.0	0.0	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year 10	N	21	1	0.0	0.0	0	100	1	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.443	0.0	0.0	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49

Total N	RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	23.5	23.3	2.15	3.75	2.03	2.66	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	22.3	22.1	0.22		0.22		Note 45
1-10 N leach	FIRST YEAR	0.0421	0.0293	TOTAL N AMOUNTS IN KG AND % LEACHED	55.0	54.6	1.38		0.41		Note 45
	TOTAL	0.0630	0.0447	TOTAL N AMOUNTS IN KG AND %	100.9	100.0					Note 45

N2O-N/N in food/beverage/fuel/other 0.1596 0.1133 Note 46

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	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	1.01	1.48	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	3.75	2.66	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	3.75	2.66	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.22	0.07	0.02	0.01	0.00	0.00	0.00	0.00	0.00	1.01	Total including natural	4.76	3.67	Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND CATTLE DAIRY Note 43
AND CONTINUING WITH SEPARATED CATTLE MANURE TO PRODUCE WINTER WHEAT FOR CATTLE DAIRY Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						Note 45
Year	N NH3																						Note 45
1-10	N leach																						Note 45
																							Note 45
N2O-N/N in food/beverage/fuel/other																				0.1872		0.1159	Note 46
Year	N		1	1	100.0	100.0	0	100	109	0	0	97.8	21	59.6	17.6	0.0	0.0	0.0	22	42.0	1.88	2.87	1.41	1.74	Note 47
1	Vol/NH3	N	YES		0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Cattle	0.84				0.0	Cattle	2.1	0.04	0.0125	0.04	0.0100	Note 48
	N leach		1.022	1.000			ORG	1.00	1.000	0.391	0.0	38.2	Dairy	2				18.8	Sep	0.0	0.95	0.0105	0.29	0.0050	Note 49
Year	N		22	1	40.5	37.1	0	100	11	0	0	27.8	21	15.5	3.6	0.0	0.0	0.0	22	11.9	0.54	0.98	0.41	0.64	Note 47
2	Vol/NH3	Cattle	YES		3.4	9.3	NON	100.00	WWH	1.000	NO	12.3	Cattle	0.67				0.0	Cattle	0.6	0.13	0.0125	0.13	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.443	0.0	12.3	Dairy	2				6.1	Sep	0.0	0.31	0.0105	0.09	0.0050	Note 49
Year	N		22	1	11.4	10.5	0	100	11	0	0	7.8	21	4.4	1.0	0.0	0.0	0.0	22	3.3	0.15	0.28	0.12	0.18	Note 47
3	Vol/NH3	Cattle	YES		1.0	2.6	NON	100.00	WWH	1.000	NO	3.5	Cattle	0.67				0.0	Cattle	0.2	0.04	0.0125	0.04	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.443	0.0	3.5	Dairy	2				1.7	Sep	0.0	0.09	0.0105	0.03	0.0050	Note 49
Year	N		22	1	3.2	3.0	0	100	11	0	0	2.2	21	1.2	0.3	0.0	0.0	0.0	22	0.9	0.04	0.08	0.03	0.05	Note 47
4	Vol/NH3	Cattle	YES		0.3	0.7	NON	100.00	WWH	1.000	NO	1.0	Cattle	0.67				0.0	Cattle	0.0	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.443	0.0	1.0	Dairy	2				0.5	Sep	0.0	0.02	0.0105	0.01	0.0050	Note 49
Year	N		22	1	0.9	0.8	0	100	1	0	0	0.6	21	0.3	0.1	0.0	0.0	0.0	22	0.2	0.01	0.02	0.01	0.01	Note 47
5	Vol/NH3	Cattle	YES		0.1	0.2	NON	100.00	SBA	1.000	NO	0.3	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.483	0.0	0.3	Dairy	2				0.1	Sep	0.0	0.01	0.0105	0.00	0.0050	Note 49
Year	N		22	1	0.2	0.2	0	100	109	0	0	0.2	21	0.1	0.0	0.0	0.0	0.0	22	0.1	0.00	0.01	0.00	0.00	Note 47
6	Vol/NH3	Cattle	YES		0.0	0.1	NON	100.00	WBB	1.000	NO	0.1	Cattle	0.84				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.483	0.0	0.1	Dairy	2				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N		22	1	0.1	0.1	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	22	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.443	0.0	0.0	Dairy	2				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N		22	1	0.0	0.0	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	22	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.443	0.0	0.0	Dairy	2				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N		22	1	0.0	0.0	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	22	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.443	0.0	0.0	Dairy	2				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N		22	1	0.0	0.0	0	100	1	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	22	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.483	0.0	0.0	Dairy	2				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	Total	Total/year 1	
Area with crop, ha	0.68	0.20	0.06	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.96	1.41	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	4.24	2.63	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	4.24	2.63	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.20	0.06	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.96	Total including natural	5.20	3.59	Note 51

C2 N CHAIN CALCULATIONS SHEET C: N CHAINS BASED UPON DANISH VALUES CALCULATIONS By Jacob Bugge Available at www.ppo.bugge.com C2

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND CATTLE DAIRY Note 43
AND CONTINUING WITH CATTLE DEEP LITTER TO PRODUCE WINTER WHEAT FOR CATTLE DAIRY Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	Total	N2O-N emission IPCC 2006 Each	Total	Note 44 Note 44 Note 44
Total	N		RATIO OF N2O-N TO N IN FIRST CROP				TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED							20.2	18.8				2.85	4.56	1.82	2.55	Note 45
Year	N NH3		ACCORDING TO		IPCC 1996		IPCC 2006				TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3			31.4	29.2				0.31		0.31		Note 45
1-10	N leach		FIRST YEAR		0.0545		0.0293				TOTAL N AMOUNTS IN KG AND % LEACHED			56.0	52.0				1.40		0.42		Note 45
			TOTAL		0.0765		0.0428				TOTAL N AMOUNTS IN KG AND %			107.6	100.0								Note 45

N2O-N/N in food/beverage/fuel/other 0.2256 0.1262 Note 46

Year	N	1	1	100.0	100.0	0	100	109	0	0	97.8	21	59.6	17.6	0.0	0.0	0.0	23	42.0	2.25	3.25	1.41	1.74	Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Cattle	0.84				0.0	Cattle	2.5	0.05	0.0125	0.05	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Dairy	2				18.8	Deep	0.0	0.95	0.0200	0.29	0.0050	Note 49
Year	N	23	1	45.8	32.0	0	100	11	0	0	24.0	21	9.3	2.2	0.0	0.0	0.0	23	7.1	0.50	1.09	0.34	0.67	Note 47
2	Vol/NH3	Cattle	YES	13.7	8.0	NON	100.00	WWH	1.000	NO	14.8	Cattle	0.67				0.0	Cattle	0.4	0.22	0.0125	0.22	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.614	0.0	14.8	Dairy	2				5.3	Deep	0.0	0.37	0.0200	0.11	0.0050	Note 49
Year	N	23	1	7.7	5.4	0	100	11	0	0	4.1	21	1.6	0.4	0.0	0.0	0.0	23	1.2	0.08	0.18	0.06	0.11	Note 47
3	Vol/NH3	Cattle	YES	2.3	1.4	NON	100.00	WWH	1.000	NO	2.5	Cattle	0.67				0.0	Cattle	0.1	0.04	0.0125	0.04	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.614	0.0	2.5	Dairy	2				0.9	Deep	0.0	0.06	0.0200	0.02	0.0050	Note 49
Year	N	23	1	1.3	0.9	0	100	11	0	0	0.7	21	0.3	0.1	0.0	0.0	0.0	23	0.2	0.01	0.03	0.01	0.02	Note 47
4	Vol/NH3	Cattle	YES	0.4	0.2	NON	100.00	WWH	1.000	NO	0.4	Cattle	0.67				0.0	Cattle	0.0	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.614	0.0	0.4	Dairy	2				0.1	Deep	0.0	0.01	0.0200	0.00	0.0050	Note 49
Year	N	23	1	0.2	0.2	0	100	1	0	0	0.1	21	0.0	0.0	0.0	0.0	0.0	23	0.0	0.00	0.01	0.00	0.00	Note 47
5	Vol/NH3	Cattle	YES	0.1	0.0	NON	100.00	SBA	1.000	NO	0.1	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.642	0.0	0.1	Dairy	2				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	23	1	0.0	0.0	0	100	109	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WBB	1.000	NO	0.0	Cattle	0.84				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.642	0.0	0.0	Dairy	2				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	23	1	0.0	0.0	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.614	0.0	0.0	Dairy	2				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	23	1	0.0	0.0	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.614	0.0	0.0	Dairy	2				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	23	1	0.0	0.0	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.614	0.0	0.0	Dairy	2				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	23	1	0.0	0.0	0	100	1	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	23	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.642	0.0	0.0	Dairy	2				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	Total	Total/year 1	
Area with crop, ha	0.68	0.12	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	1.21	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	4.56	2.55	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	4.56	2.55	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.12	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	Total including natural	5.38	3.38	Note 51

N CHAIN STARTING WITH	N FERTILIZER	TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	CATTLE DAIRY	Note 43
AND CONTINUING WITH	MANURE FROM GRAZING CATTLE	TO PRODUCE	WINTER WHEAT FOR	CATTLE DAIRY	Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						Note 45
Year	N NH3																						Note 45
1-10	N leach																						Note 45
																							Note 45
N2O-N/N in food/beverage/fuel/other																				0.2436		0.1663	Note 46
Year	N		1	1	100.0	100.0	0	100	109	0	0	97.8	21	59.6	17.6	0.0	0.0	0.0	24	42.0	2.30	3.27	2.05	2.36	Note 47
1	Vol/NH3	N	YES		0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Cattle	0.84				0.0	Cattle	0.0	0.02	0.0125	0.02	0.0100	Note 48
	N leach		1.022		1.000		ORG	1.00	1.000	0.391	0.0	38.2	Dairy	2				18.8	Graz	0.0	0.95	0.0200	0.29	0.0200	Note 49
Year	N		24	1	42.0	42.0	0	100	11	0	0	39.1	21	12.1	2.9	0.0	0.0	0.0	24	9.3	0.78	1.48	0.68	0.91	Note 47
2	Vol/NH3	Cattle	YES		0.0	2.9	NON	100.00	WWH	1.000	NO	26.9	Cattle	0.67				0.0	Cattle	0.0	0.03	0.0125	0.03	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.689	0.0	26.9	Dairy	2				8.5	Graz	0.0	0.67	0.0200	0.20	0.0200	Note 49
Year	N		24	1	9.3	9.3	0	100	11	0	0	8.6	21	2.7	0.6	0.0	0.0	0.0	24	2.1	0.17	0.33	0.15	0.20	Note 47
3	Vol/NH3	Cattle	YES		0.0	0.7	NON	100.00	WWH	1.000	NO	6.0	Cattle	0.67				0.0	Cattle	0.0	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.689	0.0	6.0	Dairy	2				1.9	Graz	0.0	0.15	0.0200	0.04	0.0200	Note 49
Year	N		24	1	2.1	2.1	0	100	11	0	0	1.9	21	0.6	0.1	0.0	0.0	0.0	24	0.5	0.04	0.07	0.03	0.04	Note 47
4	Vol/NH3	Cattle	YES		0.0	0.1	NON	100.00	WWH	1.000	NO	1.3	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.689	0.0	1.3	Dairy	2				0.4	Graz	0.0	0.03	0.0200	0.01	0.0200	Note 49
Year	N		24	1	0.5	0.5	0	100	1	0	0	0.4	21	0.1	0.0	0.0	0.0	0.0	24	0.1	0.01	0.02	0.01	0.01	Note 47
5	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	SBA	1.000	NO	0.3	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.711	0.0	0.3	Dairy	2				0.1	Graz	0.0	0.01	0.0200	0.00	0.0200	Note 49
Year	N		24	1	0.1	0.1	0	100	109	0	0	0.1	21	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	WBB	1.000	NO	0.1	Cattle	0.84				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.712	0.0	0.1	Dairy	2				0.0	Graz	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N		24	1	0.0	0.0	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.689	0.0	0.0	Dairy	2				0.0	Graz	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N		24	1	0.0	0.0	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.689	0.0	0.0	Dairy	2				0.0	Graz	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N		24	1	0.0	0.0	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.689	0.0	0.0	Dairy	2				0.0	Graz	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N		24	1	0.0	0.0	0	100	1	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.711	0.0	0.0	Dairy	2				0.0	Graz	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	Year10	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	0.84	1.24	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	5.18	3.54	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	5.18	3.54	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.13	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.84	Total including natural	6.02	4.38	Note 51

C2 N CHAIN CALCULATIONS SHEET C: N CHAINS BASED UPON DANISH VALUES CALCULATIONS By Jacob Bugge Available at www.ppo.bugge.com C2

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND CATTLE BEEF Note 43
AND CONTINUING WITH LIQUID CATTLE MANURE TO PRODUCE WINTER WHEAT FOR CATTLE BEEF Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/#72	Food/bev #8	Fuel/other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						Note 45
Year	N NH3																						Note 45
1-10	N leach																						Note 45
																							Note 45
N2O-N/N in food/beverage/fuel/other																				0.1822		0.1300	Note 46
Year	N		1	1	100.0	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	2.51	1.42	1.76	Note 47
1	Vol/NH3	N	YES		0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Cattle	0.84				0.0	Cattle	3.5	0.06	0.0125	0.06	0.0100	Note 48
	N leach		1.022		1.000		ORG	1.00	1.000	0.391	0.0	38.2	Beef	2				18.8	Liquid	0.0	0.95	0.0010	0.29	0.0050	Note 49
Year	N		21	1	41.2	40.3	0	100	11	0	0	30.2	22	18.1	3.8	0.0	0.0	0.0	21	14.4	0.47	0.90	0.45	0.66	Note 47
2	Vol/NH3	Cattle	YES		0.9	10.1	NON	100.00	WWH	1.000	NO	12.1	Cattle	0.67				0.0	Cattle	1.1	0.12	0.0125	0.12	0.0100	Note 48
	N leach	Liquid	0.933		1.016		ORG	1.00	1.000	0.400	0.0	12.1	Beef	2				6.6	Liquid	0.0	0.30	0.0010	0.09	0.0050	Note 49
Year	N		21	1	13.4	13.1	0	100	11	0	0	9.9	22	5.9	1.2	0.0	0.0	0.0	21	4.7	0.15	0.29	0.15	0.22	Note 47
3	Vol/NH3	Cattle	YES		0.3	3.3	NON	100.00	WWH	1.000	NO	3.9	Cattle	0.67				0.0	Cattle	0.4	0.04	0.0125	0.04	0.0100	Note 48
	N leach	Liquid	0.933		1.016		ORG	1.00	1.000	0.400	0.0	3.9	Beef	2				2.2	Liquid	0.0	0.10	0.0010	0.03	0.0050	Note 49
Year	N		21	1	4.4	4.3	0	100	11	0	0	3.2	22	1.9	0.4	0.0	0.0	0.0	21	1.5	0.05	0.10	0.05	0.07	Note 47
4	Vol/NH3	Cattle	YES		0.1	1.1	NON	100.00	WWH	1.000	NO	1.3	Cattle	0.67				0.0	Cattle	0.1	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Liquid	0.933		1.016		ORG	1.00	1.000	0.400	0.0	1.3	Beef	2				0.7	Liquid	0.0	0.03	0.0010	0.01	0.0050	Note 49
Year	N		21	1	1.4	1.4	0	100	1	0	0	1.0	22	0.6	0.1	0.0	0.0	0.0	21	0.5	0.02	0.03	0.02	0.02	Note 47
5	Vol/NH3	Cattle	YES		0.0	0.3	NON	100.00	SBA	1.000	NO	0.5	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933		1.016		ORG	1.00	1.000	0.443	0.0	0.5	Beef	2				0.2	Liquid	0.0	0.01	0.0010	0.00	0.0050	Note 49
Year	N		21	1	0.4	0.4	0	100	109	0	0	0.3	22	0.2	0.0	0.0	0.0	0.0	21	0.1	0.00	0.01	0.00	0.01	Note 47
6	Vol/NH3	Cattle	YES		0.0	0.1	NON	100.00	WBB	1.000	NO	0.1	Cattle	0.84				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933		1.016		ORG	1.00	1.000	0.444	0.0	0.1	Beef	2				0.1	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year	N		21	1	0.1	0.1	0	100	11	0	0	0.1	22	0.1	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933		1.016		ORG	1.00	1.000	0.400	0.0	0.0	Beef	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year	N		21	1	0.0	0.0	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933		1.016		ORG	1.00	1.000	0.400	0.0	0.0	Beef	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year	N		21	1	0.0	0.0	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933		1.016		ORG	1.00	1.000	0.400	0.0	0.0	Beef	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year	N		21	1	0.0	0.0	0	100	1	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933		1.016		ORG	1.00	1.000	0.443	0.0	0.0	Beef	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49

Total N	RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	21.1	20.9	2.20	3.84	2.08	2.74	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	23.7	23.5	0.24		0.24	Note 45
1-10 N leach	FIRST YEAR	0.0421	0.0295	TOTAL N AMOUNTS IN KG AND % LEACHED	56.2	55.6	1.40		0.42	Note 45
	TOTAL	0.0644	0.0460	TOTAL N AMOUNTS IN KG AND %	101.0	100.0				Note 45

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	Total	Total/year 1	
Area with crop, ha	0.68	0.23	0.08	0.02	0.01	0.00	0.00	0.00	0.00	0.00	1.03	1.51	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	3.84	2.74	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	3.84	2.74	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.23	0.08	0.02	0.01	0.00	0.00	0.00	0.00	0.00	1.03	Total including natural	4.87	3.77	Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND CATTLE BEEF Note 43
AND CONTINUING WITH SEPARATED CATTLE MANURE TO PRODUCE WINTER WHEAT FOR CATTLE BEEF Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/#72	Food/bev #8	Fuel/other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						Note 45
Year	N NH3																						Note 45
1-10	N leach																						Note 45
																							Note 45
N2O-N/N in food/beverage/fuel/other																				0.2150		0.1331	Note 46
Year	N		1	1	100.0	100.0	0	100	109	0	0	97.8	22	59.6	15.5	0.0	0.0	0.0	22	44.1	1.90	2.90	1.42	1.75	Note 47
1	Vol/NH3	N	YES		0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Cattle	0.84				0.0	Cattle	2.2	0.04	0.0125	0.04	0.0100	Note 48
	N leach		1.022	1.000			ORG	1.00	1.000	0.391	0.0	38.2	Beef	2				18.8	Sep	0.0	0.95	0.0105	0.29	0.0050	Note 49
Year	N		22	1	42.6	38.9	0	100	11	0	0	29.2	22	16.3	3.4	0.0	0.0	0.0	22	12.9	0.57	1.04	0.43	0.67	Note 47
2	Vol/NH3	Cattle	YES		3.6	9.7	NON	100.00	WWH	1.000	NO	12.9	Cattle	0.67				0.0	Cattle	0.6	0.14	0.0125	0.14	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.443	0.0	12.9	Beef	2				6.4	Sep	0.0	0.32	0.0105	0.10	0.0050	Note 49
Year	N		22	1	12.4	11.4	0	100	11	0	0	8.5	22	4.8	1.0	0.0	0.0	0.0	22	3.8	0.17	0.30	0.13	0.20	Note 47
3	Vol/NH3	Cattle	YES		1.1	2.8	NON	100.00	WWH	1.000	NO	3.8	Cattle	0.67				0.0	Cattle	0.2	0.04	0.0125	0.04	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.443	0.0	3.8	Beef	2				1.9	Sep	0.0	0.09	0.0105	0.03	0.0050	Note 49
Year	N		22	1	3.6	3.3	0	100	11	0	0	2.5	22	1.4	0.3	0.0	0.0	0.0	22	1.1	0.05	0.09	0.04	0.06	Note 47
4	Vol/NH3	Cattle	YES		0.3	0.8	NON	100.00	WWH	1.000	NO	1.1	Cattle	0.67				0.0	Cattle	0.1	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.443	0.0	1.1	Beef	2				0.5	Sep	0.0	0.03	0.0105	0.01	0.0050	Note 49
Year	N		22	1	1.1	1.0	0	100	1	0	0	0.7	22	0.4	0.1	0.0	0.0	0.0	22	0.3	0.01	0.03	0.01	0.02	Note 47
5	Vol/NH3	Cattle	YES		0.1	0.2	NON	100.00	SBA	1.000	NO	0.4	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.483	0.0	0.4	Beef	2				0.1	Sep	0.0	0.01	0.0105	0.00	0.0050	Note 49
Year	N		22	1	0.3	0.3	0	100	109	0	0	0.2	22	0.1	0.0	0.0	0.0	0.0	22	0.1	0.00	0.01	0.00	0.00	Note 47
6	Vol/NH3	Cattle	YES		0.0	0.1	NON	100.00	WBB	1.000	NO	0.1	Cattle	0.84				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.483	0.0	0.1	Beef	2				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N		22	1	0.1	0.1	0	100	11	0	0	0.1	22	0.0	0.0	0.0	0.0	0.0	22	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.443	0.0	0.0	Beef	2				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N		22	1	0.0	0.0	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	22	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.443	0.0	0.0	Beef	2				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N		22	1	0.0	0.0	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	22	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.443	0.0	0.0	Beef	2				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N		22	1	0.0	0.0	0	100	1	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	22	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Cattle	YES		0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.016			ORG	1.00	1.000	0.483	0.0	0.0	Beef	2				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	Total	Total/year 1	
Area with crop, ha	0.68	0.21	0.06	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.98	1.44	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	4.36	2.70	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	4.36	2.70	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.21	0.06	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.98	Total including natural	5.34	3.68	Note 51

C2 N CHAIN CALCULATIONS SHEET C: N CHAINS BASED UPON DANISH VALUES CALCULATIONS By Jacob Bugge Available at www.ppo.bugge.com C2

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND CATTLE BEEF Note 43
AND CONTINUING WITH CATTLE DEEP LITTER TO PRODUCE WINTER WHEAT FOR CATTLE BEEF Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44

Total	N	RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED														18.0	16.6	2.93	4.68	1.85	2.61	Note 45
Year	N NH3	ACCORDING TO		IPCC 1996		IPCC 2006		TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										33.1	30.6	0.33		0.33		Note 45
1-10	N leach	FIRST YEAR		0.0552		0.0294		TOTAL N AMOUNTS IN KG AND % LEACHED										57.0	52.8	1.42		0.43		Note 45
		TOTAL		0.0786		0.0438		TOTAL N AMOUNTS IN KG AND %										108.0	100.0					Note 45

N2O-N/N in food/beverage/fuel/other 0.2607 0.1454 Note 46

Year	N	1	1	100.0	100.0	0	100	109	0	0	97.8	22	59.6	15.5	0.0	0.0	0.0	23	44.1	2.29	3.29	1.42	1.75	Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Cattle	0.84				0.0	Cattle	2.6	0.05	0.0125	0.05	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Beef	2				18.8	Deep	0.0	0.95	0.0200	0.29	0.0050	Note 49
Year	N	23	1	48.0	33.6	0	100	11	0	0	25.2	22	9.7	2.0	0.0	0.0	0.0	23	7.7	0.53	1.15	0.36	0.71	Note 47
2	Vol/NH3	Cattle	YES	14.4	8.4	NON	100.00	WWH	1.000	NO	15.5	Cattle	0.67				0.0	Cattle	0.5	0.23	0.0125	0.23	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.614	0.0	15.5	Beef	2				5.5	Deep	0.0	0.39	0.0200	0.12	0.0050	Note 49
Year	N	23	1	8.4	5.9	0	100	11	0	0	4.4	22	1.7	0.4	0.0	0.0	0.0	23	1.3	0.09	0.20	0.06	0.12	Note 47
3	Vol/NH3	Cattle	YES	2.5	1.5	NON	100.00	WWH	1.000	NO	2.7	Cattle	0.67				0.0	Cattle	0.1	0.04	0.0125	0.04	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.614	0.0	2.7	Beef	2				1.0	Deep	0.0	0.07	0.0200	0.02	0.0050	Note 49
Year	N	23	1	1.5	1.0	0	100	11	0	0	0.8	22	0.3	0.1	0.0	0.0	0.0	23	0.2	0.02	0.04	0.01	0.02	Note 47
4	Vol/NH3	Cattle	YES	0.4	0.3	NON	100.00	WWH	1.000	NO	0.5	Cattle	0.67				0.0	Cattle	0.0	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.614	0.0	0.5	Beef	2				0.2	Deep	0.0	0.01	0.0200	0.00	0.0050	Note 49
Year	N	23	1	0.3	0.2	0	100	1	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	Note 47
5	Vol/NH3	Cattle	YES	0.1	0.0	NON	100.00	SBA	1.000	NO	0.1	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.642	0.0	0.1	Beef	2				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	23	1	0.0	0.0	0	100	109	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	Note 47
6	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WBB	1.000	NO	0.0	Cattle	0.84				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.642	0.0	0.0	Beef	2				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	23	1	0.0	0.0	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	Note 47
7	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.614	0.0	0.0	Beef	2				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	23	1	0.0	0.0	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	Note 47
8	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.614	0.0	0.0	Beef	2				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	23	1	0.0	0.0	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	Note 47
9	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.614	0.0	0.0	Beef	2				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	23	1	0.0	0.0	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	Note 47
10	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.159		ORG	1.00	1.000	0.642	0.0	0.0	Beef	2				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	Total	Total/year 1	
Area with crop, ha	0.68	0.13	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	1.22	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	4.68	2.61	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	4.68	2.61	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.13	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	Total including natural	5.52	3.44	Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND CATTLE BEEF Note 43
AND CONTINUING WITH MANURE FROM GRAZING CATTLE TO PRODUCE WINTER WHEAT FOR CATTLE BEEF Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/#72	Food/bev #8	Fuel/other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44
Total	N																		3.41	5.34	3.03	3.66	Note 45
Year	N NH3																		0.06		0.06		Note 45
1-10	N leach																		1.87		0.56		Note 45
																							Note 45

RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	18.9	18.9		
ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	6.2	6.2	
FIRST YEAR	0.0556	0.0403	TOTAL N AMOUNTS IN KG AND % LEACHED	74.9	74.9	
TOTAL	0.0897	0.0614	TOTAL N AMOUNTS IN KG AND %	100.0	100.0	

N2O-N/N in food/beverage/fuel/other 0.2821 0.1930 Note 46

Year																									
Year	N	1	1	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	2.34	3.32	2.09	2.40	Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Cattle	0.84				0.0	Cattle	0.0	0.02	0.0125	0.02	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Beef	2				18.8	Graz	0.0	0.95	0.0200	0.29	0.0200	Note 49
Year	N	24	1	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	Note 47
2	Vol/NH3	Cattle	YES	0.0	3.1	NON	100.00	WWH	1.000	NO	28.3	Cattle	0.67				0.0	Cattle	0.0	0.03	0.0125	0.03	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.689	0.0	28.3	Beef	2				9.0	Graz	0.0	0.71	0.0200	0.21	0.0200	Note 49
Year	N	24	1	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	Note 47
3	Vol/NH3	Cattle	YES	0.0	0.7	NON	100.00	WWH	1.000	NO	6.5	Cattle	0.67				0.0	Cattle	0.0	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.689	0.0	6.5	Beef	2				2.1	Graz	0.0	0.16	0.0200	0.05	0.0200	Note 49
Year	N	24	1	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	Note 47
4	Vol/NH3	Cattle	YES	0.0	0.2	NON	100.00	WWH	1.000	NO	1.5	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.689	0.0	1.5	Beef	2				0.5	Graz	0.0	0.04	0.0200	0.01	0.0200	Note 49
Year	N	24	1	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	Note 47
5	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.4	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.711	0.0	0.4	Beef	2				0.1	Graz	0.0	0.01	0.0200	0.00	0.0200	Note 49
Year	N	24	1	0.1	0.1	0	100	109	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	Note 47
6	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WBB	1.000	NO	0.1	Cattle	0.84				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.712	0.0	0.1	Beef	2				0.0	Graz	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	24	1	0.0	0.0	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.689	0.0	0.0	Beef	2				0.0	Graz	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	24	1	0.0	0.0	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.689	0.0	0.0	Beef	2				0.0	Graz	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	24	1	0.0	0.0	0	100	11	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.689	0.0	0.0	Beef	2				0.0	Graz	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	24	1	0.0	0.0	0	100	1	0	0	0.0	22	0.0	0.0	0.0	0.0	0.0	24	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.711	0.0	0.0	Beef	2				0.0	Graz	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	Year10	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	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	5.34	3.66	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	5.34	3.66	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.13	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.85	Total including natural	6.20	4.51	Note 51

C2 N CHAIN CALCULATIONS SHEET C: N CHAINS BASED UPON DANISH VALUES CALCULATIONS By Jacob Bugge Available at www.ppo.bugge.com C2

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND PIG PORK Note 43
AND CONTINUING WITH LIQUID PIG MANURE TO PRODUCE WINTER WHEAT FOR PIG PORK Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/#72	Food/bev #8	Fuel/other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						Note 45
Year	N NH3																						Note 45
1-10	N leach																						Note 45
																							Note 45
Year	N	1	1	100.0	100.0	0	100	109	0	0	97.8	32	59.6	24.9	0.0	0.0	0.0	31	34.7	1.49	2.51	1.36	1.72 Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Pig	0.84				0.0	Pig	4.9	0.07	0.0125	0.07	0.0100 Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Pork	3				18.8	Liquid	0.0	0.95	0.0010	0.29	0.0050 Note 49
Year	N	31	1	29.8	29.0	0	100	11	0	0	21.8	32	14.0	5.8	0.0	0.0	0.0	31	8.1	0.34	0.63	0.31	0.46 Note 47
2	Vol/NH3	Pig	YES	0.8	7.3	NON	100.00	WWH	1.000	NO	7.8	Pig	0.67				0.0	Pig	1.1	0.09	0.0125	0.09	0.0100 Note 48
	N leach	Liquid	1.000	1.000		ORG	1.00	1.000	0.357	0.0	7.8	Pork	3				4.8	Liquid	0.0	0.19	0.0010	0.06	0.0050 Note 49
Year	N	31	1	7.0	6.8	0	100	11	0	0	5.1	32	3.3	1.4	0.0	0.0	0.0	31	1.9	0.08	0.15	0.07	0.11 Note 47
3	Vol/NH3	Pig	YES	0.2	1.7	NON	100.00	WWH	1.000	NO	1.8	Pig	0.67				0.0	Pig	0.3	0.02	0.0125	0.02	0.0100 Note 48
	N leach	Liquid	1.000	1.000		ORG	1.00	1.000	0.357	0.0	1.8	Pork	3				1.1	Liquid	0.0	0.05	0.0010	0.01	0.0050 Note 49
Year	N	31	1	1.6	1.6	0	100	11	0	0	1.2	32	0.8	0.3	0.0	0.0	0.0	31	0.4	0.02	0.03	0.02	0.03 Note 47
4	Vol/NH3	Pig	YES	0.0	0.4	NON	100.00	WWH	1.000	NO	0.4	Pig	0.67				0.0	Pig	0.1	0.01	0.0125	0.01	0.0100 Note 48
	N leach	Liquid	1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.4	Pork	3				0.3	Liquid	0.0	0.01	0.0010	0.00	0.0050 Note 49
Year	N	31	1	0.4	0.4	0	100	1	0	0	0.3	32	0.2	0.1	0.0	0.0	0.0	31	0.1	0.00	0.01	0.00	0.01 Note 47
5	Vol/NH3	Pig	YES	0.0	0.1	NON	100.00	SBA	1.000	NO	0.1	Pig	0.65				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100 Note 48
	N leach	Liquid	1.000	1.000		ORG	1.00	1.000	0.403	0.0	0.1	Pork	3				0.1	Liquid	0.0	0.00	0.0010	0.00	0.0050 Note 49
Year	N	31	1	0.1	0.1	0	100	109	0	0	0.1	32	0.0	0.0	0.0	0.0	0.0	31	0.0	0.00	0.00	0.00	0.00 Note 47
6	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	WBB	1.000	NO	0.0	Pig	0.84				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100 Note 48
	N leach	Liquid	1.000	1.000		ORG	1.00	1.000	0.404	0.0	0.0	Pork	3				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050 Note 49
Year	N	31	1	0.0	0.0	0	100	11	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	31	0.0	0.00	0.00	0.00	0.00 Note 47
7	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Pig	0.67				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100 Note 48
	N leach	Liquid	1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	Pork	3				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050 Note 49
Year	N	31	1	0.0	0.0	0	100	11	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	31	0.0	0.00	0.00	0.00	0.00 Note 47
8	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Pig	0.67				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100 Note 48
	N leach	Liquid	1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	Pork	3				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050 Note 49
Year	N	31	1	0.0	0.0	0	100	11	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	31	0.0	0.00	0.00	0.00	0.00 Note 47
9	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Pig	0.67				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100 Note 48
	N leach	Liquid	1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	Pork	3				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050 Note 49
Year	N	31	1	0.0	0.0	0	100	1	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	31	0.0	0.00	0.00	0.00	0.00 Note 47
10	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Pig	0.65				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100 Note 48
	N leach	Liquid	1.000	1.000		ORG	1.00	1.000	0.403	0.0	0.0	Pork	3				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050 Note 49

Total	N	RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED														32.5	32.5	1.93	3.33	1.77	2.32 Note 45
Year	N NH3	ACCORDING TO		IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3												19.1	19.1	0.19		0.19	Note 45
1-10	N leach	FIRST YEAR		0.0422	0.0288	TOTAL N AMOUNTS IN KG AND % LEACHED												48.4	48.4	1.21		0.36	Note 45
		TOTAL		0.0559	0.0390	TOTAL N AMOUNTS IN KG AND %												100.0	100.0				Note 45

N2O-N/N in food/beverage/fuel/other 0.1023 0.0714 Note 46

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	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	0.92	1.35	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	3.33	2.32	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	3.33	2.32	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.18	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.92	Total including natural	4.25	3.24	Note 51

N CHAIN STARTING WITH	N FERTILIZER	TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	PIG PORK	Note 43
AND CONTINUING WITH	SEPARATED PIG MANURE	TO PRODUCE	WINTER WHEAT FOR	PIG PORK	Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/#72	Food/bev #8	Fuel/other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						Note 45
Year	N NH3																						Note 45
1-10	N leach																						Note 45
																							Note 45
N2O-N/N in food/beverage/fuel/other																				0.1195		0.0753	Note 46
Year	N		1	1	100.0	100.0	0	100	109	0	0	97.8	32	59.6	24.9	0.0	0.0	0.0	32	34.7	1.76	2.80	1.36	1.73	Note 47
1	Vol/NH3	N	YES		0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Pig	0.84				0.0	Pig	6.2	0.08	0.0125	0.08	0.0100	Note 48
	N leach		1.022		1.000		ORG	1.00	1.000	0.391	0.0	38.2	Pork	3				18.8	Sep	0.0	0.95	0.0105	0.29	0.0050	Note 49
Year	N		32	1	29.1	22.9	0	100	11	0	0	17.2	32	9.6	4.0	0.0	0.0	0.0	32	5.6	0.31	0.63	0.24	0.43	Note 47
2	Vol/NH3	Pig	YES		6.2	5.7	NON	100.00	WWH	1.000	NO	7.6	Pig	0.67				0.0	Pig	1.0	0.13	0.0125	0.13	0.0100	Note 48
	N leach	Sep	0.867		1.024		ORG	1.00	1.000	0.443	0.0	7.6	Pork	3				3.8	Sep	0.0	0.19	0.0105	0.06	0.0050	Note 49
Year	N		32	1	4.7	3.7	0	100	11	0	0	2.8	32	1.5	0.6	0.0	0.0	0.0	32	0.9	0.05	0.10	0.04	0.07	Note 47
3	Vol/NH3	Pig	YES		1.0	0.9	NON	100.00	WWH	1.000	NO	1.2	Pig	0.67				0.0	Pig	0.2	0.02	0.0125	0.02	0.0100	Note 48
	N leach	Sep	0.867		1.024		ORG	1.00	1.000	0.443	0.0	1.2	Pork	3				0.6	Sep	0.0	0.03	0.0105	0.01	0.0050	Note 49
Year	N		32	1	0.7	0.6	0	100	11	0	0	0.4	32	0.2	0.1	0.0	0.0	0.0	32	0.1	0.01	0.02	0.01	0.01	Note 47
4	Vol/NH3	Pig	YES		0.2	0.1	NON	100.00	WWH	1.000	NO	0.2	Pig	0.67				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867		1.024		ORG	1.00	1.000	0.443	0.0	0.2	Pork	3				0.1	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N		32	1	0.1	0.1	0	100	1	0	0	0.1	32	0.0	0.0	0.0	0.0	0.0	32	0.0	0.00	0.00	0.00	0.00	Note 47
5	Vol/NH3	Pig	YES		0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Pig	0.65				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867		1.024		ORG	1.00	1.000	0.483	0.0	0.0	Pork	3				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N		32	1	0.0	0.0	0	100	109	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	32	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	Pig	YES		0.0	0.0	NON	100.00	WBB	1.000	NO	0.0	Pig	0.84				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867		1.024		ORG	1.00	1.000	0.483	0.0	0.0	Pork	3				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N		32	1	0.0	0.0	0	100	11	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	32	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Pig	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Pig	0.67				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867		1.024		ORG	1.00	1.000	0.443	0.0	0.0	Pork	3				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N		32	1	0.0	0.0	0	100	11	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	32	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Pig	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Pig	0.67				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867		1.024		ORG	1.00	1.000	0.443	0.0	0.0	Pork	3				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N		32	1	0.0	0.0	0	100	11	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	32	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Pig	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Pig	0.67				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867		1.024		ORG	1.00	1.000	0.443	0.0	0.0	Pork	3				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N		32	1	0.0	0.0	0	100	1	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	32	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Pig	YES		0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Pig	0.65				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867		1.024		ORG	1.00	1.000	0.483	0.0	0.0	Pork	3				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	Year10	Total	Total/year 1	
Area with crop, ha	0.68	0.12	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	1.22	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	3.54	2.24	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	3.54	2.24	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.12	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	Total including natural	4.37	3.06	Note 51

N CHAIN STARTING WITH	N FERTILIZER	TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	PIG PORK	Note 43
AND CONTINUING WITH	PIG DEEP LITTER	TO PRODUCE	WINTER WHEAT FOR	PIG PORK	Note 43

Year		Fertilizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/#72	Food/bev #8	Fuel/other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																							Note 45
Year	N NH3																							Note 45
1-10	N leach																							Note 45
																								Note 45

RATIO OF N2O-N TO N IN FIRST CROP	TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	28.4	27.4
ACCORDING TO IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	30.5	29.4
FIRST YEAR 0.0510	0.0292	TOTAL N AMOUNTS IN KG AND % LEACHED	44.9	43.2
TOTAL 0.0622	0.0368	TOTAL N AMOUNTS IN KG AND %	103.8	100.0

N2O-N/N in food/beverage/fuel/other 0.1304 0.0772 Note 46

Year																									
Year	N	1	1	100.0	100.0	0	100	109	0	0	97.8	32	59.6	24.9	0.0	0.0	0.0	33	34.7	1.98	3.04	1.34	1.74	Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Pig	0.84				0.0	Pig	8.7	0.11	0.0125	0.11	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Pork	3				18.8	Deep	0.0	0.95	0.0200	0.29	0.0050	Note 49
Year	N	33	1	29.3	17.6	0	100	11	0	0	13.2	32	7.3	3.1	0.0	0.0	0.0	33	4.3	0.27	0.58	0.18	0.40	Note 47
2	Vol/NH3	Pig	YES	11.7	4.4	NON	100.00	WWH	1.000	NO	5.8	Pig	0.67				0.0	Pig	1.1	0.17	0.0125	0.17	0.0100	Note 48
	N leach	Deep	0.867	1.127		ORG	1.00	1.000	0.443	0.0	5.8	Pork	3				2.9	Deep	0.0	0.15	0.0200	0.04	0.0050	Note 49
Year	N	33	1	3.6	2.2	0	100	11	0	0	1.6	32	0.9	0.4	0.0	0.0	0.0	33	0.5	0.03	0.07	0.02	0.05	Note 47
3	Vol/NH3	Pig	YES	1.4	0.5	NON	100.00	WWH	1.000	NO	0.7	Pig	0.67				0.0	Pig	0.1	0.02	0.0125	0.02	0.0100	Note 48
	N leach	Deep	0.867	1.127		ORG	1.00	1.000	0.443	0.0	0.7	Pork	3				0.4	Deep	0.0	0.02	0.0200	0.01	0.0050	Note 49
Year	N	33	1	0.4	0.3	0	100	11	0	0	0.2	32	0.1	0.0	0.0	0.0	0.0	33	0.1	0.00	0.01	0.00	0.01	Note 47
4	Vol/NH3	Pig	YES	0.2	0.1	NON	100.00	WWH	1.000	NO	0.1	Pig	0.67				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.867	1.127		ORG	1.00	1.000	0.443	0.0	0.1	Pork	3				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	33	1	0.1	0.0	0	100	1	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	33	0.0	0.00	0.00	0.00	0.00	Note 47
5	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Pig	0.65				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.867	1.127		ORG	1.00	1.000	0.483	0.0	0.0	Pork	3				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	33	1	0.0	0.0	0	100	109	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	33	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	WBB	1.000	NO	0.0	Pig	0.84				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.867	1.127		ORG	1.00	1.000	0.483	0.0	0.0	Pork	3				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	33	1	0.0	0.0	0	100	11	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	33	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Pig	0.67				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.867	1.127		ORG	1.00	1.000	0.443	0.0	0.0	Pork	3				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	33	1	0.0	0.0	0	100	11	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	33	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Pig	0.67				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.867	1.127		ORG	1.00	1.000	0.443	0.0	0.0	Pork	3				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	33	1	0.0	0.0	0	100	11	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	33	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Pig	0.67				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.867	1.127		ORG	1.00	1.000	0.443	0.0	0.0	Pork	3				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	33	1	0.0	0.0	0	100	1	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	33	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Pig	0.65				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.867	1.127		ORG	1.00	1.000	0.483	0.0	0.0	Pork	3				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	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	0.79	1.16	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	3.71	2.19	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	3.71	2.19	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	0.79	Total including natural	4.50	2.98	Note 51

N CHAIN STARTING WITH	N FERTILIZER	TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	PIG PORK	Note 43
AND CONTINUING WITH	MANURE FROM ROOTING PIGS	TO PRODUCE	WINTER WHEAT FOR	PIG PORK	Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/#72	Food/bev #8	Fuel/other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						Note 45
Year	N NH3																						Note 45
1-10	N leach																						Note 45
																							Note 45

RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	32.9	32.9	
ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	5.4	5.4
FIRST YEAR	0.0525	0.0372	TOTAL N AMOUNTS IN KG AND % LEACHED	61.7	61.7
TOTAL	0.0775	0.0535	TOTAL N AMOUNTS IN KG AND %	100.0	100.0

N2O-N/N in food/beverage/fuel/other																						0.1404		0.0969	Note 46
Year	N	1	1	100.0	100.0	0	100	109	0	0	97.8	32	59.6	24.9	0.0	0.0	0.0	34	34.7	2.15	3.13	1.91	2.22	Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Pig	0.84				0.0	Pig	0.0	0.02	0.0125	0.02	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Pork	3				18.8	Root	0.0	0.95	0.0200	0.29	0.0200	Note 49
Year	N	34	1	34.7	34.7	0	100	11	0	0	32.3	32	14.5	6.1	0.0	0.0	0.0	34	8.4	0.66	1.13	0.58	0.74	Note 47
2	Vol/NH3	Pig	YES	0.0	2.4	NON	100.00	WWH	1.000	NO	17.8	Pig	0.67				0.0	Pig	0.0	0.02	0.0125	0.02	0.0100	Note 48
	N leach	Root	0.699	1.000		ORG	1.00	1.000	0.551	0.0	17.8	Pork	3				7.1	Root	0.0	0.44	0.0200	0.13	0.0200	Note 49
Year	N	34	1	8.4	8.4	0	100	11	0	0	7.8	32	3.5	1.5	0.0	0.0	0.0	34	2.1	0.16	0.27	0.14	0.18	Note 47
3	Vol/NH3	Pig	YES	0.0	0.6	NON	100.00	WWH	1.000	NO	4.3	Pig	0.67				0.0	Pig	0.0	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Root	0.699	1.000		ORG	1.00	1.000	0.551	0.0	4.3	Pork	3				1.7	Root	0.0	0.11	0.0200	0.03	0.0200	Note 49
Year	N	34	1	2.1	2.1	0	100	11	0	0	1.9	32	0.9	0.4	0.0	0.0	0.0	34	0.5	0.04	0.07	0.03	0.04	Note 47
4	Vol/NH3	Pig	YES	0.0	0.1	NON	100.00	WWH	1.000	NO	1.1	Pig	0.67				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Root	0.699	1.000		ORG	1.00	1.000	0.551	0.0	1.1	Pork	3				0.4	Root	0.0	0.03	0.0200	0.01	0.0200	Note 49
Year	N	34	1	0.5	0.5	0	100	1	0	0	0.5	32	0.2	0.1	0.0	0.0	0.0	34	0.1	0.01	0.02	0.01	0.01	Note 47
5	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.3	Pig	0.65				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Root	0.699	1.000		ORG	1.00	1.000	0.583	0.0	0.3	Pork	3				0.1	Root	0.0	0.01	0.0200	0.00	0.0200	Note 49
Year	N	34	1	0.1	0.1	0	100	109	0	0	0.1	32	0.0	0.0	0.0	0.0	0.0	34	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	WBB	1.000	NO	0.1	Pig	0.84				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Root	0.699	1.000		ORG	1.00	1.000	0.583	0.0	0.1	Pork	3				0.0	Root	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	34	1	0.0	0.0	0	100	11	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	34	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Pig	0.67				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Root	0.699	1.000		ORG	1.00	1.000	0.551	0.0	0.0	Pork	3				0.0	Root	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	34	1	0.0	0.0	0	100	11	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	34	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Pig	0.67				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Root	0.699	1.000		ORG	1.00	1.000	0.551	0.0	0.0	Pork	3				0.0	Root	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	34	1	0.0	0.0	0	100	11	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	34	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Pig	0.67				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Root	0.699	1.000		ORG	1.00	1.000	0.551	0.0	0.0	Pork	3				0.0	Root	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	34	1	0.0	0.0	0	100	1	0	0	0.0	32	0.0	0.0	0.0	0.0	0.0	34	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Pig	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Pig	0.65				0.0	Pig	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Root	0.699	1.000		ORG	1.00	1.000	0.583	0.0	0.0	Pork	3				0.0	Root	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	Year10	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	0.00	0.88	1.29	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	4.62	3.19	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	4.62	3.19	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.15	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.88	Total including natural	5.50	4.07	Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND POULTRY MEAT Note 43
AND CONTINUING WITH LIQUID POULTRY MANURE TO PRODUCE WINTER WHEAT FOR POULTRY MEAT Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/#72	Food/bev #8	Fuel/other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						Note 45
Year	N NH3																						Note 45
1-10	N leach																						Note 45
																							Note 45
N2O-N/N in food/beverage/fuel/other																				0.0865		0.0588	Note 46
Year	N		1	1	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	2.49	1.34	1.68	Note 47
1	Vol/NH3	N		YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Poultry	0.84				0.0	Poultry	2.9	0.05	0.0125	0.05	0.0100	Note 48
	N leach			1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Meat	4				18.8	Liquid	0.0	0.95	0.0010	0.29	0.0050	Note 49
Year	N		41	1	26.3	25.8	0	100	11	0	0	19.3	42	10.8	5.5	0.0	0.0	0.0	41	5.3	0.30	0.59	0.27	0.41	Note 47
2	Vol/NH3	Poultry		YES	0.5	6.4	NON	100.00	WWH	1.000	NO	8.6	Poultry	0.67				0.0	Poultry	0.5	0.07	0.0125	0.07	0.0100	Note 48
	N leach	Liquid		0.867	1.000		ORG	1.00	1.000	0.443	0.0	8.6	Meat	4				4.2	Liquid	0.0	0.21	0.0010	0.06	0.0050	Note 49
Year	N		41	1	4.7	4.7	0	100	11	0	0	3.5	42	1.9	1.0	0.0	0.0	0.0	41	1.0	0.05	0.11	0.05	0.07	Note 47
3	Vol/NH3	Poultry		YES	0.1	1.2	NON	100.00	WWH	1.000	NO	1.5	Poultry	0.67				0.0	Poultry	0.1	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Liquid		0.867	1.000		ORG	1.00	1.000	0.443	0.0	1.5	Meat	4				0.8	Liquid	0.0	0.04	0.0010	0.01	0.0050	Note 49
Year	N		41	1	0.9	0.8	0	100	11	0	0	0.6	42	0.4	0.2	0.0	0.0	0.0	41	0.2	0.01	0.02	0.01	0.01	Note 47
4	Vol/NH3	Poultry		YES	0.0	0.2	NON	100.00	WWH	1.000	NO	0.3	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	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	0.01	0.0010	0.00	0.0050	Note 49
Year	N		41	1	0.2	0.2	0	100	1	0	0	0.1	42	0.1	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	0.00	0.00	Note 47
5	Vol/NH3	Poultry		YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.1	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	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	0.00	0.0010	0.00	0.0050	Note 49
Year	N		41	1	0.0	0.0	0	100	109	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	Poultry		YES	0.0	0.0	NON	100.00	WBB	1.000	NO	0.0	Poultry	0.84				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	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	0.00	0.0010	0.00	0.0050	Note 49
Year	N		41	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Poultry		YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	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	0.00	0.0010	0.00	0.0050	Note 49
Year	N		41	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Poultry		YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	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	0.00	0.0010	0.00	0.0050	Note 49
Year	N		41	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Poultry		YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	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	0.00	0.0010	0.00	0.0050	Note 49
Year	N		41	1	0.0	0.0	0	100	1	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Poultry		YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	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	0.00	0.0010	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	Year10	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	1.25	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	3.21	2.18	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	3.21	2.18	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.14	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85	Total including natural	4.06	3.03	Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND POULTRY MEAT Note 43
AND CONTINUING WITH SEPARATED POULTRY MANURE TO PRODUCE WINTER WHEAT FOR POULTRY MEAT Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N		RATIO OF N2O-N TO N IN FIRST CROP				TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED							35.0	35.0				1.97	3.30	1.54	2.08	Note 45
Year	N NH3		ACCORDING TO		IPCC 1996		IPCC 2006				TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3			19.7	19.7				0.20		0.20		Note 45
1-10	N leach		FIRST YEAR		0.0459		0.0286				TOTAL N AMOUNTS IN KG AND % LEACHED			45.3	45.3				1.13		0.34		Note 45
			TOTAL		0.0553		0.0349				TOTAL N AMOUNTS IN KG AND %			100.0	100.0								Note 45

N2O-N/N in food/beverage/fuel/other 0.0943 0.0595 Note 46

Year																									
Year	N	1	1	100.0	100.0	0	100	109	0	0	97.8	42	59.6	30.4	0.0	0.0	0.0	42	29.2	1.69	2.74	1.32	1.70	Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Poultry	0.84				0.0	Poultry	7.3	0.10	0.0125	0.10	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Meat	4				18.8	Sep	0.0	0.95	0.0105	0.29	0.0050	Note 49
Year	N	42	1	21.9	18.6	0	100	11	0	0	14.0	42	7.8	4.0	0.0	0.0	0.0	42	3.8	0.24	0.49	0.19	0.33	Note 47
2	Vol/NH3	Poultry	YES	3.3	4.7	NON	100.00	WWH	1.000	NO	6.2	Poultry	0.67				0.0	Poultry	1.0	0.09	0.0125	0.09	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.443	0.0	6.2	Meat	4				3.1	Sep	0.0	0.15	0.0105	0.05	0.0050	Note 49
Year	N	42	1	2.9	2.4	0	100	11	0	0	1.8	42	1.0	0.5	0.0	0.0	0.0	42	0.5	0.03	0.06	0.03	0.04	Note 47
3	Vol/NH3	Poultry	YES	0.4	0.6	NON	100.00	WWH	1.000	NO	0.8	Poultry	0.67				0.0	Poultry	0.1	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.443	0.0	0.8	Meat	4				0.4	Sep	0.0	0.02	0.0105	0.01	0.0050	Note 49
Year	N	42	1	0.4	0.3	0	100	11	0	0	0.2	42	0.1	0.1	0.0	0.0	0.0	42	0.1	0.00	0.01	0.00	0.01	Note 47
4	Vol/NH3	Poultry	YES	0.1	0.1	NON	100.00	WWH	1.000	NO	0.1	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.443	0.0	0.1	Meat	4				0.1	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N	42	1	0.0	0.0	0	100	1	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	0.00	Note 47
5	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.483	0.0	0.0	Meat	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N	42	1	0.0	0.0	0	100	109	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WBB	1.000	NO	0.0	Poultry	0.84				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.483	0.0	0.0	Meat	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N	42	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.443	0.0	0.0	Meat	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N	42	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.443	0.0	0.0	Meat	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N	42	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.443	0.0	0.0	Meat	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N	42	1	0.0	0.0	0	100	1	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.483	0.0	0.0	Meat	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	Total	Total/year 1	
Area with crop, ha	0.68	0.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	1.17	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	3.30	2.08	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	3.30	2.08	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	Total including natural	4.09	2.88	Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND POULTRY MEAT Note 43
AND CONTINUING WITH POULTRY DEEP LITTER TO PRODUCE WINTER WHEAT FOR POULTRY MEAT Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/#72	Food/bev #8	Fuel/other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						Note 45
Year	N NH3																						Note 45
1-10	N leach																						Note 45
																							Note 45

RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	32.7	32.6
ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	22.1	22.0
FIRST YEAR	0.0487	0.0290	TOTAL N AMOUNTS IN KG AND % LEACHED	45.5	45.4
TOTAL	0.0566	0.0339	TOTAL N AMOUNTS IN KG AND %	100.2	100.0

N2O-N/N in food/beverage/fuel/other 0.1030 0.0617 Note 46

Year																									
Year	N	1	1	100.0	100.0	0	100	109	0	0	97.8	42	59.6	30.4	0.0	0.0	0.0	43	29.2	1.81	2.90	1.30	1.73	Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Poultry	0.84				0.0	Poultry	11.7	0.14	0.0125	0.14	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Meat	4				18.8	Deep	0.0	0.95	0.0200	0.29	0.0050	Note 49
Year	N	43	1	17.8	14.6	0	100	11	0	0	11.0	42	4.2	2.2	0.0	0.0	0.0	43	2.1	0.19	0.44	0.15	0.27	Note 47
2	Vol/NH3	Poultry	YES	3.1	3.7	NON	100.00	WWH	1.000	NO	6.7	Poultry	0.67				0.0	Poultry	0.8	0.08	0.0125	0.08	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.614	0.0	6.7	Meat	4				2.4	Deep	0.0	0.17	0.0200	0.05	0.0050	Note 49
Year	N	43	1	1.3	1.0	0	100	11	0	0	0.8	42	0.3	0.2	0.0	0.0	0.0	43	0.1	0.01	0.03	0.01	0.02	Note 47
3	Vol/NH3	Poultry	YES	0.2	0.3	NON	100.00	WWH	1.000	NO	0.5	Poultry	0.67				0.0	Poultry	0.1	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.614	0.0	0.5	Meat	4				0.2	Deep	0.0	0.01	0.0200	0.00	0.0050	Note 49
Year	N	43	1	0.1	0.1	0	100	11	0	0	0.1	42	0.0	0.0	0.0	0.0	0.0	43	0.0	0.00	0.00	0.00	0.00	Note 47
4	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.614	0.0	0.0	Meat	4				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	43	1	0.0	0.0	0	100	1	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	43	0.0	0.00	0.00	0.00	0.00	Note 47
5	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.642	0.0	0.0	Meat	4				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	43	1	0.0	0.0	0	100	109	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	43	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WBB	1.000	NO	0.0	Poultry	0.84				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.642	0.0	0.0	Meat	4				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	43	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	43	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.614	0.0	0.0	Meat	4				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	43	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	43	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.614	0.0	0.0	Meat	4				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	43	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	43	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.614	0.0	0.0	Meat	4				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	43	1	0.0	0.0	0	100	1	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	43	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.642	0.0	0.0	Meat	4				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	Total	Total/year 1	
Area with crop, ha	0.68	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74	1.09	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	3.37	2.02	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	3.37	2.02	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74	Total including natural	4.11	2.76	Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND POULTRY MEAT Note 43
AND CONTINUING WITH MANURE FROM SCRAPING POULTRY TO PRODUCE WINTER WHEAT FOR POULTRY MEAT Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N		RATIO OF N2O-N TO N IN FIRST CROP				TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED							35.4	35.4				2.62	4.17	2.30	2.79	Note 45
Year	N NH3		ACCORDING TO		IPCC 1996		IPCC 2006				TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3			4.6	4.6				0.05		0.05		Note 45
1-10	N leach		FIRST YEAR		0.0506		0.0353				TOTAL N AMOUNTS IN KG AND % LEACHED			60.0	60.0				1.50		0.45		Note 45
			TOTAL		0.0699		0.0468				TOTAL N AMOUNTS IN KG AND %			100.0	100.0								Note 45

N2O-N/N in food/beverage/fuel/other 0.1176 0.0788 Note 46

Year																									
Year	N	1	1	100.0	100.0	0	100	109	0	0	97.8	42	59.6	30.4	0.0	0.0	0.0	44	29.2	2.04	3.02	1.80	2.11	Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Poultry	0.84				0.0	Poultry	0.0	0.02	0.0125	0.02	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Meat	4				18.8	Scrap	0.0	0.95	0.0200	0.29	0.0200	Note 49
Year	N	44	1	29.2	29.2	0	100	11	0	0	27.2	42	8.4	4.3	0.0	0.0	0.0	44	4.1	0.50	0.98	0.43	0.59	Note 47
2	Vol/NH3	Poultry	YES	0.0	2.0	NON	100.00	WWH	1.000	NO	18.7	Poultry	0.67				0.0	Poultry	0.0	0.02	0.0125	0.02	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.689	0.0	18.7	Meat	4				5.9	Scrap	0.0	0.47	0.0200	0.14	0.0200	Note 49
Year	N	44	1	4.1	4.1	0	100	11	0	0	3.8	42	1.2	0.6	0.0	0.0	0.0	44	0.6	0.07	0.14	0.06	0.08	Note 47
3	Vol/NH3	Poultry	YES	0.0	0.3	NON	100.00	WWH	1.000	NO	2.7	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.689	0.0	2.7	Meat	4				0.8	Scrap	0.0	0.07	0.0200	0.02	0.0200	Note 49
Year	N	44	1	0.6	0.6	0	100	11	0	0	0.5	42	0.2	0.1	0.0	0.0	0.0	44	0.1	0.01	0.02	0.01	0.01	Note 47
4	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.4	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.689	0.0	0.4	Meat	4				0.1	Scrap	0.0	0.01	0.0200	0.00	0.0200	Note 49
Year	N	44	1	0.1	0.1	0	100	1	0	0	0.1	42	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00	Note 47
5	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.1	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.711	0.0	0.1	Meat	4				0.0	Scrap	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	44	1	0.0	0.0	0	100	109	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WBB	1.000	NO	0.0	Poultry	0.84				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.712	0.0	0.0	Meat	4				0.0	Scrap	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	44	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.689	0.0	0.0	Meat	4				0.0	Scrap	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	44	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.689	0.0	0.0	Meat	4				0.0	Scrap	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	44	1	0.0	0.0	0	100	11	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.689	0.0	0.0	Meat	4				0.0	Scrap	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	44	1	0.0	0.0	0	100	1	0	0	0.0	42	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.711	0.0	0.0	Meat	4				0.0	Scrap	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	Year10	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	0.78	1.15	Note 50

Possible additional non IPCC N2O-N emissions	Value											Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	4.17	2.79	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.78	Total including natural	4.95	3.58	Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND POULTRY EGGS Note 43
AND CONTINUING WITH LIQUID POULTRY MANURE TO PRODUCE WINTER WHEAT FOR POULTRY EGGS Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/#72	Food/bev #8	Fuel/other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44
Total	N																						Note 44
Year	N NH3																						Note 44
1-10	N leach																						Note 44
Year 1	N	1	1	100.0	100.0	0	100	109	0	0	97.8	43	59.6	14.4	0.0	0.0	0.0	41	45.2	1.50	2.52	1.42	1.77	Note 47
	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Poultry	0.84				0.0	Poultry	4.5	0.07	0.0125	0.07	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Eggs	4				18.8	Liquid	0.0	0.95	0.0010	0.29	0.0050	Note 49
Year 2	N	41	1	40.7	39.9	0	100	11	0	0	29.9	43	16.7	4.0	0.0	0.0	0.0	41	12.7	0.47	0.92	0.44	0.66	Note 47
	Vol/NH3	Poultry	YES	0.8	10.0	NON	100.00	WWH	1.000	NO	13.3	Poultry	0.67				0.0	Poultry	1.3	0.12	0.0125	0.12	0.0100	Note 48
	N leach	Liquid	0.867	1.000		ORG	1.00	1.000	0.443	0.0	13.3	Eggs	4				6.5	Liquid	0.0	0.33	0.0010	0.10	0.0050	Note 49
Year 3	N	41	1	11.4	11.2	0	100	11	0	0	8.4	43	4.7	1.1	0.0	0.0	0.0	41	3.5	0.13	0.26	0.12	0.18	Note 47
	Vol/NH3	Poultry	YES	0.2	2.8	NON	100.00	WWH	1.000	NO	3.7	Poultry	0.67				0.0	Poultry	0.4	0.03	0.0125	0.03	0.0100	Note 48
	N leach	Liquid	0.867	1.000		ORG	1.00	1.000	0.443	0.0	3.7	Eggs	4				1.8	Liquid	0.0	0.09	0.0010	0.03	0.0050	Note 49
Year 4	N	41	1	3.2	3.1	0	100	11	0	0	2.3	43	1.3	0.3	0.0	0.0	0.0	41	1.0	0.04	0.07	0.03	0.05	Note 47
	Vol/NH3	Poultry	YES	0.1	0.8	NON	100.00	WWH	1.000	NO	1.0	Poultry	0.67				0.0	Poultry	0.1	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Liquid	0.867	1.000		ORG	1.00	1.000	0.443	0.0	1.0	Eggs	4				0.5	Liquid	0.0	0.03	0.0010	0.01	0.0050	Note 49
Year 5	N	41	1	0.9	0.9	0	100	1	0	0	0.7	43	0.3	0.1	0.0	0.0	0.0	41	0.3	0.01	0.02	0.01	0.01	Note 47
	Vol/NH3	Poultry	YES	0.0	0.2	NON	100.00	SBA	1.000	NO	0.3	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.867	1.000		ORG	1.00	1.000	0.483	0.0	0.3	Eggs	4				0.1	Liquid	0.0	0.01	0.0010	0.00	0.0050	Note 49
Year 6	N	41	1	0.2	0.2	0	100	109	0	0	0.2	43	0.1	0.0	0.0	0.0	0.0	41	0.1	0.00	0.01	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.1	NON	100.00	WBB	1.000	NO	0.1	Poultry	0.84				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.867	1.000		ORG	1.00	1.000	0.483	0.0	0.1	Eggs	4				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year 7	N	41	1	0.1	0.1	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.867	1.000		ORG	1.00	1.000	0.443	0.0	0.0	Eggs	4				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year 8	N	41	1	0.0	0.0	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.867	1.000		ORG	1.00	1.000	0.443	0.0	0.0	Eggs	4				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year 9	N	41	1	0.0	0.0	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.867	1.000		ORG	1.00	1.000	0.443	0.0	0.0	Eggs	4				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year 10	N	41	1	0.0	0.0	0	100	1	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	41	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.867	1.000		ORG	1.00	1.000	0.483	0.0	0.0	Eggs	4				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49

RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED													19.9	19.9	2.15	3.80	2.02	2.68	Note 45
ACCORDING TO	IPCC 1996	IPCC 2006												TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3			23.4	23.4	0.23		0.23		Note 45
FIRST YEAR	0.0423	0.0297												TOTAL N AMOUNTS IN KG AND % LEACHED			56.6	56.6	1.42		0.42		Note 45
TOTAL	0.0637	0.0450												TOTAL N AMOUNTS IN KG AND %			100.0	100.0					Note 45

N2O-N/N in food/beverage/fuel/other 0.1905 0.1346 Note 46

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	Total	Total/year 1	
Area with crop, ha	0.68	0.22	0.06	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.98	1.44	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	3.80	2.68	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	3.80	2.68	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.22	0.06	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.98	Total including natural	4.78	3.66	Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND POULTRY EGGS Note 43
AND CONTINUING WITH SEPARATED POULTRY MANURE TO PRODUCE WINTER WHEAT FOR POULTRY EGGS Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N		RATIO OF N2O-N TO N IN FIRST CROP				TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED							18.0	18.0				2.32	3.89	1.77	2.46	Note 45
Year	N NH3		ACCORDING TO		IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3							31.8	31.8				0.32		0.32		Note 45
1-10	N leach		FIRST YEAR		0.0487	0.0303	TOTAL N AMOUNTS IN KG AND % LEACHED							50.2	50.2				1.26		0.38		Note 45
			TOTAL		0.0653	0.0414	TOTAL N AMOUNTS IN KG AND %							100.0	100.0								Note 45

N2O-N/N in food/beverage/fuel/other 0.2161 0.1369 Note 46

Year																									
Year	N	1	1	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	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Poultry	0.84				0.0	Poultry	11.3	0.14	0.0125	0.14	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Eggs	4				18.8	Sep	0.0	0.95	0.0105	0.29	0.0050	Note 49
Year	N	42	1	33.9	28.8	0	100	11	0	0	21.6	43	12.0	2.9	0.0	0.0	0.0	42	9.1	0.40	0.79	0.31	0.53	Note 47
2	Vol/NH3	Poultry	YES	5.1	7.2	NON	100.00	WWH	1.000	NO	9.6	Poultry	0.67				0.0	Poultry	2.3	0.15	0.0125	0.15	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.443	0.0	9.6	Eggs	4				4.7	Sep	0.0	0.24	0.0105	0.07	0.0050	Note 49
Year	N	42	1	6.9	5.8	0	100	11	0	0	4.4	43	2.4	0.6	0.0	0.0	0.0	42	1.8	0.08	0.16	0.06	0.11	Note 47
3	Vol/NH3	Poultry	YES	1.0	1.5	NON	100.00	WWH	1.000	NO	1.9	Poultry	0.67				0.0	Poultry	0.5	0.03	0.0125	0.03	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.443	0.0	1.9	Eggs	4				1.0	Sep	0.0	0.05	0.0105	0.01	0.0050	Note 49
Year	N	42	1	1.4	1.2	0	100	11	0	0	0.9	43	0.5	0.1	0.0	0.0	0.0	42	0.4	0.02	0.03	0.01	0.02	Note 47
4	Vol/NH3	Poultry	YES	0.2	0.3	NON	100.00	WWH	1.000	NO	0.4	Poultry	0.67				0.0	Poultry	0.1	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.443	0.0	0.4	Eggs	4				0.2	Sep	0.0	0.01	0.0105	0.00	0.0050	Note 49
Year	N	42	1	0.3	0.2	0	100	1	0	0	0.2	43	0.1	0.0	0.0	0.0	0.0	42	0.1	0.00	0.01	0.00	0.00	Note 47
5	Vol/NH3	Poultry	YES	0.0	0.1	NON	100.00	SBA	1.000	NO	0.1	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.483	0.0	0.1	Eggs	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N	42	1	0.1	0.0	0	100	109	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WBB	1.000	NO	0.0	Poultry	0.84				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.483	0.0	0.0	Eggs	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N	42	1	0.0	0.0	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.443	0.0	0.0	Eggs	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N	42	1	0.0	0.0	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.443	0.0	0.0	Eggs	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N	42	1	0.0	0.0	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.443	0.0	0.0	Eggs	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49
Year	N	42	1	0.0	0.0	0	100	1	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	42	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Sep	0.867	1.000		ORG	1.00	1.000	0.483	0.0	0.0	Eggs	4				0.0	Sep	0.0	0.00	0.0105	0.00	0.0050	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	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	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	3.89	2.46	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	3.89	2.46	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.16	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.88	Total including natural	4.77	3.34	Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND POULTRY EGGS Note 43
AND CONTINUING WITH POULTRY DEEP LITTER TO PRODUCE WINTER WHEAT FOR POULTRY EGGS Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/#72	Food/bev #8	Fuel/other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44
Total	N																						Note 44
Year	N NH3																						Note 44
1-10	N leach																						Note 44
Year 1	N	1	1	100.0	100.0	0	100	109	0	0	97.8	43	59.6	14.4	0.0	0.0	0.0	43	45.2	2.00	3.16	1.35	1.84	Note 47
	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Poultry	0.84				0.0	Poultry	18.1	0.20	0.0125	0.20	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Eggs	4				18.8	Deep	0.0	0.95	0.0200	0.29	0.0050	Note 49
Year 2	N	43	1	27.5	22.7	0	100	11	0	0	17.0	43	6.6	1.6	0.0	0.0	0.0	43	5.0	0.32	0.70	0.23	0.43	Note 47
	Vol/NH3	Poultry	YES	4.8	5.7	NON	100.00	WWH	1.000	NO	10.5	Poultry	0.67				0.0	Poultry	2.0	0.12	0.0125	0.12	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.614	0.0	10.5	Eggs	4				3.7	Deep	0.0	0.26	0.0200	0.08	0.0050	Note 49
Year 3	N	43	1	3.0	2.5	0	100	11	0	0	1.9	43	0.7	0.2	0.0	0.0	0.0	43	0.5	0.04	0.08	0.03	0.05	Note 47
	Vol/NH3	Poultry	YES	0.5	0.6	NON	100.00	WWH	1.000	NO	1.2	Poultry	0.67				0.0	Poultry	0.2	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.614	0.0	1.2	Eggs	4				0.4	Deep	0.0	0.03	0.0200	0.01	0.0050	Note 49
Year 4	N	43	1	0.3	0.3	0	100	11	0	0	0.2	43	0.1	0.0	0.0	0.0	0.0	43	0.1	0.00	0.01	0.00	0.01	Note 47
	Vol/NH3	Poultry	YES	0.1	0.1	NON	100.00	WWH	1.000	NO	0.1	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.614	0.0	0.1	Eggs	4				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year 5	N	43	1	0.0	0.0	0	100	1	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	43	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.642	0.0	0.0	Eggs	4				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year 6	N	43	1	0.0	0.0	0	100	109	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	43	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WBB	1.000	NO	0.0	Poultry	0.84				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.642	0.0	0.0	Eggs	4				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year 7	N	43	1	0.0	0.0	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	43	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.614	0.0	0.0	Eggs	4				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year 8	N	43	1	0.0	0.0	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	43	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.614	0.0	0.0	Eggs	4				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year 9	N	43	1	0.0	0.0	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	43	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.614	0.0	0.0	Eggs	4				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year 10	N	43	1	0.0	0.0	0	100	1	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	43	0.0	0.00	0.00	0.00	0.00	Note 47
	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.013		ORG	1.00	1.000	0.642	0.0	0.0	Eggs	4				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49

RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	16.1	16.1											
ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	34.3	34.2										
FIRST YEAR	0.0530	0.0308	TOTAL N AMOUNTS IN KG AND % LEACHED	49.9	49.7										
TOTAL	0.0663	0.0390	TOTAL N AMOUNTS IN KG AND %	100.4	100.0										

N2O-N/N in food/beverage/fuel/other 0.2447 0.1441 Note 46

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	Total	Total/year 1	
Area with crop, ha	0.68	0.08	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78	1.14	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	3.95	2.33	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	3.95	2.33	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.08	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.78	Total including natural	4.73	3.10	Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND POULTRY EGGS Note 43
AND CONTINUING WITH MANURE FROM SCRAPING POULTRY TO PRODUCE WINTER WHEAT FOR POULTRY EGGS Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44
Total	N													18.4	18.4				3.44	5.38	3.06	3.69	Note 45
Year	N NH3													6.3	6.3				0.06		0.06		Note 45
1-10	N leach													75.3	75.3				1.88		0.57		Note 45
														100.0	100.0								Note 45

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	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3
FIRST YEAR	0.0560	0.0407	TOTAL N AMOUNTS IN KG AND % LEACHED
TOTAL	0.0903	0.0618	TOTAL N AMOUNTS IN KG AND %

N2O-N/N in food/beverage/fuel/other 0.2926 0.2003 Note 46

Year																									
Year	N	1	1	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	2.36	3.34	2.12	2.43	Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Poultry	0.84				0.0	Poultry	0.0	0.02	0.0125	0.02	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Eggs	4				18.8	Scrap	0.0	0.95	0.0200	0.29	0.0200	Note 49
Year	N	44	1	45.2	45.2	0	100	11	0	0	42.1	43	13.1	3.2	0.0	0.0	0.0	44	9.9	0.84	1.60	0.73	0.98	Note 47
2	Vol/NH3	Poultry	YES	0.0	3.2	NON	100.00	WWH	1.000	NO	29.0	Poultry	0.67				0.0	Poultry	0.0	0.03	0.0125	0.03	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.689	0.0	29.0	Eggs	4				9.2	Scrap	0.0	0.72	0.0200	0.22	0.0200	Note 49
Year	N	44	1	9.9	9.9	0	100	11	0	0	9.2	43	2.9	0.7	0.0	0.0	0.0	44	2.2	0.18	0.35	0.16	0.22	Note 47
3	Vol/NH3	Poultry	YES	0.0	0.7	NON	100.00	WWH	1.000	NO	6.4	Poultry	0.67				0.0	Poultry	0.0	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.689	0.0	6.4	Eggs	4				2.0	Scrap	0.0	0.16	0.0200	0.05	0.0200	Note 49
Year	N	44	1	2.2	2.2	0	100	11	0	0	2.0	43	0.6	0.2	0.0	0.0	0.0	44	0.5	0.04	0.08	0.04	0.05	Note 47
4	Vol/NH3	Poultry	YES	0.0	0.2	NON	100.00	WWH	1.000	NO	1.4	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.689	0.0	1.4	Eggs	4				0.4	Scrap	0.0	0.03	0.0200	0.01	0.0200	Note 49
Year	N	44	1	0.5	0.5	0	100	1	0	0	0.4	43	0.1	0.0	0.0	0.0	0.0	44	0.1	0.01	0.02	0.01	0.01	Note 47
5	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.3	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.711	0.0	0.3	Eggs	4				0.1	Scrap	0.0	0.01	0.0200	0.00	0.0200	Note 49
Year	N	44	1	0.1	0.1	0	100	109	0	0	0.1	43	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WBB	1.000	NO	0.1	Poultry	0.84				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.712	0.0	0.1	Eggs	4				0.0	Scrap	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	44	1	0.0	0.0	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.689	0.0	0.0	Eggs	4				0.0	Scrap	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	44	1	0.0	0.0	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.689	0.0	0.0	Eggs	4				0.0	Scrap	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	44	1	0.0	0.0	0	100	11	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Poultry	0.67				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.689	0.0	0.0	Eggs	4				0.0	Scrap	0.0	0.00	0.0200	0.00	0.0200	Note 49
Year	N	44	1	0.0	0.0	0	100	1	0	0	0.0	43	0.0	0.0	0.0	0.0	0.0	44	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Poultry	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Poultry	0.65				0.0	Poultry	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Scrap	0.484	1.000		ORG	1.00	1.000	0.711	0.0	0.0	Eggs	4				0.0	Scrap	0.0	0.00	0.0200	0.00	0.0200	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	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												Kind of source	Total IPCC and non IPCC N2O	Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	5.38	3.69 Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	5.38	3.69 Note 51
Natural background 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	0.00	0.86	Total including natural	6.24	4.54 Note 51

C2 N CHAIN CALCULATIONS SHEET C: N CHAINS BASED UPON DANISH VALUES CALCULATIONS By Jacob Bugge Available at www.ppo.bugge.com C2

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND SHEEP MILK/MUTTON Note 43
AND CONTINUING WITH SHEEP DEEP LITTER TO PRODUCE WINTER WHEAT FOR SHEEP MILK/MUTTON Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44

Total	N	RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED														12.6	11.4	3.89	6.13	2.49	3.26	Note 45
Year	N NH3	ACCORDING TO		IPCC 1996		IPCC 2006		TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										13.6	12.3	0.14		0.14		Note 45
1-10	N leach	FIRST YEAR		0.0567		0.0305		TOTAL N AMOUNTS IN KG AND % LEACHED										84.3	76.3	2.11		0.63		Note 45
		TOTAL		0.1029		0.0546		TOTAL N AMOUNTS IN KG AND %										110.4	100.0					Note 45

N2O-N/N in food/beverage/fuel/other 0.4883 0.2594 Note 46

Year																									
Year	N	1	1	100.0	100.0	0	100	109	0	0	97.8	51	59.6	8.5	0.0	0.0	0.0	53	51.1	2.33	3.38	1.43	1.82	Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Sheep	0.84				0.0	Sheep	7.7	0.10	0.0125	0.10	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Milk/mutt	5				18.8	Deep	0.0	0.95	0.0200	0.29	0.0050	Note 49
Year	N	53	1	50.5	50.5	0	100	11	0	0	50.5	51	19.5	2.8	0.0	0.0	0.0	53	16.7	1.05	1.85	0.71	0.97	Note 47
2	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	31.0	Sheep	0.67				0.0	Sheep	2.5	0.03	0.0125	0.03	0.0100	Note 48
	N leach	Deep	0.600	1.162		ORG	1.00	1.000	0.614	0.0	31.0	Milk/mutt	5				11.0	Deep	0.0	0.78	0.0200	0.23	0.0050	Note 49
Year	N	53	1	16.5	16.5	0	100	11	0	0	16.5	51	6.4	0.9	0.0	0.0	0.0	53	5.5	0.34	0.61	0.23	0.32	Note 47
3	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	10.1	Sheep	0.67				0.0	Sheep	0.8	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Deep	0.600	1.162		ORG	1.00	1.000	0.614	0.0	10.1	Milk/mutt	5				3.6	Deep	0.0	0.25	0.0200	0.08	0.0050	Note 49
Year	N	53	1	5.4	5.4	0	100	11	0	0	5.4	51	2.1	0.3	0.0	0.0	0.0	53	1.8	0.11	0.20	0.08	0.10	Note 47
4	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	3.3	Sheep	0.67				0.0	Sheep	0.3	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162		ORG	1.00	1.000	0.614	0.0	3.3	Milk/mutt	5				1.2	Deep	0.0	0.08	0.0200	0.02	0.0050	Note 49
Year	N	53	1	1.8	1.8	0	100	1	0	0	1.8	51	0.6	0.1	0.0	0.0	0.0	53	0.5	0.04	0.06	0.02	0.03	Note 47
5	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	1.1	Sheep	0.65				0.0	Sheep	0.1	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162		ORG	1.00	1.000	0.642	0.0	1.1	Milk/mutt	5				0.4	Deep	0.0	0.03	0.0200	0.01	0.0050	Note 49
Year	N	53	1	0.5	0.5	0	100	109	0	0	0.5	51	0.2	0.0	0.0	0.0	0.0	53	0.2	0.01	0.02	0.01	0.01	Note 47
6	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WBB	1.000	NO	0.3	Sheep	0.84				0.0	Sheep	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162		ORG	1.00	1.000	0.642	0.0	0.3	Milk/mutt	5				0.1	Deep	0.0	0.01	0.0200	0.00	0.0050	Note 49
Year	N	53	1	0.2	0.2	0	100	11	0	0	0.2	51	0.1	0.0	0.0	0.0	0.0	53	0.1	0.00	0.01	0.00	0.00	Note 47
7	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.1	Sheep	0.67				0.0	Sheep	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162		ORG	1.00	1.000	0.614	0.0	0.1	Milk/mutt	5				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	53	1	0.1	0.1	0	100	11	0	0	0.1	51	0.0	0.0	0.0	0.0	0.0	53	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Sheep	0.67				0.0	Sheep	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162		ORG	1.00	1.000	0.614	0.0	0.0	Milk/mutt	5				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	53	1	0.0	0.0	0	100	11	0	0	0.0	51	0.0	0.0	0.0	0.0	0.0	53	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Sheep	0.67				0.0	Sheep	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162		ORG	1.00	1.000	0.614	0.0	0.0	Milk/mutt	5				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N	53	1	0.0	0.0	0	100	1	0	0	0.0	51	0.0	0.0	0.0	0.0	0.0	53	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Sheep	0.65				0.0	Sheep	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162		ORG	1.00	1.000	0.642	0.0	0.0	Milk/mutt	5				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	Total	Total/year 1	
Area with crop, ha	0.68	0.19	0.06	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.96	1.41	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	6.13	3.26	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	6.13	3.26	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.19	0.06	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.96	Total including natural	7.09	4.22	Note 51

N CHAIN STARTING WITH	N FERTILIZER	TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	SHEET MILK/MUTTON	Note 43
AND CONTINUING WITH	MANURE FROM GRAZING SHEEP	TO PRODUCE	WINTER WHEAT FOR	SHEET MILK/MUTTON	Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						Note 45
Year	N NH3																						Note 45
1-10	N leach																						Note 45
																							Note 45

RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	11.3	11.3
ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	7.0	7.0
FIRST YEAR	0.0580	0.0255	TOTAL N AMOUNTS IN KG AND % LEACHED	81.8	81.8
TOTAL	0.0989	0.0453	TOTAL N AMOUNTS IN KG AND %	100.0	100.0

N2O-N/N in food/beverage/fuel/other 0.5238 0.2400 Note 46

Year																									
Year	N	1	1	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	1.52	Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Sheep	0.84				0.0	Sheep	0.0	0.02	0.0125	0.02	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	Milk/mutt	5				18.8	Graz	0.0	0.95	0.0200	0.29	0.0000	Note 49
Year	N	54	1	51.1	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	0.89	Note 47
2	Vol/NH3	Sheep	YES	0.0	3.6	NON	100.00	WWH	1.000	NO	32.8	Sheep	0.67				0.0	Sheep	0.0	0.04	0.0125	0.04	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.689	0.0	32.8	Milk/mutt	5				10.4	Graz	0.0	0.82	0.0200	0.25	0.0000	Note 49
Year	N	54	1	12.7	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	0.22	Note 47
3	Vol/NH3	Sheep	YES	0.0	0.9	NON	100.00	WWH	1.000	NO	8.1	Sheep	0.67				0.0	Sheep	0.0	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.689	0.0	8.1	Milk/mutt	5				2.6	Graz	0.0	0.20	0.0200	0.06	0.0000	Note 49
Year	N	54	1	3.1	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	0.05	Note 47
4	Vol/NH3	Sheep	YES	0.0	0.2	NON	100.00	WWH	1.000	NO	2.0	Sheep	0.67				0.0	Sheep	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.689	0.0	2.0	Milk/mutt	5				0.6	Graz	0.0	0.05	0.0200	0.02	0.0000	Note 49
Year	N	54	1	0.8	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	0.01	Note 47
5	Vol/NH3	Sheep	YES	0.0	0.1	NON	100.00	SBA	1.000	NO	0.5	Sheep	0.65				0.0	Sheep	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.711	0.0	0.5	Milk/mutt	5				0.1	Graz	0.0	0.01	0.0200	0.00	0.0000	Note 49
Year	N	54	1	0.2	0.2	0	100	109	0	0	0.2	51	0.0	0.0	0.0	0.0	0.0	54	0.0	0.00	0.01	0.00	0.00	Note 47
6	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WBB	1.000	NO	0.1	Sheep	0.84				0.0	Sheep	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.712	0.0	0.1	Milk/mutt	5				0.0	Graz	0.0	0.00	0.0200	0.00	0.0000	Note 49
Year	N	54	1	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	0.00	0.00	0.00	Note 47
7	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Sheep	0.67				0.0	Sheep	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.689	0.0	0.0	Milk/mutt	5				0.0	Graz	0.0	0.00	0.0200	0.00	0.0000	Note 49
Year	N	54	1	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	0.00	0.00	0.00	Note 47
8	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Sheep	0.67				0.0	Sheep	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.689	0.0	0.0	Milk/mutt	5				0.0	Graz	0.0	0.00	0.0200	0.00	0.0000	Note 49
Year	N	54	1	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	0.00	0.00	0.00	Note 47
9	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Sheep	0.67				0.0	Sheep	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.689	0.0	0.0	Milk/mutt	5				0.0	Graz	0.0	0.00	0.0200	0.00	0.0000	Note 49
Year	N	54	1	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	0.00	0.00	0.00	Note 47
10	Vol/NH3	Sheep	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Sheep	0.65				0.0	Sheep	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484	1.000		ORG	1.00	1.000	0.711	0.0	0.0	Milk/mutt	5				0.0	Graz	0.0	0.00	0.0200	0.00	0.0000	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	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	0.00	0.89	1.30	Note 50

Possible additional non IPCC N2O-N emissions	Value											Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	5.89	2.70	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	5.89	2.70	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.15	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.89	Total including natural	6.78	3.59	Note 51

C2 N CHAIN CALCULATIONS SHEET C: N CHAINS BASED UPON DANISH VALUES CALCULATIONS By Jacob Bugge Available at www.ppo.bugge.com C2

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND GOAT MILK/MEAT Note 43
AND CONTINUING WITH GOAT DEEP LITTER TO PRODUCE WINTER WHEAT FOR GOAT MILK/MEAT Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Or-ganic 1/0	Nnorm propor tion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N a-mounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						Note 45
Year	N NH3																						Note 45
1-10	N leach																						Note 45
																							Note 45
N2O-N/N in food/beverage/fuel/other																				0.7215		0.3982	Note 46
Year	N		1	1	100.0	100.0	0	100	109	0	0	97.8	61	59.6	5.7	0.0	0.0	0.0	63	53.9	2.37	3.43	1.44	1.83	Note 47
1	Vol/NH3	N	YES		0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Goat	0.84				0.0	Goat	8.1	0.10	0.0125	0.10	0.0100	Note 48
	N leach		1.022	1.000			ORG	1.00	1.000	0.391	0.0	38.2	Milk/meat	6				18.8	Deep	0.0	0.95	0.0200	0.29	0.0050	Note 49
Year	N		63	1	53.2	45.2	0	100	11	0	0	33.9	61	13.1	1.3	0.0	0.0	0.0	63	11.8	0.72	1.45	0.48	0.85	Note 47
2	Vol/NH3	Goat	YES		8.0	11.3	NON	100.00	WWH	1.000	NO	20.8	Goat	0.67				0.0	Goat	1.8	0.21	0.0125	0.21	0.0100	Note 48
	N leach	Deep	0.600	1.162			ORG	1.00	1.000	0.614	0.0	20.8	Milk/meat	6				7.4	Deep	0.0	0.52	0.0200	0.16	0.0050	Note 49
Year	N		63	1	11.7	9.9	0	100	11	0	0	7.4	61	2.9	0.3	0.0	0.0	0.0	63	2.6	0.16	0.32	0.11	0.19	Note 47
3	Vol/NH3	Goat	YES		1.8	2.5	NON	100.00	WWH	1.000	NO	4.6	Goat	0.67				0.0	Goat	0.4	0.05	0.0125	0.05	0.0100	Note 48
	N leach	Deep	0.600	1.162			ORG	1.00	1.000	0.614	0.0	4.6	Milk/meat	6				1.6	Deep	0.0	0.11	0.0200	0.03	0.0050	Note 49
Year	N		63	1	2.6	2.2	0	100	11	0	0	1.6	61	0.6	0.1	0.0	0.0	0.0	63	0.6	0.03	0.07	0.02	0.04	Note 47
4	Vol/NH3	Goat	YES		0.4	0.5	NON	100.00	WWH	1.000	NO	1.0	Goat	0.67				0.0	Goat	0.1	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Deep	0.600	1.162			ORG	1.00	1.000	0.614	0.0	1.0	Milk/meat	6				0.4	Deep	0.0	0.03	0.0200	0.01	0.0050	Note 49
Year	N		63	1	0.6	0.5	0	100	1	0	0	0.4	61	0.1	0.0	0.0	0.0	0.0	63	0.1	0.01	0.02	0.00	0.01	Note 47
5	Vol/NH3	Goat	YES		0.1	0.1	NON	100.00	SBA	1.000	NO	0.2	Goat	0.65				0.0	Goat	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162			ORG	1.00	1.000	0.642	0.0	0.2	Milk/meat	6				0.1	Deep	0.0	0.01	0.0200	0.00	0.0050	Note 49
Year	N		63	1	0.1	0.1	0	100	109	0	0	0.1	61	0.0	0.0	0.0	0.0	0.0	63	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	Goat	YES		0.0	0.0	NON	100.00	WBB	1.000	NO	0.0	Goat	0.84				0.0	Goat	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162			ORG	1.00	1.000	0.642	0.0	0.0	Milk/meat	6				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N		63	1	0.0	0.0	0	100	11	0	0	0.0	61	0.0	0.0	0.0	0.0	0.0	63	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Goat	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Goat	0.67				0.0	Goat	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162			ORG	1.00	1.000	0.614	0.0	0.0	Milk/meat	6				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N		63	1	0.0	0.0	0	100	11	0	0	0.0	61	0.0	0.0	0.0	0.0	0.0	63	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Goat	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Goat	0.67				0.0	Goat	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162			ORG	1.00	1.000	0.614	0.0	0.0	Milk/meat	6				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N		63	1	0.0	0.0	0	100	11	0	0	0.0	61	0.0	0.0	0.0	0.0	0.0	63	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Goat	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Goat	0.67				0.0	Goat	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162			ORG	1.00	1.000	0.614	0.0	0.0	Milk/meat	6				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49
Year	N		63	1	0.0	0.0	0	100	1	0	0	0.0	61	0.0	0.0	0.0	0.0	0.0	63	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Goat	YES		0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Goat	0.65				0.0	Goat	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Deep	0.600	1.162			ORG	1.00	1.000	0.642	0.0	0.0	Milk/meat	6				0.0	Deep	0.0	0.00	0.0200	0.00	0.0050	Note 49

RATIO OF N2O-N TO N IN FIRST CROP — TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED 7.3 6.7

ACCORDING TO	IPCC 1996	IPCC 2006			
FIRST YEAR	0.0576	0.0307	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	37.3	34.0
TOTAL	0.0887	0.0490	TOTAL N AMOUNTS IN KG AND % LEACHED	64.9	59.3
			TOTAL N AMOUNTS IN KG AND %	109.5	100.0

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	Total	Total/year 1	Note 50
Area with crop, ha	0.68	0.17	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.90	1.32	

Possible additional non IPCC N2O-N emissions	Value											Kind of source	Total IPCC and non IPCC N2O	Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	5.29	2.92 Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	5.29	2.92 Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.17	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.90	Total including natural	6.19	3.82 Note 51

C2 N CHAIN CALCULATIONS SHEET C: N CHAINS BASED UPON DANISH VALUES CALCULATIONS By Jacob Bugge Available at www.ppo.bugge.com C2

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND GOAT MILK/MEAT Note 43
AND CONTINUING WITH MANURE FROM GRAZING GOATS TO PRODUCE WINTER WHEAT FOR GOAT MILK/MEAT Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						Note 45
Year	N NH3																						Note 45
1-10	N leach																						Note 45
																							Note 45
N2O-N/N in food/beverage/fuel/other																				0.7936		0.4540	Note 46
Year	N		1	1	100.0	100.0	0	100	109	0	0	97.8	61	59.6	5.7	0.0	0.0	0.0	64	53.9	2.53	3.51	1.75	2.06	Note 47
1	Vol/NH3	N	YES		0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Goat	0.84				0.0	Goat	0.0	0.02	0.0125	0.02	0.0100	Note 48
	N leach		1.022		1.000		ORG	1.00	1.000	0.391	0.0	38.2	Milk/meat	6				18.8	Graz	0.0	0.95	0.0200	0.29	0.0100	Note 49
Year	N		64	1	53.9	53.9	0	100	11	0	0	50.1	61	15.6	1.5	0.0	0.0	0.0	64	14.1	1.05	1.95	0.78	1.08	Note 47
2	Vol/NH3	Goat	YES		0.0	3.8	NON	100.00	WWH	1.000	NO	34.5	Goat	0.67				0.0	Goat	0.0	0.04	0.0125	0.04	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.689	0.0	34.5	Milk/meat	6				11.0	Graz	0.0	0.86	0.0200	0.26	0.0100	Note 49
Year	N		64	1	14.1	14.1	0	100	11	0	0	13.1	61	4.1	0.4	0.0	0.0	0.0	64	3.7	0.27	0.51	0.20	0.28	Note 47
3	Vol/NH3	Goat	YES		0.0	1.0	NON	100.00	WWH	1.000	NO	9.0	Goat	0.67				0.0	Goat	0.0	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.689	0.0	9.0	Milk/meat	6				2.9	Graz	0.0	0.23	0.0200	0.07	0.0100	Note 49
Year	N		64	1	3.7	3.7	0	100	11	0	0	3.4	61	1.1	0.1	0.0	0.0	0.0	64	1.0	0.07	0.13	0.05	0.07	Note 47
4	Vol/NH3	Goat	YES		0.0	0.3	NON	100.00	WWH	1.000	NO	2.4	Goat	0.67				0.0	Goat	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.689	0.0	2.4	Milk/meat	6				0.7	Graz	0.0	0.06	0.0200	0.02	0.0100	Note 49
Year	N		64	1	1.0	1.0	0	100	1	0	0	0.9	61	0.3	0.0	0.0	0.0	0.0	64	0.2	0.02	0.03	0.01	0.02	Note 47
5	Vol/NH3	Goat	YES		0.0	0.1	NON	100.00	SBA	1.000	NO	0.6	Goat	0.65				0.0	Goat	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.711	0.0	0.6	Milk/meat	6				0.2	Graz	0.0	0.02	0.0200	0.00	0.0100	Note 49
Year	N		64	1	0.2	0.2	0	100	109	0	0	0.2	61	0.1	0.0	0.0	0.0	0.0	64	0.1	0.00	0.01	0.00	0.00	Note 47
6	Vol/NH3	Goat	YES		0.0	0.0	NON	100.00	WBB	1.000	NO	0.2	Goat	0.84				0.0	Goat	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.712	0.0	0.2	Milk/meat	6				0.0	Graz	0.0	0.00	0.0200	0.00	0.0100	Note 49
Year	N		64	1	0.1	0.1	0	100	11	0	0	0.1	61	0.0	0.0	0.0	0.0	0.0	64	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Goat	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Goat	0.67				0.0	Goat	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.689	0.0	0.0	Milk/meat	6				0.0	Graz	0.0	0.00	0.0200	0.00	0.0100	Note 49
Year	N		64	1	0.0	0.0	0	100	11	0	0	0.0	61	0.0	0.0	0.0	0.0	0.0	64	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Goat	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Goat	0.67				0.0	Goat	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.689	0.0	0.0	Milk/meat	6				0.0	Graz	0.0	0.00	0.0200	0.00	0.0100	Note 49
Year	N		64	1	0.0	0.0	0	100	11	0	0	0.0	61	0.0	0.0	0.0	0.0	0.0	64	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Goat	YES		0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Goat	0.67				0.0	Goat	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.689	0.0	0.0	Milk/meat	6				0.0	Graz	0.0	0.00	0.0200	0.00	0.0100	Note 49
Year	N		64	1	0.0	0.0	0	100	1	0	0	0.0	61	0.0	0.0	0.0	0.0	0.0	64	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Goat	YES		0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Goat	0.65				0.0	Goat	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Graz	0.484		1.000		ORG	1.00	1.000	0.711	0.0	0.0	Milk/meat	6				0.0	Graz	0.0	0.00	0.0200	0.00	0.0100	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	Total	Total/year 1	
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	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	6.15	3.52	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	6.15	3.52	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.16	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.90	Total including natural	7.05	4.42	Note 51

N CHAIN STARTING WITH	N FERTILIZER	TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	HIGH N CROP	Note 43
AND CONTINUING WITH	GREEN MANURE HIGH N	TO PRODUCE	WINTER WHEAT FOR	CATTLE DAIRY	Note 43

Year	Fertilizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						
Year	N NH3																						
1-10	N leach																						
Year 1	N	1	1	100.0	100.0	0	100	109	0	0	97.8	71	0.0	0.0	59.6	0.0	0.0	71	59.6	1.46	2.43	1.21	1.52
	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	N crop	0.84				0.0	Green	0.0	0.02	0.0125	0.02	0.0100
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	high N	71				18.8	High	0.0	0.95	0.0000	0.29	0.0000
Year 2	N	71	1	59.6	59.6	0	100	11	0	0	44.7	21	26.8	6.3	0.0	0.0	0.0	21	20.5	0.70	1.31	0.66	0.96
	Vol/NH3	Green	YES	0.0	14.9	NON	100.00	WWH	1.000	NO	17.9	Cattle	0.67				0.0	Cattle	1.6	0.17	0.0125	0.17	0.0100
	N leach	High	0.933	1.000		ORG	1.00	1.000	0.400	0.0	17.9	Dairy	2				9.8	Liquid	0.0	0.45	0.0010	0.13	0.0050
Year 3	N	21	1	19.2	18.7	0	100	11	0	0	14.1	21	8.4	2.0	0.0	0.0	0.0	21	6.4	0.22	0.42	0.21	0.31
	Vol/NH3	Cattle	YES	0.4	4.7	NON	100.00	WWH	1.000	NO	5.6	Cattle	0.67				0.0	Cattle	0.5	0.06	0.0125	0.06	0.0100
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.400	0.0	5.6	Dairy	2				3.1	Liquid	0.0	0.14	0.0010	0.04	0.0050
Year 4	N	21	1	6.0	5.9	0	100	11	0	0	4.4	21	2.7	0.6	0.0	0.0	0.0	21	2.0	0.07	0.13	0.07	0.10
	Vol/NH3	Cattle	YES	0.1	1.5	NON	100.00	WWH	1.000	NO	1.8	Cattle	0.67				0.0	Cattle	0.2	0.02	0.0125	0.02	0.0100
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.400	0.0	1.8	Dairy	2				1.0	Liquid	0.0	0.04	0.0010	0.01	0.0050
Year 5	N	21	1	1.9	1.9	0	100	1	0	0	1.4	21	0.8	0.2	0.0	0.0	0.0	21	0.6	0.02	0.04	0.02	0.03
	Vol/NH3	Cattle	YES	0.0	0.5	NON	100.00	SBA	1.000	NO	0.6	Cattle	0.65				0.0	Cattle	0.0	0.01	0.0125	0.01	0.0100
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.443	0.0	0.6	Dairy	2				0.3	Liquid	0.0	0.02	0.0010	0.00	0.0050
Year 6	N	21	1	0.6	0.5	0	100	109	0	0	0.4	71	0.0	0.0	0.2	0.0	0.0	71	0.2	0.01	0.01	0.01	0.01
	Vol/NH3	Cattle	YES	0.0	0.1	NON	100.00	WBB	1.000	NO	0.2	N crop	0.84				0.0	Green	0.0	0.00	0.0125	0.00	0.0100
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.444	0.0	0.2	high N	71				0.1	High	0.0	0.00	0.0000	0.00	0.0000
Year 7	N	71	1	0.2	0.2	0	100	11	0	0	0.2	21	0.1	0.0	0.0	0.0	0.0	21	0.1	0.00	0.01	0.00	0.00
	Vol/NH3	Green	YES	0.0	0.1	NON	100.00	WWH	1.000	NO	0.1	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100
	N leach	High	0.933	1.000		ORG	1.00	1.000	0.400	0.0	0.1	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050
Year 8	N	21	1	0.1	0.1	0	100	11	0	0	0.1	21	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.400	0.0	0.0	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050
Year 9	N	21	1	0.0	0.0	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.400	0.0	0.0	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050
Year 10	N	21	1	0.0	0.0	0	100	1	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00
	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.443	0.0	0.0	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050

Total N	RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	9.1	9.1	2.48	4.36	2.18	2.93	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	26.9	26.8	0.27		0.27		Note 45
1-10 N leach	FIRST YEAR	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND % LEACHED	64.4	64.1	1.61		0.48		Note 45
	TOTAL	0.0731	0.0492	TOTAL N AMOUNTS IN KG AND %	100.4	100.0					Note 45
N2O-N/N in food/beverage/fuel/other								0.4770		0.3210	Note 46

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	Total	Total/year 1	
Area with crop, ha	0.68	0.35	0.11	0.03	0.01	0.00	0.00	0.00	0.00	0.00	1.19	1.75	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	4.36	2.93	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	4.36	2.93	Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.35	0.11	0.03	0.01	0.00	0.00	0.00	0.00	0.00	1.19	Total including natural	5.55	4.12	Note 51

N CHAIN STARTING WITH	N FERTILIZER	TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	LOW N CROP	Note 43
AND CONTINUING WITH	GREEN MANURE LOW N	TO PRODUCE	WINTER WHEAT FOR	CATTLE DAIRY	Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						Note 45
Year	N NH3																						Note 45
1-10	N leach																						Note 45
																							Note 45

RATIO OF N2O-N TO N IN FIRST CROP		TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED	5.2	5.2
ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3	22.7	22.7
FIRST YEAR	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND % LEACHED	72.3	72.2
TOTAL	0.0733	0.0466	TOTAL N AMOUNTS IN KG AND %	100.2	100.0

N2O-N/N in food/beverage/fuel/other 0.8381 0.5332 Note 46

Year																									
Year	N	1	1	100.0	100.0	0	100	109	0	0	97.8	72	0.0	0.0	59.6	0.0	0.0	72	59.6	1.46	2.43	1.21	1.52	Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	N crop	0.84				0.0	Green	0.0	0.02	0.0125	0.02	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	low N	72				18.8	Low	0.0	0.95	0.0000	0.29	0.0000	Note 49
Year	N	72	1	59.6	59.6	0	100	11	0	0	44.7	21	15.3	3.6	0.0	0.0	0.0	21	11.7	0.69	1.58	0.62	1.00	Note 47
2	Vol/NH3	Green	YES	0.0	14.9	NON	100.00	WWH	1.000	NO	29.4	Cattle	0.67				0.0	Cattle	0.9	0.16	0.0125	0.16	0.0100	Note 48
	N leach	Low	0.533	1.000		ORG	1.00	1.000	0.657	0.0	29.4	Dairy	2				9.8	Liquid	0.0	0.73	0.0010	0.22	0.0050	Note 49
Year	N	21	1	11.0	10.7	0	100	11	0	0	8.0	21	4.8	1.1	0.0	0.0	0.0	21	3.7	0.13	0.24	0.12	0.18	Note 47
3	Vol/NH3	Cattle	YES	0.2	2.7	NON	100.00	WWH	1.000	NO	3.2	Cattle	0.67				0.0	Cattle	0.3	0.03	0.0125	0.03	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.400	0.0	3.2	Dairy	2				1.8	Liquid	0.0	0.08	0.0010	0.02	0.0050	Note 49
Year	N	21	1	3.4	3.4	0	100	11	0	0	2.5	21	1.5	0.4	0.0	0.0	0.0	21	1.2	0.04	0.07	0.04	0.06	Note 47
4	Vol/NH3	Cattle	YES	0.1	0.8	NON	100.00	WWH	1.000	NO	1.0	Cattle	0.67				0.0	Cattle	0.1	0.01	0.0125	0.01	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.400	0.0	1.0	Dairy	2				0.6	Liquid	0.0	0.03	0.0010	0.01	0.0050	Note 49
Year	N	21	1	1.1	1.1	0	100	1	0	0	0.8	21	0.4	0.1	0.0	0.0	0.0	21	0.3	0.01	0.02	0.01	0.02	Note 47
5	Vol/NH3	Cattle	YES	0.0	0.3	NON	100.00	SBA	1.000	NO	0.4	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.443	0.0	0.4	Dairy	2				0.2	Liquid	0.0	0.01	0.0010	0.00	0.0050	Note 49
Year	N	21	1	0.3	0.3	0	100	109	0	0	0.2	72	0.0	0.0	0.1	0.0	0.0	72	0.1	0.00	0.01	0.00	0.00	Note 47
6	Vol/NH3	Cattle	YES	0.0	0.1	NON	100.00	WBB	1.000	NO	0.1	N crop	0.84				0.0	Green	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.444	0.0	0.1	low N	72				0.0	Low	0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	72	1	0.1	0.1	0	100	11	0	0	0.1	21	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	Green	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.1	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Low	0.533	1.000		ORG	1.00	1.000	0.657	0.0	0.1	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year	N	21	1	0.0	0.0	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.400	0.0	0.0	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year	N	21	1	0.0	0.0	0	100	11	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	WWH	1.000	NO	0.0	Cattle	0.67				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.400	0.0	0.0	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	0.00	0.0050	Note 49
Year	N	21	1	0.0	0.0	0	100	1	0	0	0.0	21	0.0	0.0	0.0	0.0	0.0	21	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	Cattle	YES	0.0	0.0	NON	100.00	SBA	1.000	NO	0.0	Cattle	0.65				0.0	Cattle	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach	Liquid	0.933	1.016		ORG	1.00	1.000	0.443	0.0	0.0	Dairy	2				0.0	Liquid	0.0	0.00	0.0010	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	Year10	Total	Total/year 1	
Area with crop, ha	0.68	0.20	0.06	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.97	1.43	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O	Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	4.37	2.78 Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	4.37	2.78 Note 51
Natural background emissions, kg N2O-N/ha:	1.00	0.68	0.20	0.06	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.97	Total including natural	5.34	3.75 Note 51

N CHAIN STARTING WITH	N FERTILIZER	TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	FOOD	Note 43
AND CONTINUING WITH	NO MANURE	TO PRODUCE	NOTHING FOR	FOOD	Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						
Year	N NH3																						
1-10	N leach																						
N2O-N/N in food/beverage/fuel/other																				0.0408		0.0255	Note 46
Year	N		1	1	100.0	100.0	0	100	109	0	0	97.8	8	0.0	0.0	0.0	59.6	0.0	0	0.0	1.46	2.43	1.21	1.52	Note 47
1	Vol/NH3	N	YES		0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Food/	0.84				0.0	NONE	0.0	0.02	0.0125	0.02	0.0100	Note 48
	N leach		1.022	1.000			ORG	1.00	1.000	0.391	0.0	38.2	beverage	8				18.8		0.0	0.95	0.0000	0.29	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	11	0	0	0.0	8	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
2	Vol/NH3	None	YES		0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Food/	0.67				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000			ORG	1.00	1.000	0.357	0.0	0.0	beverage	8				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	11	0	0	0.0	8	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
3	Vol/NH3	None	YES		0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Food/	0.67				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000			ORG	1.00	1.000	0.357	0.0	0.0	beverage	8				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	11	0	0	0.0	8	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
4	Vol/NH3	None	YES		0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Food/	0.67				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000			ORG	1.00	1.000	0.357	0.0	0.0	beverage	8				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	1	0	0	0.0	8	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
5	Vol/NH3	None	YES		0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Food/	0.65				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000			ORG	1.00	1.000	0.403	0.0	0.0	beverage	8				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	109	0	0	0.0	8	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	None	YES		0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Food/	0.84				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000			ORG	1.00	1.000	0.404	0.0	0.0	beverage	8				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	11	0	0	0.0	8	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	None	YES		0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Food/	0.67				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000			ORG	1.00	1.000	0.357	0.0	0.0	beverage	8				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	11	0	0	0.0	8	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	None	YES		0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Food/	0.67				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000			ORG	1.00	1.000	0.357	0.0	0.0	beverage	8				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	11	0	0	0.0	8	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	None	YES		0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Food/	0.67				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000			ORG	1.00	1.000	0.357	0.0	0.0	beverage	8				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	1	0	0	0.0	8	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	None	YES		0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Food/	0.65				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000			ORG	1.00	1.000	0.403	0.0	0.0	beverage	8				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	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	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	2.43	1.52	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	2.43	1.52	Note 51
Natural background 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	0.00	0.68	Total including natural	3.11	2.20	Note 51

N CHAIN STARTING WITH	N FERTILIZER	TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	FUEL	Note 43
AND CONTINUING WITH	NO MANURE	TO PRODUCE	NOTHING FOR	FUEL	Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						
Year	N NH3																						
1-10	N leach																						

RATIO OF N2O-N TO N IN FIRST CROP												TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED						59.6	59.6	1.46	2.43	1.21	1.52	Note 45
ACCORDING TO				IPCC 1996		IPCC 2006						TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3						2.2	2.2	0.02		0.02		Note 45
FIRST YEAR				0.0408		0.0255						TOTAL N AMOUNTS IN KG AND % LEACHED						38.2	38.2	0.95		0.29		Note 45
TOTAL				0.0408		0.0255						TOTAL N AMOUNTS IN KG AND %						100.0	100.0					Note 45

N2O-N/N in food/beverage/fuel/other 0.0408 0.0255 Note 46

Year	N	1	1	100.0	100.0	0	100	109	0	0	97.8	9	0.0	0.0	0.0	0.0	59.6	0	0.0	1.46	2.43	1.21	1.52	Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Fuel/	0.84				0.0	NONE	0.0	0.02	0.0125	0.02	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	other	9				18.8		0.0	0.95	0.0000	0.29	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	11	0	0	0.0	9	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
2	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Fuel/	0.67				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	other	9				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	11	0	0	0.0	9	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
3	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Fuel/	0.67				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	other	9				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	11	0	0	0.0	9	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
4	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Fuel/	0.67				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	other	9				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	1	0	0	0.0	9	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
5	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Fuel/	0.65				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.403	0.0	0.0	other	9				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	109	0	0	0.0	9	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Fuel/	0.84				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.404	0.0	0.0	other	9				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	11	0	0	0.0	9	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Fuel/	0.67				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	other	9				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	11	0	0	0.0	9	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Fuel/	0.67				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	other	9				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	11	0	0	0.0	9	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Fuel/	0.67				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	other	9				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	1	0	0	0.0	9	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Fuel/	0.65				0.0	NONE	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.403	0.0	0.0	other	9				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	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	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	2.43	1.52	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	2.43	1.52	Note 51
Natural background 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	0.00	0.68	Total including natural	3.11	2.20	Note 51

N CHAIN STARTING WITH N FERTILIZER TO PRODUCE WINTER BARLEY FOR BIOETHANOL AND WASTE DUMPED ELSEWHERE WITHOUT LEACHING Note 43
AND CONTINUING WITH NO MANURE TO PRODUCE NOTHING FOR WASTE, DUMPED ELSEWHERE Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44 Note 44 Note 44
Total	N																						
Year	N NH3																						
1-10	N leach																						

RATIO OF N2O-N TO N IN FIRST CROP								TOTAL N AMOUNTS IN KG AND % ENDING AS FOOD/FUEL/OTHER/REMOVED										59.6	59.6	1.46	2.43	1.21	1.52	Note 45
ACCORDING TO				IPCC 1996		IPCC 2006		TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3										2.2	2.2	0.02		0.02		Note 45
FIRST YEAR				0.0408		0.0255		TOTAL N AMOUNTS IN KG AND % LEACHED										38.2	38.2	0.95		0.29		Note 45
TOTAL				0.0408		0.0255		TOTAL N AMOUNTS IN KG AND %										100.0	100.0					Note 45

N2O-N/N in food/beverage/fuel/other No use No use Note 46

Year	N	1	1	100.0	100.0	0	100	109	0	0	97.8	-1	0.0	0.0	0.0	0.0	0.0	0	0.0	1.46	2.43	1.21	1.52	Note 47
1	Vol/NH3	N	YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Waste	0.84				0.0	None	0.0	0.02	0.0125	0.02	0.0100	Note 48
	N leach		1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	moved	0				18.8		0.0	0.95	0.0000	0.29	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	11	0	0	0.0	-1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
2	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	moved	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	11	0	0	0.0	-1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
3	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	moved	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	11	0	0	0.0	-1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
4	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	moved	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	1	0	0	0.0	-1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
5	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.65				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.403	0.0	0.0	moved	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	109	0	0	0.0	-1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.84				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.404	0.0	0.0	moved	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	11	0	0	0.0	-1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
7	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	moved	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	11	0	0	0.0	-1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
8	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	moved	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	11	0	0	0.0	-1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
9	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	moved	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N	0	1	0.0	0.0	0	100	1	0	0	0.0	-1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
10	Vol/NH3	None	YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.65				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach		1.000	1.000		ORG	1.00	1.000	0.403	0.0	0.0	moved	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	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	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	2.43	1.52	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	2.43	1.52	Note 51
Natural background 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	0.00	0.68	Total including natural	3.11	2.20	Note 51

N CHAIN STARTING WITH	N FERTILIZER	TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	WASTE DUMPED IN FIELD AND LOST TO LEACH	Note 43
AND CONTINUING WITH	NO MANURE	TO PRODUCE	NOTHING FOR	WASTE DUMPED IN FIELD	Note 43

Year	Fertlizer/manure # Name	Store 1/0	Amounts Store	Amounts Field	Organic 1/0	Nnorm proportion, %	Crop # Name	Cereal benefit 1/0	Straw used 1/0	Crop use & leach	Use # Name	Fodder: Uses #21-61 Fed	Fodder: Uses #21-61 Food	N crop #71/ #72	Food/ bev #8	Fuel/ other #9	Manure handling # Name	Final N amounts	N2O-N emission IPCC 1996 Each	N2O-N emission IPCC 1996 Total	N2O-N emission IPCC 2006 Each	N2O-N emission IPCC 2006 Total	Note 44
Total	N																						Note 44
Year	N NH3																						Note 44
1-10	N leach																						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											0.0	0.0	1.46	3.92	1.21	1.97	Note 45
Year	N NH3	ACCORDING TO			IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3											2.2	2.2	0.02		0.02		Note 45
1-10	N leach	FIRST YEAR			0.0658	0.0330	TOTAL N AMOUNTS IN KG AND % LEACHED											97.8	97.8	2.45		0.73		Note 45
		TOTAL			0.0658	0.0330	TOTAL N AMOUNTS IN KG AND %											100.0	100.0					Note 45
N2O-N/N in food/beverage/fuel/other																				No use		No use		Note 46
Year	N		1	1	100.0	100.0	0	100	109	0	0	97.8	0	0.0	0.0	0.0	0.0	0.0	0	59.6	1.46	3.92	1.21	1.97	Note 47
1	Vol/NH3	N		YES	0.0	2.2	NON	100.00	WBB	1.000	NO	38.2	Waste	0.84				0.0	None	0.0	0.02	0.0125	0.02	0.0100	Note 48
	N leach			1.022	1.000		ORG	1.00	1.000	0.391	0.0	38.2	in field	0				18.8		59.6	2.45	0.0000	0.73	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	11	0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
2	Vol/NH3	None		YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach			1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	in field	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	11	0	0	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
3	Vol/NH3	None		YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach			1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	in field	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	11	0	0	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
4	Vol/NH3	None		YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach			1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	in field	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	1	0	0	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	None		YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.65				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach			1.000	1.000		ORG	1.00	1.000	0.403	0.0	0.0	in field	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	109	0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.00	0.00	0.00	0.00	Note 47
6	Vol/NH3	None		YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.84				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach			1.000	1.000		ORG	1.00	1.000	0.404	0.0	0.0	in field	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	11	0	0	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	None		YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach			1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	in field	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	11	0	0	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	None		YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach			1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	in field	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	11	0	0	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	None		YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.67				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach			1.000	1.000		ORG	1.00	1.000	0.357	0.0	0.0	in field	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49
Year	N		0	1	0.0	0.0	0	100	1	0	0	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	None		YES	0.0	0.0	NON	100.00	NO	1.000	NO	0.0	Waste	0.65				0.0	None	0.0	0.00	0.0125	0.00	0.0100	Note 48
	N leach			1.000	1.000		ORG	1.00	1.000	0.403	0.0	0.0	in field	0				0.0		0.0	0.00	0.0000	0.00	0.0000	Note 49

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	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	Note 50

Possible additional non IPCC N2O-N emissions	Value												Kind of source	Total IPCC and non IPCC N2O		Note 51
N residues emissions, ratio of N2O-N to N:	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Current crops	3.92	1.97	Note 51
Increased soil N emissions, kg N2O-N/ha:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Total anthropogenic	3.92	1.97	Note 51
Natural background 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	0.00	0.68	Total including natural	4.61	2.65	Note 51

SUMMARY CATTLE DAIRY

N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND		CATTLE DAIRY					Note 43
AND CONTINUING WITH	LIQUID CATTLE MANURE			TO PRODUCE	WINTER WHEAT FOR		CATTLE DAIRY					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			23.51	23.30	2.15	3.75	2.03	2.66 Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3			22.35	22.15	0.22		0.22	Note 45
1-10 N leach	FIRST YEAR	0.0421	0.0293	TOTAL N AMOUNTS IN KG AND % LEACHED			55.04	54.55	1.38		0.41	Note 45
	TOTAL	0.0630	0.0447	TOTAL N AMOUNTS IN KG AND %			100.90	100.00				Note 45
N2O-N/N in food/beverage/fuel/other										0.1596		0.1133 Note 46
							Total/year 1					
Area with crop, ha						1.01	1.48					Note 50
Natural background emissions, kg N2O-N/ha:						1.01				4.76		3.67 Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND		CATTLE DAIRY					Note 43
AND CONTINUING WITH	SEPARATED CATTLE MANURE			TO PRODUCE	WINTER WHEAT FOR		CATTLE DAIRY					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			22.67	22.47	2.63	4.24	1.98	2.63 Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3			22.83	22.63	0.23		0.23	Note 45
1-10 N leach	FIRST YEAR	0.0482	0.0292	TOTAL N AMOUNTS IN KG AND % LEACHED			55.39	54.90	1.38		0.42	Note 45
	TOTAL	0.0712	0.0441	TOTAL N AMOUNTS IN KG AND %			100.89	100.00				Note 45
N2O-N/N in food/beverage/fuel/other										0.1872		0.1159 Note 46
							Total/year 1					
Area with crop, ha						0.96	1.41					Note 50
Natural background emissions, kg N2O-N/ha:						0.96				5.20		3.59 Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND		CATTLE DAIRY					Note 43
AND CONTINUING WITH	CATTLE DEEP LITTER			TO PRODUCE	WINTER WHEAT FOR		CATTLE DAIRY					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			20.22	18.80	2.85	4.56	1.82	2.55 Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3			31.38	29.18	0.31		0.31	Note 45
1-10 N leach	FIRST YEAR	0.0545	0.0293	TOTAL N AMOUNTS IN KG AND % LEACHED			55.96	52.03	1.40		0.42	Note 45
	TOTAL	0.0765	0.0428	TOTAL N AMOUNTS IN KG AND %			107.55	100.00				Note 45
N2O-N/N in food/beverage/fuel/other										0.2256		0.1262 Note 46
							Total/year 1					
Area with crop, ha						0.82	1.21					Note 50
Natural background emissions, kg N2O-N/ha:						0.82				5.38		3.38 Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND		CATTLE DAIRY					Note 43
AND CONTINUING WITH	MANURE FROM GRAZING CATTLE			TO PRODUCE	WINTER WHEAT FOR		CATTLE DAIRY					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	3.30	5.18	2.93	3.54 Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3			5.97	5.97	0.06		0.06	Note 45
1-10 N leach	FIRST YEAR	0.0549	0.0396	TOTAL N AMOUNTS IN KG AND % LEACHED			72.76	72.76	1.82		0.55	Note 45
	TOTAL	0.0869	0.0593	TOTAL N AMOUNTS IN KG AND %			100.00	100.00				Note 45
N2O-N/N in food/beverage/fuel/other										0.2436		0.1663 Note 46
							Total/year 1					
Area with crop, ha						0.84	1.24					Note 50
Natural background emissions, kg N2O-N/ha:						0.84				6.02		4.38 Note 51

SUMMARY CATTLE BEEF

N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND		CATTLE BEEF					Note 43
AND CONTINUING WITH	LIQUID CATTLE MANURE			TO PRODUCE	WINTER WHEAT FOR		CATTLE BEEF					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			21.08	20.88	2.20	3.84	2.08	2.74 Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3			23.70	23.47	0.24		0.24	Note 45
1-10 N leach	FIRST YEAR	0.0421	0.0295	TOTAL N AMOUNTS IN KG AND % LEACHED			56.18	55.64	1.40		0.42	Note 45
	TOTAL	0.0644	0.0460	TOTAL N AMOUNTS IN KG AND %			100.96	100.00				Note 45
N2O-N/N in food/beverage/fuel/other										0.1822		0.1300 Note 46
							Total/year 1					
Area with crop, ha						1.03	1.51					Note 50
Natural background emissions, kg N2O-N/ha:						1.03				4.87		3.77 Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND		CATTLE BEEF					Note 43
AND CONTINUING WITH	SEPARATED CATTLE MANURE			TO PRODUCE	WINTER WHEAT FOR		CATTLE BEEF					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			20.28	20.09	2.71	4.36	2.03	2.70 Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3			24.17	23.94	0.24		0.24	Note 45
1-10 N leach	FIRST YEAR	0.0486	0.0294	TOTAL N AMOUNTS IN KG AND % LEACHED			56.50	55.97	1.41		0.42	Note 45
	TOTAL	0.0732	0.0453	TOTAL N AMOUNTS IN KG AND %			100.95	100.00				Note 45
N2O-N/N in food/beverage/fuel/other										0.2150		0.1331 Note 46
							Total/year 1					
Area with crop, ha						0.98	1.44					Note 50
Natural background emissions, kg N2O-N/ha:						0.82				5.34		3.68 Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND		CATTLE BEEF					Note 43
AND CONTINUING WITH	CATTLE DEEP LITTER			TO PRODUCE	WINTER WHEAT FOR		CATTLE BEEF					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			17.96	16.63	2.93	4.68	1.85	2.61 Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3			33.05	30.61	0.33		0.33	Note 45
1-10 N leach	FIRST YEAR	0.0552	0.0294	TOTAL N AMOUNTS IN KG AND % LEACHED			56.97	52.76	1.42		0.43	Note 45
	TOTAL	0.0786	0.0438	TOTAL N AMOUNTS IN KG AND %			107.98	100.00				Note 45
N2O-N/N in food/beverage/fuel/other										0.2607		0.1454 Note 46
							Total/year 1					
Area with crop, ha						0.83	1.22					Note 50
Natural background emissions, kg N2O-N/ha:						0.83				5.52		3.44 Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND		CATTLE BEEF					Note 43
AND CONTINUING WITH	MANURE FROM GRAZING CATTLE			TO PRODUCE	WINTER WHEAT FOR		CATTLE BEEF					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			18.94	18.94	3.41	5.34	3.03	3.66 Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3			6.20	6.20	0.06		0.06	Note 45
1-10 N leach	FIRST YEAR	0.0556	0.0403	TOTAL N AMOUNTS IN KG AND % LEACHED			74.85	74.85	1.87		0.56	Note 45
	TOTAL	0.0897	0.0614	TOTAL N AMOUNTS IN KG AND %			100.00	100.00				Note 45
N2O-N/N in food/beverage/fuel/other										0.2821		0.1930 Note 46
							Total/year 1					
Area with crop, ha						0.85	1.25					Note 50
Natural background emissions, kg N2O-N/ha:						0.85				6.20		4.51 Note 51

SUMMARY PIG PORK

N CHAIN STARTING WITH		N FERTILIZER		TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND		PIG PORK					Note 43
AND CONTINUING WITH		LIQUID PIG MANURE		TO PRODUCE	WINTER WHEAT FOR		PIG PORK					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			32.55	32.55	1.93	3.33	1.77	2.32 Note 45
Year	N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		19.08	19.08	0.19		0.19	Note 45
1-10	N leach	FIRST YEAR	0.0422	0.0288	TOTAL N AMOUNTS IN KG AND % LEACHED		48.37	48.37	1.21		0.36	Note 45
		TOTAL	0.0559	0.0390	TOTAL N AMOUNTS IN KG AND %		100.00	100.00				Note 45
N2O-N/N in food/beverage/fuel/other										0.1023		0.0714 Note 46
							Total/year 1					
Area with crop, ha						0.92	1.35					Note 50
Natural background emissions, kg N2O-N/ha:						0.92				4.25		3.24 Note 51
N CHAIN STARTING WITH		N FERTILIZER		TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND		PIG PORK					Note 43
AND CONTINUING WITH		SEPARATED PIG MANURE		TO PRODUCE	WINTER WHEAT FOR		PIG PORK					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			29.67	29.44	2.12	3.54	1.64	2.24 Note 45
Year	N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		23.88	23.69	0.24		0.24	Note 45
1-10	N leach	FIRST YEAR	0.0469	0.0290	TOTAL N AMOUNTS IN KG AND % LEACHED		47.26	46.88	1.18		0.35	Note 45
		TOTAL	0.0595	0.0375	TOTAL N AMOUNTS IN KG AND %		100.81	100.00				Note 45
N2O-N/N in food/beverage/fuel/other										0.1195		0.0753 Note 46
							Total/year 1					
Area with crop, ha						0.83	1.22					Note 50
Natural background emissions, kg N2O-N/ha:						0.83				4.37		3.06 Note 51
N CHAIN STARTING WITH		N FERTILIZER		TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND		PIG PORK					Note 43
AND CONTINUING WITH		PIG DEEP LITTER		TO PRODUCE	WINTER WHEAT FOR		PIG PORK					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			28.42	27.39	2.28	3.71	1.55	2.19 Note 45
Year	N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		30.49	29.38	0.30		0.30	Note 45
1-10	N leach	FIRST YEAR	0.0510	0.0292	TOTAL N AMOUNTS IN KG AND % LEACHED		44.87	43.24	1.12		0.34	Note 45
		TOTAL	0.0622	0.0368	TOTAL N AMOUNTS IN KG AND %		103.77	100.00				Note 45
N2O-N/N in food/beverage/fuel/other										0.1304		0.0772 Note 46
							Total/year 1					
Area with crop, ha						0.79	1.16					Note 50
Natural background emissions, kg N2O-N/ha:						0.79				4.50		2.98 Note 51
N CHAIN STARTING WITH		N FERTILIZER		TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND		PIG PORK					Note 43
AND CONTINUING WITH		MANURE FROM ROOTING PIGS		TO PRODUCE	WINTER WHEAT FOR		PIG PORK					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	32.91	3.02	4.62	2.67	3.19 Note 45
Year	N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		5.41	5.41	0.05		0.05	Note 45
1-10	N leach	FIRST YEAR	0.0525	0.0372	TOTAL N AMOUNTS IN KG AND % LEACHED		61.69	61.69	1.54		0.46	Note 45
		TOTAL	0.0775	0.0535	TOTAL N AMOUNTS IN KG AND %		100.00	100.00				Note 45
N2O-N/N in food/beverage/fuel/other										0.1404		0.0969 Note 46
							Total/year 1					
Area with crop, ha						0.88	1.29					Note 50
Natural background emissions, kg N2O-N/ha:						0.88				5.50		4.07 Note 51

SUMMARY POULTRY MEAT

N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	POULTRY MEAT						Note 43
AND CONTINUING WITH	LIQUID POULTRY MANURE			TO PRODUCE	WINTER WHEAT FOR	POULTRY MEAT						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		37.09	37.09	1.85	3.21	1.67	2.18	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		14.26	14.26	0.14		0.14		Note 45
1-10 N leach	FIRST YEAR	0.0418	0.0282	TOTAL N AMOUNTS IN KG AND % LEACHED		48.65	48.65	1.22		0.36		Note 45
	TOTAL	0.0538	0.0366	TOTAL N AMOUNTS IN KG AND %		100.00	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									0.0865		0.0588	Note 46
						Total/year 1						
Area with crop, ha						0.85	1.25					Note 50
Natural background emissions, kg N2O-N/ha:						0.85			4.06		3.03	Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	POULTRY MEAT						Note 43
AND CONTINUING WITH	SEPARATED POULTRY MANURE			TO PRODUCE	WINTER WHEAT FOR	POULTRY MEAT						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		34.96	34.96	1.97	3.30	1.54	2.08	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		19.73	19.73	0.20		0.20		Note 45
1-10 N leach	FIRST YEAR	0.0459	0.0286	TOTAL N AMOUNTS IN KG AND % LEACHED		45.31	45.31	1.13		0.34		Note 45
	TOTAL	0.0553	0.0349	TOTAL N AMOUNTS IN KG AND %		100.00	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									0.0943		0.0595	Note 46
						Total/year 1						
Area with crop, ha						0.80	1.17					Note 50
Natural background emissions, kg N2O-N/ha:						0.80			4.09		2.88	Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	POULTRY MEAT						Note 43
AND CONTINUING WITH	POULTRY DEEP LITTER			TO PRODUCE	WINTER WHEAT FOR	POULTRY MEAT						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		32.72	32.64	2.01	3.37	1.46	2.02	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		22.06	22.01	0.22		0.22		Note 45
1-10 N leach	FIRST YEAR	0.0487	0.0290	TOTAL N AMOUNTS IN KG AND % LEACHED		45.46	45.35	1.14		0.34		Note 45
	TOTAL	0.0566	0.0339	TOTAL N AMOUNTS IN KG AND %		100.25	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									0.1030		0.0617	Note 46
						Total/year 1						
Area with crop, ha						0.74	1.09					Note 50
Natural background emissions, kg N2O-N/ha:						0.74			4.11		2.76	Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	POULTRY MEAT						Note 43
AND CONTINUING WITH	MANURE FROM SCRAPING POULTRY			TO PRODUCE	WINTER WHEAT FOR	POULTRY MEAT						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		35.42	35.42	2.62	4.17	2.30	2.79	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		4.58	4.58	0.05		0.05		Note 45
1-10 N leach	FIRST YEAR	0.0506	0.0353	TOTAL N AMOUNTS IN KG AND % LEACHED		60.00	60.00	1.50		0.45		Note 45
	TOTAL	0.0699	0.0468	TOTAL N AMOUNTS IN KG AND %		100.00	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									0.1176		0.0788	Note 46
Area with crop, ha	Total/year 1					0.78	1.15					Note 50
Natural background emissions, kg N2O-N/ha:						0.78			4.95		3.58	Note 51

SUMMARY POULTRY EGGS

N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	POULTRY EGGS						Note 43
AND CONTINUING WITH	LIQUID POULTRY MANURE			TO PRODUCE	WINTER WHEAT FOR	POULTRY EGGS						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		19.93	19.93	2.15	3.80	2.02	2.68	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		23.45	23.45	0.23		0.23		Note 45
1-10 N leach	FIRST YEAR	0.0423	0.0297	TOTAL N AMOUNTS IN KG AND % LEACHED		56.62	56.62	1.42		0.42		Note 45
	TOTAL	0.0637	0.0450	TOTAL N AMOUNTS IN KG AND %		100.00	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									0.1905		0.1346	Note 46
							Total/year 1					
Area with crop, ha						0.98	1.44					Note 50
Natural background emissions, kg N2O-N/ha:						0.98			4.78		3.66	Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	POULTRY EGGS						Note 43
AND CONTINUING WITH	SEPARATED POULTRY MANURE			TO PRODUCE	WINTER WHEAT FOR	POULTRY EGGS						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		18.00	18.00	2.32	3.89	1.77	2.46	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		31.79	31.79	0.32		0.32		Note 45
1-10 N leach	FIRST YEAR	0.0487	0.0303	TOTAL N AMOUNTS IN KG AND % LEACHED		50.21	50.21	1.26		0.38		Note 45
	TOTAL	0.0653	0.0414	TOTAL N AMOUNTS IN KG AND %		100.00	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									0.2161		0.1369	Note 46
							Total/year 1					
Area with crop, ha						0.88	1.29					Note 50
Natural background emissions, kg N2O-N/ha:						0.88			4.77		3.34	Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	POULTRY EGGS						Note 43
AND CONTINUING WITH	POULTRY DEEP LITTER			TO PRODUCE	WINTER WHEAT FOR	POULTRY EGGS						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		16.14	16.08	2.36	3.95	1.61	2.33	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		34.31	34.18	0.34		0.34		Note 45
1-10 N leach	FIRST YEAR	0.0530	0.0308	TOTAL N AMOUNTS IN KG AND % LEACHED		49.94	49.75	1.25		0.37		Note 45
	TOTAL	0.0663	0.0390	TOTAL N AMOUNTS IN KG AND %		100.40	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									0.2447		0.1441	Note 46
							Total/year 1					
Area with crop, ha						0.78	1.14					Note 50
Natural background emissions, kg N2O-N/ha:						0.78			4.73		3.10	Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	POULTRY EGGS						Note 43
AND CONTINUING WITH	MANURE FROM SCRAPING POULTRY			TO PRODUCE	WINTER WHEAT FOR	POULTRY EGGS						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		18.40	18.40	3.44	5.38	3.06	3.69	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		6.26	6.26	0.06		0.06		Note 45
1-10 N leach	FIRST YEAR	0.0560	0.0407	TOTAL N AMOUNTS IN KG AND % LEACHED		75.34	75.34	1.88		0.57		Note 45
	TOTAL	0.0903	0.0618	TOTAL N AMOUNTS IN KG AND %		100.00	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									0.2926		0.2003	Note 46
							Total/year 1					
Area with crop, ha						0.86	1.26					Note 50
Natural background emissions, kg N2O-N/ha:						0.86			6.24		4.54	Note 51

SUMMARY SHEEP AND GOATS

N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	SHEEP MILK/MUTTON						Note 43
AND CONTINUING WITH	SHEEP DEEP LITTER			TO PRODUCE	WINTER WHEAT FOR	SHEEP MILK/MUTTON						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	6.13	2.49	3.26	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		13.58	12.30	0.14		0.14		Note 45
1-10 N leach	FIRST YEAR	0.0567	0.0305	TOTAL N AMOUNTS IN KG AND % LEACHED		84.31	76.33	2.11		0.63		Note 45
	TOTAL	0.1029	0.0546	TOTAL N AMOUNTS IN KG AND %		110.45	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									0.4883		0.2594	Note 46
							Total/year 1					
Area with crop, ha					0.96	1.41						Note 50
Natural background emissions, kg N2O-N/ha:					0.96				7.09		4.22	Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	SHEEP MILK/MUTTON						Note 43
AND CONTINUING WITH	MANURE FROM GRAZING SHEEP			TO PRODUCE	WINTER WHEAT FOR	SHEEP MILK/MUTTON						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	5.89	2.02	2.70	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		6.96	6.96	0.07		0.07		Note 45
1-10 N leach	FIRST YEAR	0.0580	0.0255	TOTAL N AMOUNTS IN KG AND % LEACHED		81.79	81.79	2.04		0.61		Note 45
	TOTAL	0.0989	0.0453	TOTAL N AMOUNTS IN KG AND %		100.00	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									0.5238		0.2400	Note 46
							Total/year 1					
Area with crop, ha					0.89	1.30						Note 50
Natural background emissions, kg N2O-N/ha:					0.89				6.78		3.59	Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	GOAT MILK/MEAT						Note 43
AND CONTINUING WITH	GOAT DEEP LITTER			TO PRODUCE	WINTER WHEAT FOR	GOAT MILK/MEAT						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		7.33	6.69	3.29	5.29	2.06	2.92	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		37.27	34.03	0.37		0.37		Note 45
1-10 N leach	FIRST YEAR	0.0576	0.0307	TOTAL N AMOUNTS IN KG AND % LEACHED		64.91	59.28	1.62		0.49		Note 45
	TOTAL	0.0887	0.0490	TOTAL N AMOUNTS IN KG AND %		109.50	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									0.7215		0.3982	Note 46
							Total/year 1					
Area with crop, ha					0.90	1.32						Note 50
Natural background emissions, kg N2O-N/ha:					0.90				6.19		3.82	Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	GOAT MILK/MEAT						Note 43
AND CONTINUING WITH	MANURE FROM GRAZING GOATS			TO PRODUCE	WINTER WHEAT FOR	GOAT MILK/MEAT						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	6.15	2.81	3.52	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		7.30	7.30	0.07		0.07		Note 45
1-10 N leach	FIRST YEAR	0.0589	0.0346	TOTAL N AMOUNTS IN KG AND % LEACHED		84.95	84.95	2.12		0.64		Note 45
	TOTAL	0.1031	0.0590	TOTAL N AMOUNTS IN KG AND %		100.00	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									0.7936		0.4540	Note 46
							Total/year 1					
Area with crop, ha					0.90	1.32						Note 50
Natural background emissions, kg N2O-N/ha:					0.90				7.05		4.42	Note 51

SUMMARY N CROP

N CHAIN STARTING WITH		N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND		HIGH N CROP					Note 43
AND CONTINUING WITH		GREEN MANURE HIGH N			TO PRODUCE	WINTER WHEAT FOR		CATTLE DAIRY					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			9.13	9.09	2.48	4.36	2.18	2.93 Note 45
Year	N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3			26.93	26.81	0.27		0.27	Note 45
1-10	N leach	FIRST YEAR	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND % LEACHED			64.37	64.10	1.61		0.48	Note 45
		TOTAL	0.0731	0.0492	TOTAL N AMOUNTS IN KG AND %			100.43	100.00				Note 45
N2O-N/N in food/beverage/fuel/other											0.4770		0.3210 Note 46
								Total/year 1					
Area with crop, ha							1.19	1.75					Note 50
Natural background emissions, kg N2O-N/ha:							1.19				5.55		4.12 Note 51

N amount in reference crop year 2 after use of N crop as green manure, kg	26.81	Note 47
N amount in reference crop year 1 after synthetic N fertilizer, kg	59.60	Note 47
Relative value of green manure, %	44.99	

N CHAIN STARTING WITH		N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND		LOW N CROP					Note 43
AND CONTINUING WITH		GREEN MANURE LOW N			TO PRODUCE	WINTER WHEAT FOR		CATTLE DAIRY					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			5.21	5.20	2.33	4.37	2.01	2.78 Note 45
Year	N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3			22.71	22.65	0.23		0.23	Note 45
1-10	N leach	FIRST YEAR	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND % LEACHED			72.33	72.15	1.81		0.54	Note 45
		TOTAL	0.0733	0.0466	TOTAL N AMOUNTS IN KG AND %			100.25	100.00				Note 45
N2O-N/N in food/beverage/fuel/other											0.8381		0.5332 Note 46
								Total/year 1					
Area with crop, ha							0.97	1.43					Note 50
Natural background emissions, kg N2O-N/ha:							0.97				5.34		3.75 Note 51

N amount in reference crop year 2 after use of N crop as green manure, kg	15.32	Note 47
N amount in reference crop year 1 after synthetic N fertilizer, kg	59.60	Note 47
Relative value of green manure, %	25.71	

SUMMARY FOOD, FUEL, AND WASTE

N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	FOOD						Note 43
AND CONTINUING WITH	NO MANURE			TO PRODUCE	NOTHING FOR	FOOD						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	1.46	2.43	1.21	1.52	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		2.20	2.20	0.02		0.02		Note 45
1-10 N leach	FIRST YEAR	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND % LEACHED		38.20	38.20	0.95		0.29		Note 45
	TOTAL	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND %		100.00	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									0.0408		0.0255	Note 46
							Total/year 1					
Area with crop, ha						0.68	1.00					Note 50
Natural background emissions, kg N2O-N/ha:						0.68			3.11		2.20	Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	FUEL						Note 43
AND CONTINUING WITH	NO MANURE			TO PRODUCE	NOTHING FOR	FUEL						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	1.46	2.43	1.21	1.52	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		2.20	2.20	0.02		0.02		Note 45
1-10 N leach	FIRST YEAR	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND % LEACHED		38.20	38.20	0.95		0.29		Note 45
	TOTAL	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND %		100.00	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									0.0408		0.0255	Note 46
							Total/year 1					
Area with crop, ha						0.68	1.00					Note 50
Natural background emissions, kg N2O-N/ha:						0.68			3.11		2.20	Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	WASTE DUMPED ELSEWHERE WITHOUT LEACHING						Note 43
AND CONTINUING WITH	NO MANURE			TO PRODUCE	NOTHING FOR	WASTE, DUMPED ELSEWHERE						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	1.46	2.43	1.21	1.52	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		2.20	2.20	0.02		0.02		Note 45
1-10 N leach	FIRST YEAR	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND % LEACHED		38.20	38.20	0.95		0.29		Note 45
	TOTAL	0.0408	0.0255	TOTAL N AMOUNTS IN KG AND %		100.00	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									No use		No use	Note 46
							Total/year 1					
Area with crop, ha						0.68	1.00					Note 50
Natural background emissions, kg N2O-N/ha:						0.68			3.11		2.20	Note 51
N CHAIN STARTING WITH	N FERTILIZER			TO PRODUCE	WINTER BARLEY FOR BIOETHANOL AND	WASTE DUMPED IN FIELD AND LOST TO LEACH						Note 43
AND CONTINUING WITH	NO MANURE			TO PRODUCE	NOTHING FOR	WASTE DUMPED IN FIELD						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	1.46	3.92	1.21	1.97	Note 45
Year N NH3	ACCORDING TO	IPCC 1996	IPCC 2006	TOTAL N AMOUNTS IN KG AND % VOLATILISATION/NH3		2.20	2.20	0.02		0.02		Note 45
1-10 N leach	FIRST YEAR	0.0658	0.0330	TOTAL N AMOUNTS IN KG AND % LEACHED		97.80	97.80	2.45		0.73		Note 45
	TOTAL	0.0658	0.0330	TOTAL N AMOUNTS IN KG AND %		100.00	100.00					Note 45
N2O-N/N in food/beverage/fuel/other									No use		No use	Note 46
							Total/year 1					
Area with crop, ha						0.68	1.00					Note 50
Natural background emissions, kg N2O-N/ha:						0.68			4.61		2.65	Note 51

SUMMARY CATTLE

RATIO OF N2O-N TO N IN FIRST CROP ACCORDING TO	IPCC 1996 MIN	IPCC 1996 MAX	IPCC 2006 MIN	IPCC 2006 MAX	N2O-N emission IPCC 1996 MIN	N2O-N emission IPCC 1996 MAX	N2O-N emission IPCC 2006 MIN	N2O-N emission IPCC 2006 MAX
FIRST YEAR	0.0421	0.0556	0.0292	0.0403	3.75	5.34	2.55	3.66
TOTAL	0.0630	0.0897	0.0428	0.0614				

	MIN	MAX	MIN	MAX
N2O-N/N in food/beverage/fuel/other	0.1596	0.2821	0.1133	0.1930

	MIN	MAX	MIN	MAX				
Natural background emissions in kg N2O-N/ha, area with crop in ha, and total emissions in kg N2O-N/ha:	0.82	1.03	0.82	1.25	4.76	6.20	3.38	4.51

SUMMARY PIGS

RATIO OF N2O-N TO N IN FIRST CROP ACCORDING TO	IPCC 1996 MIN	IPCC 1996 MAX	IPCC 2006 MIN	IPCC 2006 MAX	N2O-N emission IPCC 1996 MIN	N2O-N emission IPCC 1996 MAX	N2O-N emission IPCC 2006 MIN	N2O-N emission IPCC 2006 MAX
FIRST YEAR	0.0422	0.0525	0.0288	0.0372	3.33	4.62	2.19	3.19
TOTAL	0.0559	0.0775	0.0368	0.0535				

	MIN	MAX	MIN	MAX
N2O-N/N in food/beverage/fuel/other	0.1023	0.1404	0.0714	0.0969

	MIN	MAX	MIN	MAX				
Natural background emissions in kg N2O-N/ha, area with crop in ha, and total emissions in kg N2O-N/ha:	0.79	0.92	0.79	0.92	4.25	5.50	2.98	4.07

SUMMARY POULTRY

RATIO OF N2O-N TO N IN FIRST CROP ACCORDING TO	IPCC 1996 MIN	IPCC 1996 MAX	IPCC 2006 MIN	IPCC 2006 MAX	N2O-N emission IPCC 1996 MIN	N2O-N emission IPCC 1996 MAX	N2O-N emission IPCC 2006 MIN	N2O-N emission IPCC 2006 MAX
FIRST YEAR	0.0418	0.0560	0.0282	0.0407	3.21	5.38	2.02	3.69
TOTAL	0.0538	0.0903	0.0339	0.0618				

	MIN	MAX	MIN	MAX
N2O-N/N in food/beverage/fuel/other	0.0865	0.2926	0.0588	0.2003

	MIN	MAX	MIN	MAX				
Natural background emissions in kg N2O-N/ha, area with crop in ha, and total emissions in kg N2O-N/ha:	0.74	0.98	0.74	0.98	4.06	6.24	2.76	4.54

SUMMARY SHEEP AND GOATS

RATIO OF N2O-N TO N IN FIRST CROP ACCORDING TO	IPCC 1996 MIN	IPCC 1996 MAX	IPCC 2006 MIN	IPCC 2006 MAX	N2O-N emission IPCC 1996 MIN	N2O-N emission IPCC 1996 MAX	N2O-N emission IPCC 2006 MIN	N2O-N emission IPCC 2006 MAX
FIRST YEAR	0.0567	0.0589	0.0255	0.0346	5.29	6.15	2.7	3.52
TOTAL	0.0887	0.1031	0.0453	0.0590				

	MIN	MAX	MIN	MAX
N2O-N/N in food/beverage/fuel/other	0.4883	0.7936	0.2400	0.4540

	MIN	MAX	MIN	MAX				
Natural background emissions in kg N2O-N/ha, area with crop in ha, and total emissions in kg N2O-N/ha:	0.89	0.96	0.89	0.96	6.19	7.09	3.59	4.42

SUMMARY FODDER

RATIO OF N2O-N TO N IN FIRST CROP ACCORDING TO	IPCC 1996 MIN	IPCC 1996 MAX	IPCC 2006 MIN	IPCC 2006 MAX	N2O-N emission IPCC 1996 MIN	N2O-N emission IPCC 1996 MAX	N2O-N emission IPCC 2006 MIN	N2O-N emission IPCC 2006 MAX
FIRST YEAR	0.0418	0.0589	0.0255	0.0407	3.21	6.15	2.02	3.69
TOTAL	0.0538	0.1031	0.0339	0.0618				

	MIN	MAX	MIN	MAX
N2O-N/N in food/beverage/fuel/other	0.0865	0.7936	0.0588	0.4540

	MIN	MAX	MIN	MAX				
Natural background emissions in kg N2O-N/ha, area with crop in ha, and total emissions in kg N2O-N/ha:	0.74	1.03	0.74	1.25	4.06	7.09	2.76	4.54