



AF Prevalence Trends

TRIANNUAL REPORT



Aspergillus fumigatus

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Introduction

Aspergillus fumigatus (AF) is a common invasive fungus that can be found in forages and feed ingredients. The DNA from AF is frequently found in blood and tissue samples from cows with hemorrhagic bowel syndrome (HBS). The Van Metre (2006) report states, “there are currently two hypotheses regarding its participation: 1) As a primary contributor to the intestinal lesion, or 2) as an agent that impairs the cow’s immune system.”

Puntenney (2003) reported that the growth of AF in feed was reduced when OmniGen® nutritional specialty product was mixed in the feed, due to its anti-fungal properties. Feeding OmniGen improved immune function in ruminants that consumed feed containing AF, providing evidence that enhanced immune function in cows fed OmniGen may help to overcome the effects of AF (Forsberg, 2006).

AF Testing

The Phibro Animal Health Corvallis Research Center tests feed, blood and tissue samples for the presence of DNA from AF using PCR technology. Testing for the presence of AF is a useful tool for screening feed samples to determine which feeds pose a higher risk of exposing cows to this fungus.

References

- Forsberg, N. E., Y. W. Yang. 2006. Nutrition and Immunity in Dairy Cattle: Implications to Hemorrhagic Bowel Syndrome. Proceedings Mid South Ruminant Nutrition Conference. 11-20.
 Puntenney, S. B., Y. W. Yang, N. E. Forsberg. 2003. Mycotic Infections in Livestock: Recent Insights and Studies on Etiology, Diagnostics, and Prevention of Hemorrhagic Bowel Syndrome. Proceedings of the Southwest Nutrition Conference. 49-63.
 Van Metre, D. C. 2006. Hemorrhagic Bowel Syndrome: an Update. Minnesota Dairy Health Conference. 81-87.



Contact a Phibro Advisor
for more details about
Aspergillus fumigatus or visit
[theOmniGenDifference.com](https://www.omnigen.com).

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Phibro Animal Health has tested more than 4,400 feed samples for the presence of AF since 2013. More than 20% of the feed samples tested by Phibro Animal Health had greater than 10,000 AF spores per gram of feed.

Historic AF Data

Year	Samples/Year	Number of Samples by Spores per Gram*						
		Negative	Traces	Positive 2+	Positive 3+	Positive 4+	Positive 5+	Positive 6+ or >
2013	365	144	38	34	42	41	32	34
2014	712	137	51	74	70	111	84	185
2015	413	85	173	63	38	24	14	16
2016	393	54	106	84	58	51	21	19
2017	503	80	189	112	58	33	16	15
2018	514	42	202	132	78	43	6	11
2019	172	29	79	30	17	7	6	4
2020	513	109	171	91	68	45	15	14
2021	540	77	157	82	81	81	42	20
2022	303	66	66	68	75	24	1	0
Total	4,428	823	1,232	770	585	460	237	318
	% of Samples	18.6	27.8	17.4	13.2	10.4	5.4	7.2

In the last 12 months, 529 feed samples were tested for AF at the Phibro Corvallis Research Center. More than 80% of these samples contained at least a trace of AF, and 8.3% of these samples contained more than 10,000 AF spores per gram.

Last 12 Months

Year/Quarter	Samples/Quarter	Number of Samples by Spores per Gram*						
		Negative	Traces	Positive 2+	Positive 3+	Positive 4+	Positive 5+	Positive 6+ or >
2021-Q3	177	19	75	37	31	12	2	1
2021-Q4	64	7	25	17	12	2	0	1
2022-Q1	113	26	25	25	23	13	1	0
2022-Q2	175	38	41	39	45	9	2	1
Total	529	90	166	118	111	36	5	3
	% of Samples	17.0	31.4	22.3	21.0	6.8	0.9	0.6

*Key: Negative, none detected; Traces, 1 to 500 spores detected; 2+, 501 to 2,500 spores detected; 3+, 2,501 to 10,000 spores detected; 4+, 10,001 to 50,000 spores detected; 5+, 50,001 to 250,000 spores detected; 6+, ≥250,000 spores detected.