



FROM THE SAMPLING TO THE DATABASE

COMPETENCE FOR SAMPLING
Every company that produces or trades feed must participate in the Feed Monitoring. The feed companies can draw the required samples by themselves (except farmers). This may appear critical at first glance, however it provides security through the cross-stage approach of the QS scheme, as every stage draws samples both when raw goods are received and when finished goods are shipped. In this way, the supply chain mutually controls itself. Sampling in agriculture is organised by the coordinators. Samples in agricultural companies must always be drawn by third parties. Usually the auditors draw the feed samples during inspections. A fundamental rule is that only qualified persons are allowed to draw samples.

HIGH REQUIREMENTS PROFILE FOR LABORATORIES
Only laboratories with QS recognition may be commissioned with analysis within the scope of QS feed monitoring. For a laboratory to acquire recognition, it must have an accreditation in accordance with the standard EN ISO/IEC 17025 and must also be able to prove that participation in ring trials on the parameters prior to recognition. Furthermore, a laboratory must demonstrate that it masters the test methods prescribed by QS and provide a list with parameters and their detection limits, as well as measurement uncertainty for the area of feed. To retain QS recognition, all laboratories are obliged to provide evidence of participation in ring trials for the parameters recognised by QS.

Maximum level exceeded: The batch must be blocked as the product is no longer marketable and may not be fed to animals. The scheme participant must also report the circumstances to the QS head office with the assistance of the paper of incident.
Action threshold exceeded: If an action threshold is exceeded, the company must closely examine its processes to establish the causes and introduce measures, but the product may remain on the market. A report on the circumstances to QS is mandatory.
Guidance value exceeded: If the QS guidance value, which is established for selected substances and certain animals (e.g. Aflatoxin B1 with dairy cattle) is exceeded, a restriction is imposed in the QS scheme: whereby although the product remains marketable, it may not be traded freely in all instances. The circumstances must be reported to the QS head office (paper of incident), which coordinates with the scheme participant on how to proceed further.
If there are positive findings of salmonella, antibiotic active substances and animal components, the company must report the circumstances to QS (paper of incident). A differentiation of serovar, antibiotic active substance and animal species is necessary.
If the EU guidance value has been exceeded for DON, ZEA or OTA, it is not mandatory to report to QS, but internal measures must be taken within the company to determine and document how the goods are handled.
Note: In addition to the obligation to report to QS, there are also obligations to report to the local feed monitoring authority.

Obligation to report incidents to QS

RISK-ORIENTATED CONTROL PLANS
Within QS feed monitoring, there is a large number of different control plans which are specifically customised to each sector. The control plans are checked regularly and can be adapted, as soon as there is a need to react to current developments and occurrences in the market. The analysis results also flow into the preparation of control plans, of course. If products are conspicuous in a negative way, the inspection frequency is increased. If numerous examinations show a low risk, then the inspection frequency is decreased.

Facts an information around the QS feed monitoring

Qualitätssicherung. Vom Landwirt bis zur Ladentheke.

MONITORING-REPORT

Figures & facts on contaminants in feed

Edition 2018

POSTER



www.q-s.de

MONITORING-REPORT 2018



Figures & Facts on contaminants in feed

Around 3.5 million individual analyses were evaluated for the Monitoring Report 2018 – over 450,000 analyses more compared to the previous year. We have updated figures and facts about contaminants of feed for you. The comparison with the Monitoring Report 2017 shows that particularly in the case of **Aflatoxin B1** (+22 %) and **Salmonella** (+30 %), the number of exceedances or rather the amount of positive findings is increased.

In order to interpret the results correctly, the corresponding measured value ranges of each analysis' result are shown. They support you in relating the results to the limit values of every feed.

➤ Using this poster, you can compare the analysis results with your own feed.

Data basis: Analysis results of QS feed monitoring from January 2008 to June 2018

Aflatoxin B1			
Parameter	Number of analysis	Number of exceedances (max. level)	Feed/ raw material
Aflatoxin B1	39,279 Of the 39,279 analysis, a value was present in 3,764 (9.6 %)	11 in total 9 1 1	Maize Maize gluten meal Milk performance feed

Analysis results for Aflatoxin B1 in detail			
Feed	Result	Result	Result
Feed Material Of the 3,095 analysis for which a value was detected, the results were as follows ...	0-10 µg/kg 2,946 between 0 and 10 µg/kg	> 10-20 µg/kg 140 between 10 and 20 µg/kg	> 20 µg/kg 9 over 20 µg/kg
Compound Feed Of the 669 analysis for which a value was detected, the results were as follows ...	0-5 µg/kg 658 between 0 and 5 µg/kg	> 5-10 µg/kg 10 between 5 and 10 µg/kg	> 10 µg/kg 1 over 10 µg/kg was detected

Deoxynivalenol (DON)			
Parameter	Number of analysis	Number of exceedances (EU guidance value)	Feed/ raw material
DON	49,132 Of the 49,132 analysis, a value was detected in 24,920 (50.7 %)	74 in total	
		21	Self-mixed feed for fattening pigs/sows/piglets
		13	Complete feed for sows
		17	Complete feed for fattening pigs
		5	Piglet rearing feed
		8	Supplementary feed for sows/piglets/fattening pigs
		6	Maize (plants)
		1	Wheat
		2	Oats
		1	Maize gluten

Analysis results for DON in detail			
Feed	Result	Result	Result
Feed Material Of the 15,820 analysis for which a value was detected, the results were as follows ...	0-5 mg/kg 15,625 between 0 and 5 mg/kg	> 5-8 mg/kg 122 between 5 and 8 mg/kg	> 8 mg/kg 73 over 8 mg/kg
Compound Feed Of the 9,100 analysis for which a value was detected, the results were as follows ...	0-0.9 mg/kg 8,853 between 0 and 0.9 mg/kg	> 0.9 mg/kg 247 over 0.9 mg/kg	

Zearalenone (ZEA)			
Parameter	Number of analysis	Number of exceedances (EU guidance value)	Feed/ raw material
ZEA	45,557 Of the 45,557 analysis, a value was detected in 16,679 (36.6 %)	31 in total	
		8	Piglet rearing feed
		8	Maize (plants)
		1	Triticale
		4	Self-mixed pig fattening feed
		2	Self-mixed cattle-fattening feed
		4	Supplementary feed for fattening pigs
		3	Complete feed for sows/fattening pigs
		1	Distillery spent wash

Analysis results of ZEA in detail			
Feed	Result	Result	Result
Feed Material Of the 9,121 analysis for which a value was detected, the results were as follows ...	0-1 mg/kg 8,955 between 0 and 1 mg/kg	> 1-2 mg/kg 95 between 1 and 2 mg/kg	> 2 mg/kg 71 over 2 mg/kg
Compound Feed Of the 7,558 analysis for which a value was detected, the results were as follows ...	0-0.1 mg/kg 7,210 between 0 and 0.1 mg/kg	> 0.1 mg/kg 348 over 0.1 mg/kg	

Dioxins, dioxin-like PCBs (dl PCB) and non-dioxin-like PCBs (ndl PCB)				
Parameter	Number of analysis	No. of exceedances (max. level)	No. of exceedances (guidance value/ action threshold)	Feed/ raw material
Dioxins and dl PCB	76,672	12 in total	8 in total	
Dioxins	Of the 30,599 analysis, a value was detected in 28,118 (91.9 %)	1	1	(Sugar) beet molasses chips, (sugar) beet small pieces
		2	1	Fatty acids from the chemical refining (refinery fatty acids)
		2	-	Fruit marc
		-	1	Fatty acid salts
		-	1	By-products of the milk-processing industry
		2	-	Fish oil
		1	-	Supplementary feed for all species
		-	1	Mineral supplementary feed for cattle
		-	1	Calcareous marine algae
dl PCB	Of the 27,927 analysis, a value was detected in 23,498 (84.1 %)	-	1	(Sugar) beet molasses chips
			1	Walnut expeller
Total dioxins and dl PCB	Of the 18,146 analysis, a value was detected in 14,952 (82.4 %)	1	-	Fatty acids from the chemical refining (refinery fatty acids)
		1	-	Shrimps
		1	-	Fish oil
		1	-	Fruit marc
ndl PCB	24,620	1 in total		
	Of the 24,620 analysis, a value was detected in 15,023 (61.0 %)	1	-	Compound fatty acids

Analysis results for dioxins, dioxin-like PCBs and non-dioxin-like PCBs in detail				
Parameter	Result	Result	Result	
Dioxins	Of the 28,118 analysis for which a value was detected, the results were as follows ...	0-0.25 ng/kg 26,249 between 0 and 0.25 ng/kg	> 0.25-0.5 ng/kg 1,490 between 0.25 and 0.5 ng/kg	> 0.5 ng/kg 379 over 0.5 ng/kg
dl PCB	Of the 23,498 analysis for which a value was detected, the results were as follows ...	0-0.25 ng/kg 22,446 between 0 and 0.2 ng/kg	> 0.2-0.35 ng/kg 499 between 0.2 and 0.35 ng/kg	> 0.35 ng/kg 553 over 0.35 ng/kg
Total Dioxins + dl PCB	Of the 14,952 analysis for which a value was detected, the results were as follows ...	0-0.5 ng/kg 14,187 between 0 and 0.5 ng/kg	> 0.5-1.0 ng/kg 395 between 0.5 and 1.0 ng/kg	> 1.0 ng/kg 370 over 1.0 ng/kg
ndl PCB	Of the 15,023 analysis for which a value was detected, the results were as follows ...	0-5 µg/kg 14,154 between 0 and 5 µg/kg	> 5-10 µg/kg 482 between 5 and 10 µg/kg	> 10 µg/kg 387 over 10 µg/kg

Salmonella			
Parameter	Total number of analysis	No. of positive findings	Feed/ raw material
Salmonella	81,443	105 in total	
	105 of the 81,443 samples tested positive (0.1 %)	13	Pig feed
		15	Rapeseed meal, cake
		23	Soya (bean) cake, peel, meal
		12	Dairy cattle, cattle feed
		6	Sunflower seed, cake, meal
		10	Poultry feed
		5	Cocoa shells
		21	Various feed materials

Heavy metals			
Parameter	Number of analysis	Number of exceedances (max. level) ...	Feed/ raw material
Heavy metals	192,465	22 in total	
Arsenic	Of 47,364 analysis, a value was detected in 15,402 (32.5 %)	1	Supplementary feed for pigs
		1	Supplementary feed for fattening pigs
		1	Shrimps
		1	Yeast
Lead	Of 48,899 analysis, a value was detected in 21,691 (44.4 %)	1	Complete feed for fattening pigs (up to 50 kg)
		2	Calcium carbonate
		1	Yeast
		1	Compounds of trace elements
Cadmium	Of 48,735 analysis, a value was detected in 31,234 (64.1 %)	1	Cocoa shells
		3	Growing crops on permanent grassland (fresh, silaged or dried)
		1	Shrimps
		1	Supplementary feed for pigs
		1	Supplementary feed for all species
		1	Supplementary feed for dairy cattle
Mercury	Of 47,467 analysis, a value was detected in 4,069 (8.6 %)	3	Yeast
		1	Supplementary feed for pig
		1	Emulsifiers

Analysis results for heavy metals in detail			
Parameter	Result	Result	
Arsenic	Of the 15,402 analysis for which a value was detected, the results were as follows ...	0-1 mg/kg 12,219 between 0 and 1 mg/kg	> 1 mg/kg 3,183 over 1 mg/kg
Lead	Of the 21,691 analysis for which a value was detected, the results were as follows ...	0-5 mg/kg 20,881 between 0 and 5 mg/kg	> 5 mg/kg 810 over 5 mg/kg
Cadmium	Of the 31,234 analysis for which a value was detected, the results were as follows ...	0-1 mg/kg 30,682 between 0 and 1 mg/kg	> 1 mg/kg 552 over 1 mg/kg
Mercury	Of the 4,069 analysis for which a value was detected, the results were as follows ...	0-0.05 mg/kg 3,705 between 0 and 0.05 mg/kg	> 0.05 mg/kg 364 over 0.05 mg/kg