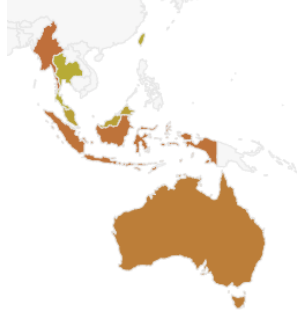




Mycotoxin Risk Alert

Survey Period : March 01 – 31, 2025

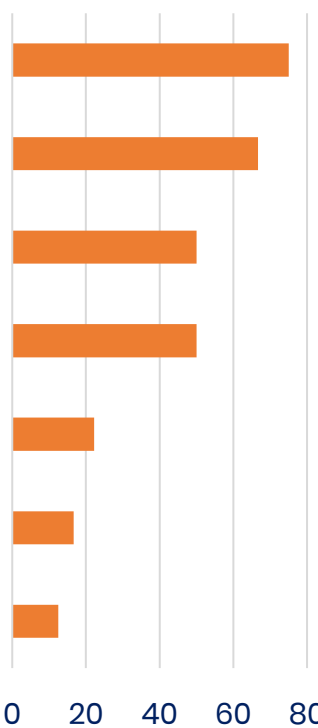
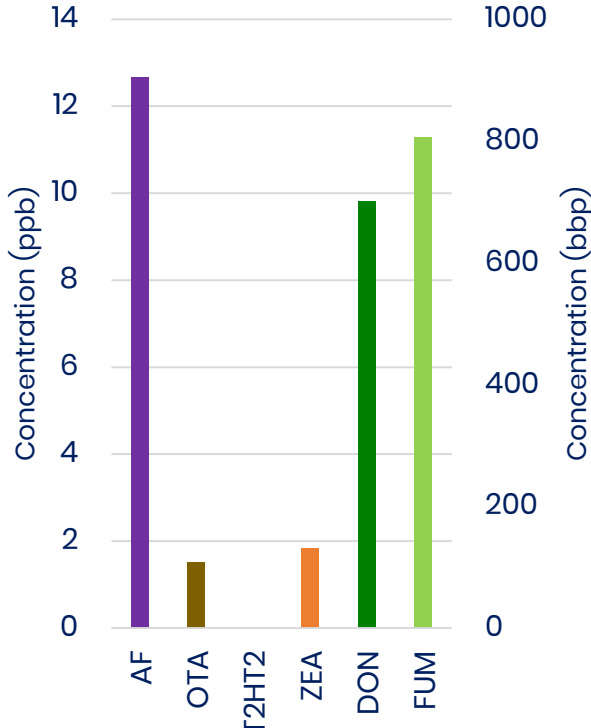
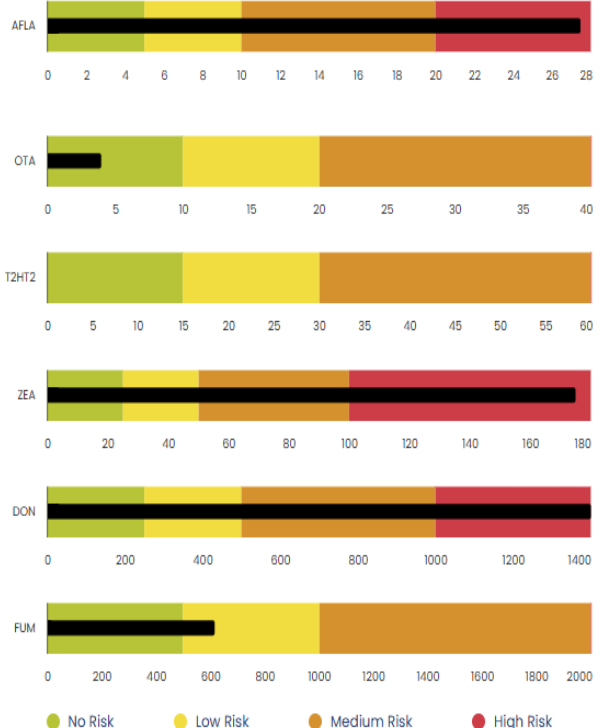
Supply chain – Quality control – Feed formulation

Country	Source	Analyses	Risk												
 Southeast Asia	 Feed mills, Farms, Integrators	 178	<div>Mycotoxin</div> <table><tr><td>AFLA</td><td>High</td></tr><tr><td>OTA</td><td>Safe</td></tr><tr><td>T2HT2</td><td>Safe</td></tr><tr><td>ZEA</td><td>High</td></tr><tr><td>DON</td><td>High</td></tr><tr><td>FUM</td><td>Low</td></tr></table>	AFLA	High	OTA	Safe	T2HT2	Safe	ZEA	High	DON	High	FUM	Low
AFLA	High														
OTA	Safe														
T2HT2	Safe														
ZEA	High														
DON	High														
FUM	Low														

- Tackling mycotoxin contamination in animal feeds
- Combining mycotoxin testing and impacts to livestock & ruminants with effective risk reduction measures
- Safeguarding animal health, enhancing productivity, and meeting safety regulations

Mycotoxins monitored in feed materials

Ensuring high-quality feed, animal health, sustainable farming practices

Feed material contamination (%)	Avg. mycotoxin concentration (ppb)	Mycotoxin risk																																						
 <table><tr><td>Soybean other</td><td>75</td></tr><tr><td>Meat & Bone meal</td><td>68</td></tr><tr><td>Soybean meal</td><td>52</td></tr><tr><td>Ground nut products</td><td>51</td></tr><tr><td>Rice bran defat.</td><td>22</td></tr><tr><td>Wheat bran</td><td>18</td></tr><tr><td>Maize</td><td>12</td></tr></table>	Soybean other	75	Meat & Bone meal	68	Soybean meal	52	Ground nut products	51	Rice bran defat.	22	Wheat bran	18	Maize	12	 <table><tr><td>AF</td><td>12.6</td></tr><tr><td>OTA</td><td>1.5</td></tr><tr><td>T2HT2</td><td>0.1</td></tr><tr><td>ZEA</td><td>130.3</td></tr><tr><td>DON</td><td>700</td></tr><tr><td>FUM</td><td>800</td></tr></table>	AF	12.6	OTA	1.5	T2HT2	0.1	ZEA	130.3	DON	700	FUM	800	 <table><tr><td>AFLA</td><td>High Risk</td></tr><tr><td>OTA</td><td>Low Risk</td></tr><tr><td>T2HT2</td><td>Low Risk</td></tr><tr><td>ZEA</td><td>High Risk</td></tr><tr><td>DON</td><td>High Risk</td></tr><tr><td>FUM</td><td>Low Risk</td></tr></table>	AFLA	High Risk	OTA	Low Risk	T2HT2	Low Risk	ZEA	High Risk	DON	High Risk	FUM	Low Risk
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<div>Summary</div> <ul style="list-style-type: none">○ 75 analyses on feed raw materials○ Over 50% of soybean products and meat and bone meals were contaminated with mycotoxins○ Followed by soybean meal and groundnut products○ Defatted rice bran, wheat bran, and maize exhibited lower levels of mycotoxin contamination	<div>Summary</div> <p>Analyzed mycotoxin levels in feed components resulted on average in a high mycotoxin risk for AF (12.6ppb), ZEA (130.3ppb) and DON (700ppb). This is essential to</p> <ul style="list-style-type: none">○ consider possible mycotoxin impacts on livestock and ruminant production and, to○ decide for proactive strategies incorporating mycotoxin mitigators into tailored feed formulations.	<div>Summary</div> <p>Commercial AF-ZEA-DON impacts lead to</p> <ul style="list-style-type: none">○ Significant challenges as to lower feed efficiency, growth rates, and reproductive performance○ Increased costs (higher feed, veterinary & treatments costs)○ Reduced market access & reputation reduction○ Reduced farm profitability																																						

Mycotoxin impacts

Aflatoxins (AFLA)	Liver damage, Immunosuppression, transmission to milk, eggs, meat
Zearalenone (ZEA)	Immunosuppression, vaginal prolapse, infertility, heifer abnormalities
Deoxynivalenol (DON)	Impaired gut & liver, tight junction damage, feed refusal

Mycotoxin Interaction

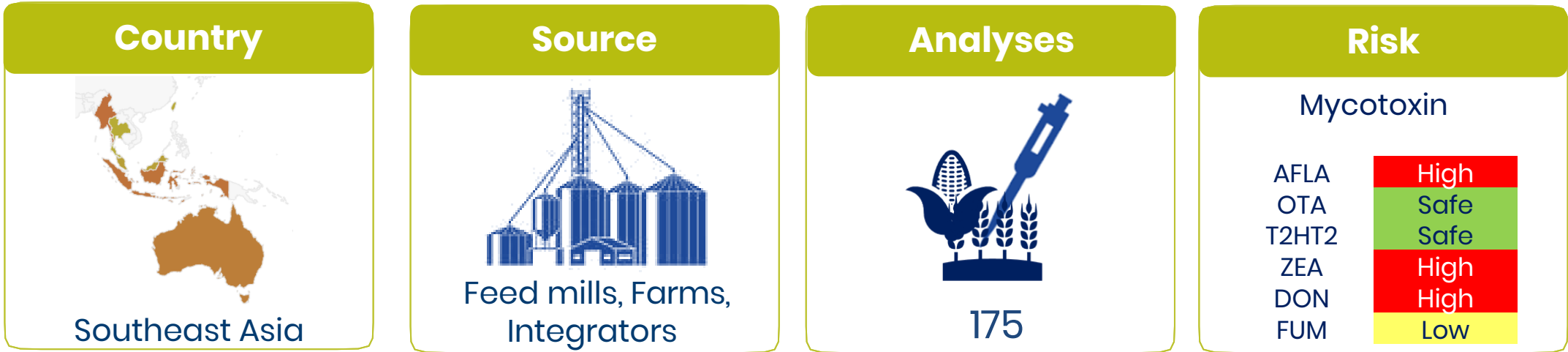
- ❖ Swine are the most sensitive species to DON and ZEA
- ❖ Poultry are sensitive to DON and AFLA, especially at young ages
- ❖ Although dairy cows can detoxify some toxins, chronic exposure still affects health and performance
- ❖ Consider synergistic mycotoxin impacts occurring when the combined effects of two mycotoxins are greater than the individual effects of each toxin alone (1+1 >2)



Mycotoxin Risk Alert

Survey Period : March 01 – 31, 2025

Survey Landscape





- Tackling mycotoxin contamination in animal feeds
- Combining mycotoxin testing and impacts to livestock & ruminants with effective risk reduction measures
- Safeguarding animal health, enhancing productivity, and meeting safety regulations

Mycotoxin feed risks for animal types



Recommendation

	TOXO-MX Mycotoxin binder	Poultry & swine Ruminant	2.0kg/mt 60g/h/d
	TOXO-XL Mycotoxin control	Poultry & swine Ruminant	1.5kg/mt 45g/h/d

- **Toxo-XL** recommendation during high mycotoxin risks for long living animal types (layer, breeder, sows, cows so as young animals during sensitive growth stages (broiler, piglets, calves)
- **Toxo-MX** recommendation for grower/finisher, cattle during low mycotoxin contamination risks

Mycotoxin Interaction

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- ❖ Poultry are sensitive to DON and AFLA, especially at young ages
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