Supplementary Materials: Equations to Predict Growth Performance Changes by Dietary Deoxynivalenol in Pigs

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List S1: List of cited references to update the prediction equations**.** A total of 59 data from 22 studies published between 2013 and 2020 reporting the effects of dietary deoxynivalenol on the growth performance changes of pigs were used to validate the previously published equations.

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Table S1. Experimental conditions in 42 studies.

Reference	DON source	DON, mg/kg	Initial BW, kg	Exp. period, d	ΔWG changes, %	ΔFI changes, %
Friend et al., 1983	Naturally contaminated wheat	2.00	123.0	51	−5.1	−3.8
		4.00	119.0	51	−21.4	−18.2
Young et al., 1983	Naturally contaminated corn	9.00	8.2	11	−72.2	−54.0
		1.34	7.0	21	−23.5	−22.6
		2.55	6.8	21	−44.1	−39.6
		5.12	6.9	21	−64.7	−62.3
		6.39	6.8	21	−67.6	−62.3
		7.83	7.1	21	−76.5	−67.9
		8.63	7.8	21	−61.8	−49.1
Chavez, 1984	Naturally contaminated wheat	1.73	6.9	56	−2.1	−2.4
		2.51	6.9	56	−18.1	−17.9
Cote et al., 1985	Naturally contaminated corn	3.10	10.0	35	−20.2	-
		5.80	9.6	35	−17.5	-
Lun et al., 1985	Naturally contaminated corn	10.50	8.3	21	−50.0	−44.4
Pollmann et al., 1985	Naturally contaminated wheat	0.90	7.7	21	2.9	6.3
		2.00	7.7	21	−17.1	−23.8
		2.80	7.7	21	−48.6	−34.9
		1.40	8.3	14	−2.9	−12.9
		0.90	60.5	42	−10.3	−14.4
		2.20	60.5	42	−18.4	−29.2
Foster et al., 1986	Naturally contaminated corn	4.70	27.5	49	−20.1	−17.9
		4.90	27.5	49	−29.8	−34.2
		4.80	27.5	49	−34.4	−34.5
		5.10	27.5	49	−36.3	−39.9
		5.10	27.5	49	−25.6	−23.2
		5.20	27.5	49	−37.5	−40.1
		4.70	27.5	49	−20.7	−16.4
		4.20	27.5	49	−20.3	−20.1
		4.70	27.5	49	−33.3	−36.7
		5.20	27.5	49	−29.8	−26.1
		3.70	27.5	49	−17.8	−23.0
		4.60	27.5	49	−26.2	−23.7
		3.30	27.5	49	−16.6	−13.0
		3.60	27.5	49	−20.3	−14.9
		2.10	27.5	49	−11.9	−10.5
		2.80	27.5	49	−25.2	−23.1
		3.80	27.5	49	−22.8	−22.6
Bergsjø et al., 1993	Naturally contaminated oats	0.70	20.9	94	−0.6	−0.5
		1.70	21.5	96	−3.7	−7.9
		3.50	22.0	95	−17.6	−15.0
He et al., 1993	Naturally contaminated corn	4.80	11.6	5	−56.7	−34.0

Reference	DON source	DON, mg/kg	Initial BW, kg	Exp. period, d	ΔWG changes, %	ΔFI changes, %
Rotter et al., 1995	Naturally contaminated corn	4.00	17.9	42	−13.0	−20.0
Smith et al., 1997	Naturally contaminated barley and wheat	4.40	8.2	21	−34.9	−29.6
		6.00	8.2	21	−39.8	−34.9
		7.50	8.2	21	−49.4	−43.3
		0.50	8.3	21	−2.2	1.3
		1.10	8.3	21	−16.7	−9.7
		1.90	8.3	21	−7.8	−8.9
		2.20	8.2	21	−3.3	−1.3
		2.40	8.2	21	−4.4	−2.8
		2.50	8.2	21	−12.2	−8.1
Swamy et al., 2002	Naturally contaminated corn and wheat	4.60	10.0	21	−34.6	−32.6
Döll et al., 2003	Naturally contaminated corn	0.80	12.4	36	3.6	1.3
		1.00	12.4	36	3.6	0.2
		1.90	12.4	36	−3.6	−5.1
		3.90	12.4	36	−19.2	−22.5
Dänicke et al., 2004	Naturally contaminated wheat	2.64	28.0	14	−20.1	−13.8
		4.41	28.0	14	−54.5	−40.4
		1.40	55.2	42	−4.1	−5.9
		2.70	54.6	42	−1.5	−4.3
Dänicke et al., 2005	Naturally contaminated wheat	3.80	12.3	21	−15.7	−15.3
Goyarts et al., 2005	Naturally contaminated wheat	6.15	26.0	77	−13.7	−14.8
Accensi et al., 2006	Naturally contaminated wheat	0.28	11.2	28	−5.7	0.3
		0.56	11.2	28	−2.9	−5.8
		0.84	11.2	28	3.9	1.5
Cheng et al., 2006	Naturally contaminated corn	1.00	8.9	36	−16.8	−28.1
Gutzwiller et al., 2007	Naturally contaminated wheat	3.10	10.0	35	−9.4	−10.1
Waché et al., 2009	Naturally contaminated wheat	2.70	29.6	28	−16.5	−9.9
Xioa et al., 2013	Purified DON	4.00	12.4	30	−27.1	−13.0
Shin et al., 2013	Naturally contaminated corn germ meal	0.53	5.0	28	−3.6	−2.7
		1.03	5.1	28	−6.7	−3.4
		1.53	5.0	28	−6.4	−3.9
Patience et al., 2014	Naturally contaminated DDGS	4.80	22.8	115	−12.0	−8.7
Weaver et al., 2014	Naturally contaminated corn	4.82	9.0	42	−33.5	−0.4
van Le Thanh et al., 2015	Naturally contaminated wheat	4.61	6.9	14	−41.0	−21.5

Reference	DON source	DON, mg/kg	Initial BW, kg	Exp. period, d	ΔWG changes, %	ΔFI changes, %
Kong et al., 2015	Naturally contaminated barley	6.10	33.0	14	−3.3	−4.6
		7.70	33.0	14	−41.1	−21.4
		14.60	34.8	14	−80.4	−38.1
Wu et al., 2015	Naturally contaminated corn	3.00	16.3	21	−0.9	2.2
		6.00	16.3	21	−10.2	−14.8
		12.00	16.3	21	−43.9	−41.6
Alizadeh et al., 2015	Purified DON	0.90	7.9	10	−31.0	−3.2
Kong et al., 2016	Naturally contaminated barley	2.94	62.1	14	−30.7	−15.6
van Le Thanh et al., 2016	Naturally contaminated corn	3.13	7.1	17	−10.5	−8.3
Li et al., 2017	Naturally contaminated wheat	1.90	56.4	35	−37.4	−22.4
Frobose et al., 2017	Naturally contaminated wheat	4.10	13.4	21	−18.9	−12.0
Jin et al., 2017	Purified DON	3.00	7.3	37	−2.0	−3.0
Reddy et al., 2018	Purified DON	8.00	19.6	28	−30.2	−7.1
Sayyari et al., 2018	Naturally contaminated oats	0.92	10.9	35	4.5	6.6
		2.20	10.3	35	−3.9	−5.9
		5.00	11.9	35	−5.2	−3.4
Li et al., 2018	Naturally contaminated rice	2.85	48.1	18	−18.7	−12.6
Li et al., 2018	Naturally contaminated barley	1.20	8.9	21	−4.1	−4.4
		2.13	9.0	21	−10.7	−17.4
		3.17	9.0	21	−13.3	−25.3
Ebarb et al., 2018	Naturally contaminated DDGS	4.00	29.5	70	−14.3	−14.7
Levesque et al., 2018	Naturally contaminated DDGS	0.90	21.5	21	−9.8	-
Rho et al., 2019	Naturally contaminated corn	2.30	10.5	28	−1.3	0.3
Acosta et al., 2019	Naturally contaminated corn	1.80	73.1	28	−51.7	−48.1
Liao et al., 2020	Naturally contaminated corn	4.00	6.5	14	−15.0	−11.3

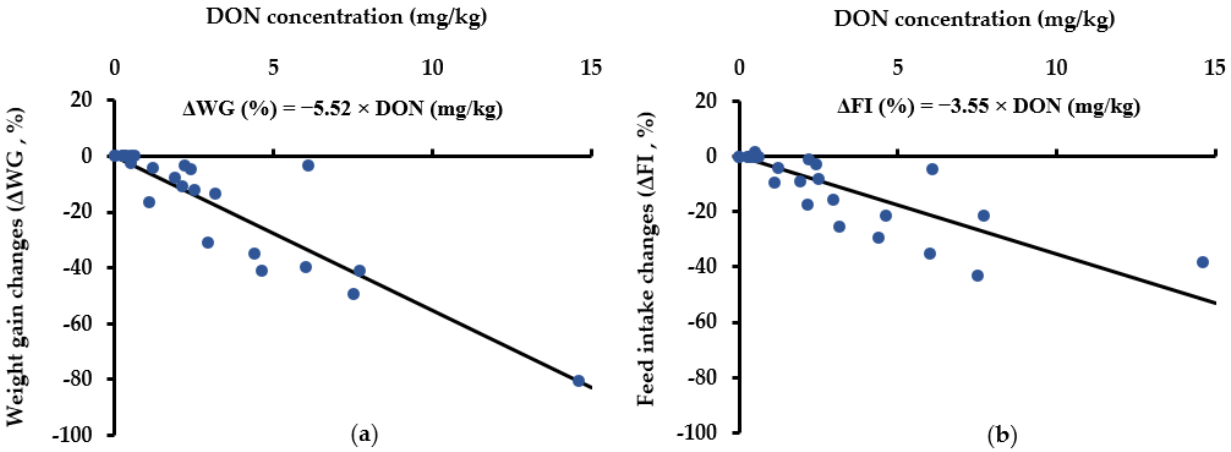

Figure S1. Regression equations for predicting weight gain changes (ΔWG, %) and feed intake changes (ΔFI, %) of pigs by dietary deoxynivalenol based on ELISA analysis method (n = 24). The y-intercept of new equations was forced to zero. (**a**) ΔWG = −5.52 × DON with SE = 0.41, r^2 = 0.88, and p < 0.001. (**b**) ΔFI = −3.55 × DON with SE = 0.38, r^2 = 0.78, and p < 0.001. Dietary DON concentrations ranged from 0 to 14.6 mg/kg.

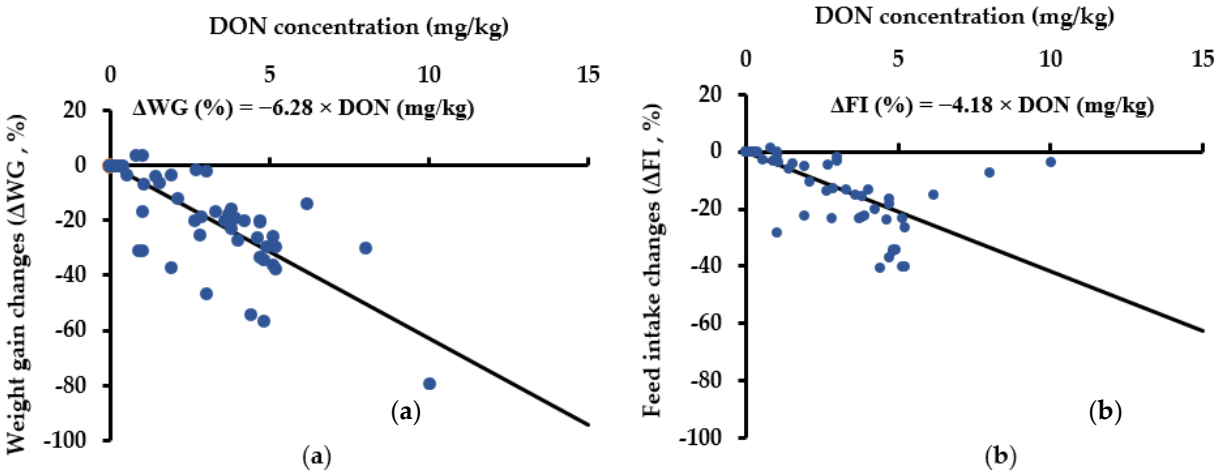

Figure S2. Regression equations for predicting weight gain changes (ΔWG, %) and feed intake changes (ΔFI, %) of pigs by dietary deoxynivalenol based on HPLC analysis method (n = 57). The y-intercept of new equations was forced to zero. (**a**) ΔWG = −6.28 × DON with SE = 0.43, r^2 = 0.79, and p < 0.001. (**b**) ΔFI = −4.18 × DON with SE = 0.39, r^2 = 0.67, and p < 0.001. Dietary DON concentrations ranged from 0 to 10 mg/kg.

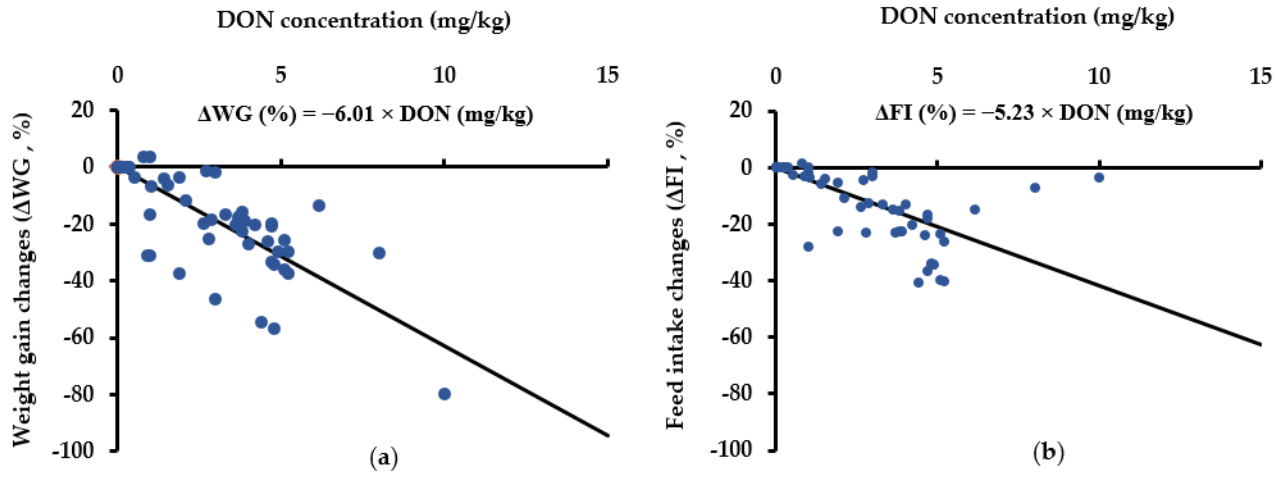

Figure S3. Regression equations for predicting weight gain changes (ΔWG, %) and feed intake changes (ΔFI, %) of pigs by dietary deoxynivalenol based on LC-MS/MS analysis method (n = 62). The y-intercept of new equations was forced to zero. (**a**) ΔWG = −6.01 × DON with SE = 0.45, r^2 = 0.75, and p < 0.001. (**b**) ΔFI = −5.23 × DON with SE = 0.42, r^2 = 0.73, and p < 0.001. Dietary DON concentrations ranged from 0 to 12 mg/kg.

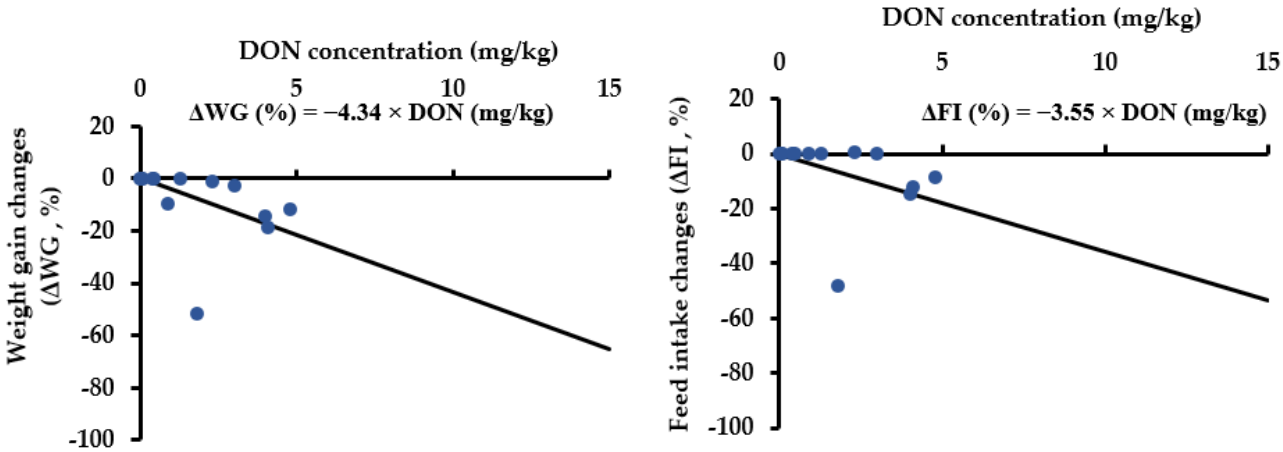

Figure S4. Regression equations for predicting weight gain changes (ΔWG, %) and feed intake changes (ΔFI, %) of pigs by dietary deoxynivalenol based on unknown analysis method (n = 13). The y-intercept of new equations was forced to zero. (**a**) ΔWG = −4.34 × DON with SE = 1.89, r^2 = 0.37, and p = 0.047. (**b**) ΔFI = −3.55 × DON with SE = 1.79, r^2 = 0.30, and p = 0.079. Dietary DON concentrations ranged from 0 to 4.8 mg/kg.