

Table S1. Grain yield, protein concentrations, nitrogen uptake and apparent nitrogen recovery efficiency in three slurry fertilization trials, Foulum, DK, 2014, n = 4, values in brackets indicate standard deviations, letters indicate significance levels after mixed effects model analysis and HSD post-hoc test, p < 0.05. AD anaerobic digestate, AS, separated AD, PS pig slurry, MS mink slurry, CS cattle slurry; ac acidified (target pH 6.0) th trail hose, inc incorporation by harrow, inj closed slot injection.

crop	trial	Treatment*	Grain t/ha			Protein %			Nup grain kg N/ha			Ntot kg N/ha			Anre %		
Wheat	1st	100 CAN	3.67	(1.02)	ab	8.87	(2.28)	a	54.55	(8.46)	c	77.10	(5.90)	c	30.34	(5.90)	a
		150 CAN	4.63	(0.84)	a	10.38	(1.02)	a	83.20	(7.99)	a	119.98	(11.26)	a	48.81	(8.66)	a
		AD	4.07	(0.37)	ab	8.41	(0.78)	a	60.03	(7.90)	bc	85.55	(12.20)	abc	35.27	(11.09)	a
		AD ac	4.43	(1.18)	a	9.39	(1.09)	a	71.35	(11.00)	abc	101.60	(15.42)	abc	49.86	(14.02)	a
		CS	4.09	(0.75)	ab	9.05	(0.85)	a	64.10	(5.68)	abc	94.75	(13.84)	abc	43.63	(12.58)	a
		CS ac	4.80	(0.91)	a	9.80	(1.82)	a	80.58	(5.37)	ab	110.48	(14.17)	ab	57.93	(12.88)	a
		AS	4.94	(1.90)	a	9.07	(1.77)	a	74.50	(19.03)	abc	101.28	(23.20)	abc	49.56	(21.09)	a
		AS ac	4.63	(0.84)	a	9.17	(1.66)	a	72.78	(3.66)	abc	100.78	(9.27)	abc	49.11	(8.42)	a
		MS	4.87	(0.40)	a	9.17	(0.56)	a	78.20	(5.49)	ab	107.93	(7.65)	abc	55.61	(6.96)	a
		MS ac	4.29	(0.36)	a	10.07	(0.31)	a	75.60	(4.53)	abc	109.88	(5.38)	ab	57.38	(4.89)	a
		Control (0 N)	2.21	(0.59)	b	7.88	(0.56)	a	30.01	(6.71)	d	46.76	(5.90)	d	-	-	-
		PS	3.92	(1.50)	ab	10.23	(1.65)	a	67.23	(16.78)	abc	94.23	(12.83)	abc	43.16	(11.66)	a
		PS ac	4.11	(1.02)	ab	10.20	(1.80)	a	71.33	(8.60)	abc	106.40	(16.88)	abc	54.22	(15.35)	a
	2nd	100 CAN	5.26	(0.62)	a	7.63	(0.60)		69.90	(4.00)	de	89.98	(1.25)	de	44.47	(1.25)	
		150 CAN	6.00	(0.64)	a	8.98	(0.93)	ab	93.70	(1.38)	ab	119.35	(7.19)	a	49.23	(5.53)	cd
		AD	5.23	(0.58)	a	7.94	(0.66)	b	72.50	(6.57)	de	96.95	(8.12)	cde	46.76	(7.38)	d
		AD ac	5.07	(0.55)	a	8.14	(0.52)	b	71.98	(4.77)	de	95.18	(9.75)	cde	45.15	(8.87)	cd
		CS	4.76	(1.20)	a	8.22	(1.29)	ab	66.65	(9.15)	e	89.35	(5.20)	e	39.85	(4.73)	cd
		CS ac	5.08	(0.84)	a	9.13	(0.77)	ab	80.45	(7.93)	bcde	109.30	(13.12)	abc	57.99	(11.93)	abc
		AS	5.76	(0.44)	a	7.88	(0.63)	b	79.30	(5.74)	bcde	100.65	(9.58)	cde	50.13	(8.71)	cd
		AS ac	5.51	(0.37)	a	7.98	(0.60)	b	76.95	(5.46)	cde	102.15	(10.95)	bcde	51.49	(9.95)	cd
		MS	5.68	(0.69)	a	8.38	(0.80)	ab	82.88	(6.50)	abcd	106.35	(2.95)	abcd	55.31	(2.68)	abc
		MS ac	5.48	(0.40)	a	9.38	(0.73)	ab	89.90	(7.04)	abc	118.65	(9.29)	ab	66.49	(8.44)	ab
		Control (0 N)	2.38	(0.23)	b	7.96	(0.28)	b	33.24	(3.85)	f	45.50	(6.46)	f	-	-	-
		PS	5.30	(0.33)	a	8.84	(0.27)	ab	82.05	(4.22)	bcd	106.55	(5.85)	abcd	55.49	(5.32)	abc
		PS ac	5.70	(0.80)	a	9.82	(0.53)	a	97.63	(8.57)	a	120.08	(10.40)	a	67.78	(9.45)	a
Barley		100 CAN	3.05	(0.36)	bc	12.50	(0.28)	b	66.66	(6.51)	b	84.10	(9.79)	b	0.28	(0.10)	b
		150 CAN	3.64	(0.29)	ab	13.64	(0.20)	a	87.05	(7.96)	a	104.80	(8.86)	a	0.32	(0.06)	ab
		CS inc	3.51	(0.12)	ab	11.95	(0.31)	b	73.57	(1.64)	ab	89.80	(2.99)	ab	0.32	(0.03)	ab
		CS inc ac	3.82	(0.16)	a	11.57	(0.58)	bc	77.42	(1.28)	ab	95.98	(5.06)	ab	0.38	(0.05)	ab
		CS inj	3.72	(0.35)	ab	12.30	(0.33)	b	80.10	(7.38)	ab	101.53	(7.66)	ab	0.43	(0.07)	a
		CS th	3.43	(0.16)	ab	11.65	(0.35)	bc	70.22	(4.27)	b	86.48	(3.51)	b	0.29	(0.03)	ab
		CS th ac	3.78	(0.16)	ab	12.00	(0.53)	b	79.52	(4.69)	ab	98.20	(5.34)	ab	0.40	(0.05)	ab
		Control (0 N)	2.43	(0.51)	c	10.62	(0.48)	c	45.05	(8.44)	c	56.45	(8.21)	c	-	-	