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FACTS & FIGURES ON CONTAMINANTS IN FEED

QS. Ihr Prüfsystem für Lebensmittel.

Compare the analysis results of your own feed

The document provides an overview of the analytical results from the QS feed monitoring. These can be used to to compare them with your own analysis results. In order to be able to classify the results correctly, the corresponding measured value ranges of the respective analysis results are represented. They serve as an orientation guide: The results can be set in relation to the limit values for the different feeds.

Basis: Analysis results of the QS feed monitoring from January 2008 to June 2021

Zearalenone (ZEA)

Parameter	Number of analyses	thereof analyses where value was detected	Number of exceedances (EU guidance value)	Feed/ raw material
Zearalenone (ZEA)	**61,467**	**20,981 (34.1 %)**	**39**	**total**
			9	Piglet rearing feed
			8	Maize (plants)
			7	Complete feed for fattening pig/sows
			5	Supplementary feed for for fattening pigs/sows/piglets
			5	Self mixed feed for fattening pigs/piglets
			2	Self mixed feed for fattening cattle
			1	Triticale
			1	Distillery spent wash
			1	Supplementary feed for all species

Analysis results with values above limit of quantitation/limit of detection

Feed	Analyses	Result	Result	Result
		0-1 mg/kg	> 1-2 mg/kg	> 2 mg/kg
Feed Material	11,722	11,511	128	83
		0-0.1 mg/kg	> 0.1 mg/kg	
Compound Feed	9,259	8,842	417	

Ochratoxin A (OTA)

Parameter	Number of analyses	thereof analyses where value was detected	Number of exceedances (EU guidance value)	Feed/ raw material
Ochratoxin A (OTA)	**9,494**	**1,101 (11.6 %)**	**no exceedances**	

Analysis results with values above LOD/LOQ

Feed	Analyses	Result	Result	Result
		0-0.1 mg/kg	> 0.1-0.25 mg/kg	> 0.25 mg/kg
Feed Material	572	568	3	1
		0-0.02 mg/kg	> 0.02 - 0.05 mg/kg	> 0.05 mg/kg
Compound Feed	529	525	4	0

Time period since 01.07.2016

Aflatoxin B1

Parameter	Number of analyses	thereof analyses where value was detected	Number of exceedances (max. level)	Feed/ raw material
Aflatoxin B1	**53,201**	**5,052 (9.5 %)**	**14**	**total**
			10	Maize
			2	Milk performance feed
			1	Maize gluten
			1	Rice protein

Analysis results with values above LOD/LOQ

Feed	Analyses	Result	Result	Result
		0-10 µg/kg	> 10-20 µg/kg	> 20 µg/kg
Feed Material	4,253	4,064	178	11
		0-5 µg/kg	> 5-10 µg/kg	> 10 µg/kg
Compound Feed	799	786	11	2

Deoxynivalenol (DON)

Parameter	Number of analyses	thereof analyses where value was detected	Number of exceedances (EU guidance value)	Feed/ raw material
Deoxynivalenol (DON)	**66,356**	**32,787 (49.4 %)**	**84**	**total**
			28	Self-mixed feed for fattening pigs/sows/piglets
			18	Complete feed for fattening pig
			14	Complete feed for sows
			8	Supplementary feed for fattening pigs/sows/piglets
			6	Maize (plants)
			5	Piglet rearing feed
			2	Oats
			1	Wheat
			1	Maize gluten
			1	Barley middlings

Analysis results with values above LOD/LOQ

Feed	Analyses	Result	Result	Result
		0-5 mg/kg	> 5-8 mg/kg	> 8 mg/kg
Feed Material	21,518	21,304	135	79
		0-0.9 mg/kg	> 0.9 mg/kg	
Compound Feed	11,268	10,995	273	

Dioxins, dioxin-like PCBs (dl PCB) and non-dioxin-like PCBs (ndl PCB)

Parameter	Number of analyses	thereof analyses where value was detected	Number of exceedances (max. level)	Number of exceedances (action threshold)	Feed/raw material
Dioxins	**41,280**	**37,666 (91.2 %)**	**8**	**11**	**total**
			2	1	Fatty acids from chemical refining
			2	1	Fruit pulp
			2	0	Fish oil
			1	1	(Sugar) beet molassed pulp, (sugar) beet tops and tails
			1	1	Supplementary feed for all species
			0	2	Calcium carbonate
			0	1	Salts from fatty acids
			0	1	By-products of the milkprocessing industry
			0	1	Mineral rich supplementary feed for cattle
			0	1	Calcareous marine algae
			0	1	Potato peels
dl PCB	**40,127**	**34,268 (85.4 %)**	**–**	**2**	**total**
			–	1	(Sugar) beet molassed pulp
			–	1	Walnut expeller
Sum of dioxins dl PCB	**23,168**	**19,453 (84 %)**	**4**	**–**	**total**
			1	–	Fatty acids from chemical refining
			1	–	Shrimps
			1	–	Fish oil
			1	–	Fruit pulp
ndl PCB	**36,268**	**24,392 (67.3 %)**	**1**	**–**	**total**
			1	–	Blends of fatty acids

Analysis results with values above LOD/LOQ

Parameter	Analyses	Result	Result	Result
		0-0.25 ng/kg	> 0.25-0.5 ng/kg	> 0.5 ng/kg
Dioxins	37,666	35,551	1,720	395
		0-0.2 ng/kg	> 0.2-0.35 ng/kg	> 0.35 ng/kg
dl PCB	34,268	32,964	687	617
Sum of dioxins and dl PCB	19,453	0-0.5 ng/kg 18,643	> 0.5-1.0 ng/kg 435	> 1.0 ng/kg 375
		0-5 µg/kg	> 5-10 µg/kg	> 10 µg/kg
ndl PCB	24,392	23,325	680	387

Heavy metals

Parameter	Number of analyses	thereof analyses where value was detected	Number of exceedances (max. level)	Feed/ raw material
Arsenic	**65,292**	**20,816 (31.9 %)**	**4**	**total**
			1	Supplementary feed for pigs
			1	Supplementary feed for fattening pigs
			1	Shrimps
			1	Yeast
Lead	**66,871**	**29,186 (43.6 %)**	**5**	**total**
			2	Calcium carbonate
			1	Complete feed for fattening pigs
			1	Yeast
			1	Compounds of trace elements
Cadmium	**66,701**	**42,875 (64.3 %)**	**8**	**total**
			3	Permanent pasture products (fresh, silaged or tried)
			1	Cacao husks
			1	Shrimps
			1	Supplementary feed for pigs
			1	Supplementary feed for all species
			1	Supplementary feed for dairy cattle
Mercury	**65,387**	**5,346 (8.2 %)**	**5**	**total**
			3	Yeast
			1	Supplementary feed for fattening pigs
			1	Emulsifiers

Analysis results with values above LOD/LOQ

Feed	Analyses	Result	Result
		0-1 mg/kg	> 1 mg/kg
Arsenic	20,816	16,491	4,325
		0-5 mg/kg	> 5 mg/kg
Lead	29,186	28,081	1,105
		0-1 mg/kg	> 1 mg/kg
Cadmium	42,875	42,168	707
		0-0.05 mg/kg	> 0.05 mg/kg
Mercury	5,346	4,905	441

Salmonella

Parameter	Number of analyses	thereof tested positive	Feed/ raw material
Salmonella	**112,219**	**151 (0.1 %)**	**total**
		32	Various feed materials (i.a. fish meal, barley, wheat, green meal)
		28	Soya(bean) -cake, -hulls, -extraction meal
		23	Pig feed
		22	Rapeseed, -cake, -extraction meal
		16	Poultry feed
		14	Dairy cattle feed, cattle feed
		10	Sunflowerseed, -cake, -extraction meal
		6	Cacao husks

Packaging material

Parameter	Number of analyses	thereof analyses where value was detected	Number of exceedances (max. level)	Feed/ raw material
Packaging-material	**530**	**171 (32.3 %)**	**5**	**total**
			2	Products and byproducts from the baking and pastry industry
			2	Supplementary feed for pigs
			1	Former foodstuff

Analysis results with values above LOD/LOQ

Feed	Analyses	Result	Result	Result
		0-1500 mg/kg	> 1500-2000 mg/kg	> 2000 mg/kg
Feed Material	143	136	4	3
		0-1500 mg/kg	> 1500-2000 mg/kg	> 2000 mg/kg
Compound Feed	28	26	0	2

Time period since 01.07.2016

Hydrocyanic acid

Parameter	Number of analyses	thereof analyses where value was detected	Number of exceedances (max. level)	Feed/ raw material
Hydrocyanic acid	**98**	**74 (75.5 %)**	**no exceedances**	

Time period since 01.07.2018

Analysis results with values above LOD/LOQ

Feed	Analyses	Result	Result	Result
		0-50 mg/kg	> 50-250 mg/kg	> 250 mg/kg
Feed Material	69	20	36	13