

表 S1 30 种真菌毒素在不同饲料中的基质效应

Table S1 Matrix effects of the 30 mycotoxins in the different feed products

Mycotoxin	Matrix effects/%		
	Premixed feed	Concentrated feed	Formula feed
AFB ₁	3.3	18.1	20.5
AFB ₂	17.0	14.8	15.3
AFG ₁	43.6	83.6	45.4
AFG ₂	38.8	36.8	34.4
AFM ₁	1.4	18.1	12.7
AFM ₂	39.7	30.0	23.7
SMC	7.6	12.3	16.6
DAS	14.0	34.8	37.5
FB ₁	45.8	58.6	64.6
FB ₂	38.6	42.3	45.3
HT2	66.4	39.0	14.2
T-2	23.7	29.1	34.5
NEO	18.3	25.5	27.8
CIT	15.6	21.8	13.4
DON	11.2	33.9	29.8
D3G	32.5	60.0	25.6
3-ADON	60.1	39.0	42.3
15-ADON	20.0	5.5	46.4
Fus X	41.5	48.3	59.6
MPA	41.1	44.5	22.5
PAT	48.6	54.6	36.9
DA	21.9	65.2	36.8
OTA	75.0	19.5	11.1
TEN	37.3	46.3	55.0
ZAN	3.8	2.2	6.5
ZEN	0.9	4.9	7.6
α -ZAL	0.7	1.4	6.4
α -ZOL	0.5	0.8	5.0
β -ZAL	2.9	1.9	8.7
β -ZOL	1.9	1.6	7.2

表 S2 不同饲料中 30 种真菌毒素的绝对回收率

Table S2 Absolute recoveries of the 30 mycotoxins in the different feed products

Mycotoxin	Recoveries/%								
	Premixed feed			Concentrated feed			Formula feed		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
AFB ₁	65.5±6.7	71.2±6.1	72.0±13.1	65.2±11.5	70.5±5.5	70.4±13.2	67.2±13.0	66.6±10.3	73.9±13.2
AFB ₂	69.3±12.2	69.0±3.6	70.8±9.9	77.2±3.4	75.8±3.1	70.4±7.3	54.0±12.2	66.6±4.8	70.5±8.6
AFG ₁	71.1±5.5	73.9±6.1	73.8±10.8	74.2±5.3	71.3±3.8	69.1±4.5	70.1±12.1	74.3±11.7	75.7±7.3
AFG ₂	72.0±9.1	72.8±11.6	71.9±12.8	73.6±5.0	74.0±14.2	66.2±3.6	82.6±7.8	74.1±14.7	70.6±5.0
AFM ₁	61.8±14.9	63.3±4.2	64.5±9.3	76.0±9.0	73.9±7.8	69.1±9.0	77.2±14.6	74.7±5.7	68.8±8.9
AFM ₂	67.6±6.1	69.0±6.4	71.8±3.2	72.8±12.2	70.6±13.4	70.4±11.9	68.8±14.9	77.1±9.2	67.1±6.8
SMC	53.8±13.5	62.1±10.8	55.2±10.7	74.8±8.5	69.3±6.9	70.4±3.4	66.7±10.6	75.0±8.4	65.9±7.5
DAS	72.5±3.3	74.3±14.5	73.8±10.2	85.3±8.5	84.3±8.3	78.6±14.4	79.7±7.7	88.7±9.9	79.4±10.0
FB ₁	86.9±11.8	83.6±14.1	83.8±8.7	83.8±12.9	88.3±14.0	81.3±9.6	86.9±9.6	84.6±11.9	68.2±9.0
FB ₂	87.3±5.6	83.2±4.9	84.8±6.0	83.8±4.3	86.9±11.0	80.6±3.4	70.5±8.5	70.4±7.6	71.9±8.8
HT2	71.0±3.8	77.4±8.8	78.6±7.1	84.2±12.7	71.6±10.5	88.4±9.5	72.3±8.6	79.3±6.6	69.0±4.4
T-2	60.6±9.2	59.0±6.6	61.4±4.2	86.9±11.5	64.1±14.4	70.4±3.5	60.2±7.3	60.4±4.3	69.3±4.4
NEO	62.3±9.7	64.6±13.2	59.2±7.8	80.8±3.1	82.8±12.8	72.6±12.8	61.3±7.0	60.7±8.8	60.5±10.5
CIT	50.8±3.2	51.6±10.9	52.8±5.2	44.7±9.4	47.1±3.2	52.3±6.1	48.8±12.7	56.7±11.2	45.7±12.6
DON	52.1±13.9	51.0±3.8	48.0±11.8	54.1±13.3	42.0±8.6	55.9±9.1	49.6±8.4	55.9±10.4	54.9±9.7
D3G	49.1±12.5	49.0±12.3	51.4±3.7	43.7±11.4	43.1±8.6	60.9±5.3	47.1±11.6	45.6±11.0	46.4±4.8

3-ADON	47.9±11.9	44.3±4.8	46.9±14.4	49.1±7.1	47.7±14.9	53.6±9.1	49.8±13.1	52.7±8.1	54.3±14
15-ADON	41.3±13.2	42.4±12.5	45.0±7.0	49.2±3.6	50.9±6.0	58.7±10.3	51.2±8.7	51.4±10.6	49.8±14.1
Fus X	48.6±13.5	53.1±8.9	49.1±4.7	50.1±5.8	54.2±10.6	61.0±9.9	41.7±12.3	45.2±13.9	48.0±14.9
MPA	81.9±9.0	88.9±3.5	89.9±12.1	99.2±5.2	94.2±11.7	99.7±6.9	93.3±13.3	105.2±8.2	81.5±12.2
PAT	92.5±11.8	92.3±8.9	94.5±14.7	91.8±11.9	76.6±11.8	90.5±14.8	73.5±11.8	72.2±5.1	71.6±9.6
DA	81.9±8.3	81.6±14.6	83.4±12.5	81.1±14.8	85.9±3.5	90.8±8.2	77.0±9.7	80.4±9.5	81.0±7.5
OTA	106.6±8.7	79.7±11.8	79.9±12.5	88.7±8.6	86.0±13.6	93.8±8.6	88.2±7.3	73.6±5.5	67.4±11.0
TEN	90.2±12.5	91.1±3.1	80.6±12.2	80.3±10.7	73.4±11.8	86.0±4.0	76.1±9.8	81.2±14.3	71.0±5.3
ZAN	95.2±10.8	90.9±13.3	92.0±10.5	95.0±5.9	88.4±12.0	87.8±10.8	81.4±9.1	72.2±8.4	68.7±5.7
ZEN	68.0±12.6	72.8±4.3	70.0±11.0	99.5±6.7	91.6±13.9	89.0±9.4	69.5±6.0	74.1±14.4	70.3±3.7
α -ZAL	79.2±12.6	80.9±7.0	83.3±5.7	64.8±12.8	68.0±7.5	85.8±12.4	115.5±3.2	103.4±6.4	108.9±8.1
α -ZOL	90.6±14.1	86.9±9.7	82.6±14.9	99.2±6.6	110.7±9.4	110.2±3.7	70.8±5.7	75.5±13.3	70.2±8.4
β -ZAL	113.0±9.7	121.9±4.5	116.9±13.7	113.0±5.0	112.2±5.8	121.9±6.0	101.8±8.2	94.3±3.2	96.1±8.6
β -ZOL	126.0±12.9	127.9±5.0	119.1±10.7	121.9±12.8	119.4±8.5	123.9±6.3	112.9±8.6	101.6±5.0	96.6±5.8

Low, medium and high level: 2, 5 and 50 µg/kg for AFB₁, AFG₂, AFM₁, AFM₂, DAS, OTA and SMC; 10, 50 and 100 µg/kg for D3G, DA, PAT, TEN, ZEN, ZAN, α -ZOL, β -ZOL, α -ZAL and β -ZAL; 50, 200 and 500 µg/kg for 3-ADON, 15-ADON, CIT, DON, FB₁, FB₂, Fus X, HT2, MPA, NEO and T-2.

表 S3 不同饲料中 30 种真菌毒素的日内精密度和日间精密度 ($n=5$)

Table S3 Intra-day and inter-day precisions of the 30 mycotoxins in the different feed products ($n=5$)

Mycotoxin	Premixed feed		Concentrated feed		Formula feed	
	Intra-day RSD/%	Inter-day RSD/%	Intra-day RSD/%	Inter-day RSD/%	Intra-day RSD/%	Inter-day RSD/%
AFB ₁	4.9-9.6	6.6-14.0	3.0-8.6	7.7-13.7	2.5-9.8	7.7-11.4
AFB ₂	5.0-8.1	9.1-14.7	2.1-6.4	5.1-8.4	5.6-9.4	5.3-12.7
AFG ₁	3.9-9.5	7.2-14.8	2.5-8.4	5.0-9.9	6.4-8.7	8.5-15.6
AFG ₂	3.6-9.9	6.3-12.5	2.2-8.4	7.8-13.1	2.1-9.9	7.2-10.2
AFM ₁	4.5-9.5	6.5-15.6	2.6-3.3	6.1-12.1	2.4-9.5	7.2-11.7
AFM ₂	6.0-8.4	9.4-12.8	7.0-8.3	9.8-14.2	3.1-6.5	5.9-8.2
SMC	6.5-7.4	5.7-13.8	5.3-11.1	9.3-13.5	4.7-10.7	5.2-17.5
DAS	2.2-11.9	10.5-13.6	4.0-10.1	7.8-11.1	6.4-10.2	6.3-15.8
FB ₁	3.0-7.8	5.5-17.8	3.6-9.5	13.5-16.4	2.2-10.5	6.9-16.0
FB ₂	3.5-11.8	6.7-17.7	7.4-10.4	11.1-14.4	2.7-8.4	8.2-17.8
HT2	9.0-11.9	6.6-17.8	4.0-8.5	11.6-15.1	4.6-8.6	7.8-15.5
T-2	3.7-4.4	5.1-9.5	4.8-10.9	9.9-16.4	2.4-11.3	6.2-11.9
NEO	3.3-10.5	7.4-14.4	3.8-11.2	12.8-17.4	7.3-9.0	15.8-17.6
CIT	4.5-11.3	7.3-10.6	3.1-11.5	5.1-14.6	4.4-11.5	6.7-13.4
DON	2.7-8.3	8.5-13.1	4.1-6.4	9.6-15.5	2.8-8.0	8.4-13.8
D3G	3.0-9.8	5.9-17.8	2.0-11.0	7.2-17.0	2.5-9.7	7.1-9.6

3-ADON	9.0-11.5	7.6-16.7	2.3-8.2	10.4-15.1	2.4-11.3	7.1-16.6
15-ADON	5.1-11.4	5.3-17.0	5.5-10.1	8.0-16.1	2.7-10.9	6.6-16.7
Fus X	3.2-11.2	5.1-16.5	5.0-11.3	9.9-17.0	2.3-8.3	6.2-17.7
MPA	4.7-10.4	7.9-13.4	2.7-7.4	10.5-12.6	6.1-9.9	5.7-16.0
PAT	3.0-11.2	6.4-13.1	6.1-9.9	9.6-17.3	6.9-9.8	6.3-15.9
DA	6.1-10.5	11.4-17.5	5.3-11.5	7.0-17.7	6.8-10.4	8.3-16.8
OTA	5.0-9.5	9.9-17.6	3.9-11.7	10.8-17.8	2.4-11.3	10.0-15.8
TEN	8.4-10.7	7.1-16.2	2.2-3.2	10.8-14.9	6.7-10.3	14.5-16.2
ZAN	7.6-9.7	5.5-13.7	2.6-6.8	9.4-15.2	3.0-9.0	10.0-17.0
ZEN	3.7-4.0	9.6-12.7	5.7-11.9	8.2-12.5	6.9-11.2	6.0-17.1
α -ZAL	6.9-9.2	8.4-12.0	2.8-8.1	7.8-14.4	2.2-8.1	12.0-17.2
α -ZOL	3.9-10.5	7.0-15.7	3.8-9.6	5.2-16.6	2.1-8.5	8.0-13.4
β -ZAL	5.4-8.9	9.0-12.4	4.2-11.0	13.2-17.6	5.0-9.8	6.1-16.3
β -ZOL	2.6-5.6	6.3-10.4	3.0-11.5	12.2-12.8	7.4-10.5	6.6-15.4

表 S4 38 份实际饲料中 30 种真菌毒素的含量 (μg/kg)

Table S4 Contents of the 30 mycotoxins in the 38 feed products (μg/kg)

[illegible]

24	121.3	155.7	72.0	95.5	886.3	72.5	319.9	22.4	-	-	1745.5
25	56.7	62.5	46.4	-	100.0	-	40.5	-	-	-	306.0
26	251.0	-	-	-	105.9	60.0	50.6	-	-	-	467.5
27	180.3	-	105.3	-	302.8	271.0	-	-	-	-	859.4
28	223.9	-	354.0	-	-	110.3	-	-	-	-	688.2
29	-	-	-	-	784.0	265.3	61.2	-	-	-	1110.5
30	412.5	-	784.0	-	690.3	154.8	25.3	-	-	-	2066.9
31	161.4	-	690.1	-	212.3	-	121.4	-	-	-	1185.2
32	68.7	-	210.3	-	501.4	-	-	-	-	-	780.4
33	197.5	-	458.3	-	-	-	-	-	-	-	655.8
34	65.1	-	-	-	-	-	45.7	-	13.4	5.4	129.6
35	281.8	-	264.4	127.2	775.6	477.9	389.7	28.6	-	-	2345.2
36	56.8	-	40.8	39.8	451.4	70.7	214.1	-	-	-	873.6
37	335.2	-	120.5	105.6	-	-	363.3	54.8	-	-	979.4
38	576.9	65.1	72.4	126.3	960.5	561.4	599.5	27.5	-	-	2989.6

- Not detected