

Supplementary data A

REFERENCE	LOCATION	CROP	FERTILIZER TYPE ^a	N_RATE (kg N ha ⁻¹)	EMISSION (kg N ₂ O-N ha ⁻¹ yr ⁻¹)	SAMPLING FREQUENCY AND LENGTH	OBSERVED WINTER EMISSION
Kavdir et al. (2008)	Potsdam, Germany	Triticale/ Rape seed/ Hemp	*	0	0.7	weekly in 30months	yes
Kavdir et al. (2008)	Potsdam, Germany	Rape seed/ Rye/ Triticale	*	0	0.9	weekly in 30months	yes
Kaiser_et_al._(1998)	Timmerlah, Braunsweig, Germany	Winter Barley	*	0	1.5	5d/week 12 months	
Kaiser_et_al._(1998)	Timmerlah, Braunsweig, Germany	Winter wheat	*	0	2.3	5d/week 12 months	
Kaiser_et_al._(1998)	Timmerlah, Braunsweig, Germany	Winter rape	*	0	2.5	5d/week 12 months	
Kasimir Klemetsson et al. unpublished	Mellby, Sweden	Spring wheat	*	0	2.8	variable, 3 years	yes
Kaiser_et_al._(1998)	Timmerlah, Braunsweig, Germany	Winter Barley	*	0	2.9	5d/week 12 months	
Kaiser_et_al._(1998)	Timmerlah, Braunsweig, Germany	Winter wheat	*	0	3.1	5d/week 12 months	
Kaiser_et_al._(1998)	Timmerlah, Braunsweig, Germany	Winter rape	*	0	3.2	5d/week 12 months	
Kaiser_and_Heinemeier_(1996)	Braunschweig, Germany	Winter Wheat	KN	60	1.1	weekly in 22months	
Kaiser_and_Heinemeier_(1996)	Braunschweig, Germany	Winter wheat/Barley	KN	60	1.6	weekly in 22months	
Kaiser_et_al._(1998)	Timmerlah, Braunsweig, Germany	Winter wheat	UAN	65	2.7	5d/week 12 months	
Kaiser_et_al._(1998)	Timmerlah, Braunsweig, Germany	Winter Barley	UAN	73	3.1	5d/week 12 months	
Wagner-Riddle_et_al._(1997)	Guelph, Ontario, Canada	Barley	AN	75	1.1	monthly, 3 years	yes
Kavdir et al. (2008)	Potsdam, Germany	Triticale/ Rape seed/ Hemp	CAN	75	1.6	weekly in 30months	
Kavdir et al. (2008)	Potsdam, Germany	Rape seed/ Rye/ Triticale	CAN	75	2.0	weekly in 30months	
Kaiser_et_al._(1998)	Timmerlah, Braunsweig, Germany	Winter Barley	UAN	85	1.2	5d/week 12 months	
Kaiser_et_al._(1998)	Timmerlah, Braunsweig, Germany	Winter rape	UAN	85	1.5	5d/week 12 months	
Kaiser_et_al._(1998)	Timmerlah, Braunsweig, Germany	Winter rape	UAN	86	2.8	5d/week 12 months	
Kaiser_et_al._(1998)	Timmerlah, Braunsweig, Germany	Winter wheat	UAN	91	2.0	5d/week 12 months	
Wagner-Riddle_et_al._(1997)	Guelph, Ontario, Canada	Canola	AN	100	1.3	monthly, 3 years	yes
Syväsalo_et_al._(2004)	Jokioinen, S. Finland	Barley	AN	100	3.7	weekly in 12 months	
Syväsalo_et_al._(2004)	Jokioinen, S. Finland	Barley	AN	100	3.7	weekly in 12 months	

Kamp_et_al._(1998)	Munich, Germany	Wheat	UAN	100	4.0	weekly in 21 months	
Syväsalo_et_al._(2004)	Jokioinen, S. Finland	Barley	AN	100	4.4	weekly in 12 months	
Kamp_et_al._(1998)	Munich, Germany	Wheat	UAN	100	4.6	weekly in 21 months	
Syväsalo_et_al._(2004)	Jokioinen, S. Finland	Barley	AN	100	7.5	weekly in 12 months	
Kaiser_and_Heinemeier_(1996)	Braunschweig, Germany	Winter wheat	CAN	108	1.0	weekly in 22 months	
Kasimir Klemetsson et al. unpublished	Logården, Sweden	Spring wheat	AN	117	1.1	every other week, 12 months	
Smith_et_al._(1998)	Midlothian, Scotland	Barley	AN	120	0.8	variable, 12 months	
Kasimir Klemetsson et al. unpublished	Mellby, Sweden	Spring wheat	CAN	120	2.4	variable, 3 years	yes
Kasimir Klemetsson et al. unpublished	Mellby, Sweden	Spring wheat	CAN	120	3.4	variable, 3 years	yes
Kasimir Klemetsson et al. unpublished	Logården, Sweden	Spring wheat	AN	128	0.5	every other week, 12 months	
Kaiser_et_al._(1998)	Timmerlah, Braunschweig, Germany	Winter wheat	UAN	130	3.5	5d/week 12 months	
Kaiser_et_al._(1998)	Timmerlah, Braunschweig, Germany	Winter Barley	UAN	146	3.7	5d/week 12 months	
Kavdir et al. (2008)	Potsdam, Germany	Triticale/ Rape seed/ Hemp	CAN	150	2.0	weekly in 30 months	yes
Kavdir et al. (2008)	Potsdam, Germany	Rape seed/ Rye/ Triticale	CAN	150	3.7	weekly in 30 months	yes
Kaiser_et_al._(1998)	Timmerlah, Braunschweig, Germany	Winter Barley	UAN	170	2.4	5d/week 12 months	
Kaiser_et_al._(1998)	Timmerlah, Braunschweig, Germany	Winter rape	UAN	172	4.0	5d/week 12 months	
Smith_et_al._(1998)	Midlothian, Scotland	Wheat, winter	AN	180	0.3	variable, 12 months	
Kaiser_et_al._(1998)	Timmerlah, Braunschweig, Germany	Winter wheat	UAN	183	2.6	5d/week 12 months	
Kaiser_et_al._(1998)	Timmerlah, Braunschweig, Germany	Winter rape	UAN	183	3.4	5d/week 12 months	
Flessa_et_al._(1995)	Scheyern, S. Germany	Wheat	Mix1	190	12.3	weekly with gaps, 12 months	yes
Flessa_et_al._(1995)	Scheyern, S. Germany	Wheat	Mix1	190	25.0	weekly with gaps, 12 months	yes
Yamulki_et_al._(1995)	Rothamsted, England	Wheat	Mix2	200	1.4	every other week, >12 months	
Kaiser_and_Heinemeier_(1996)	Braunschweig, Germany	Barley	CAN	210	1.2	weekly in 22 months	

^a AN, Ammonium Nitrate; CAN, calcium ammonium nitrate; KN, potassium nitrate; Mix1, urea and ammonium nitrate solution; Mix2, ammonium nitrate and calcium carbonate.

Literature from which data were gathered

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