



Federal Ministry
of Food
and Agriculture

Experiences and what do we learn from incidents

Dioxin - Symposium

Brazil, 19 – 20 December 2016

Dr. Sabine Kruse

1998 – Dioxins in Citrus Pulp from Brazil

Milk - monitoring



92 000 t citrus pulp pellets
up to 147 ng PCDD/F
WHO-TEQ/kg

7,4 pg PCDD/F WHO-TEQ/g fat
(German guidance value < 0,9 pg
PCDD/F WHO-TEQ/kg fat)



Industrial used lime
up to 2500 ng PCDD/F
WHO-TEQ/kg



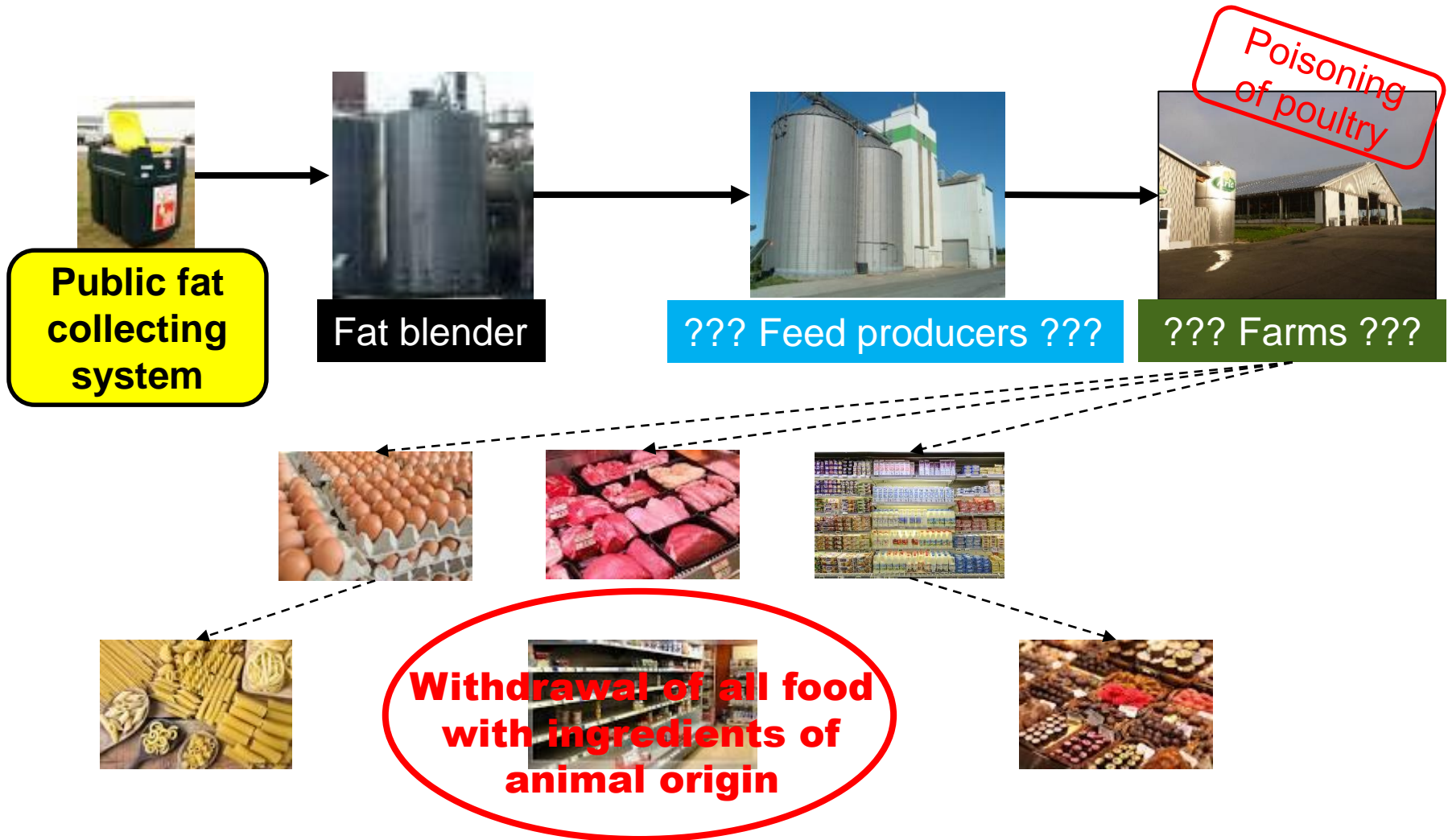
Citrus pulp production



Dioxin/PCB Incidents and Reactions

Year	Dioxins/PCB in	Source	Measures
1998	Citrus pulp	Processing aid (lime)	Maximum level for citrus pulp
1999	Feed fat	Used cooking oil contaminated with PCB	Risk analysis/Precautionary principle Traceability Mandatory notification of unsafe feed HACCP-Principles Ban of used cooking oil as feed
1999	Kaolinite	Geological origin	Maximum levels for some binders, anti-caking agents and coagulants
2003	Dried food waste	Incorrect direct drying process	Authorisation of establishments using direct drying for food waste
2006	Gelatine	Hydrochloric acid (HCl)	none
2007	Guar gum	Pentachlorophenol	Import Regulation for guar gum
2010	Fatty acids	Industrial by product	Authorisation of feed fat producers Mandatory dioxin – monitoring Mandatory insurance

1999 – Dioxins/PCB in Feed Fat





Dioxin/PCB Incidents and Reactions





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1999 – Dioxins in Kaolinite

Geological origin
up to 2000
ng
PCDD/F
WHO -
TEQ/kg
product

Clay pit



??? Feed producers ???



100 - 650 ng PCDD/F
WHO-TEQ/kg product

Differentiation based
on the characteristic
„finger print“ of dioxins
in kaolinite



**Milk -
monitoring**



??? Farms ???



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1999/2004 – Dioxins in Dried Products



Bakery waste

Drying plant with direct dryer



Illegal use of treated wood (PCP and PCB) as burning material



2100 t dried bakery waste up to 13 ng PCDD/F WHO-TEQ/ kg




More than 300 of farms

3000 pigs were killed



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2006 – Dioxins in Gelatine



Producer of gelatine




2,8 ng PCDD/F
WHO -TEQ / kg
product

Defect of the filter equipment
in the production process of
hydrochloride acid



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2007 – Dioxins in Guar gum




480 ng
PCDD/F-
WHO-TEQ/kg
and
4 mg
pentachloro-
phenol (PBP)/
kg product



**Self-monitoring
of guar gum
from India**



Dioxin/PCB Incidents and Reactions

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2010 – Dioxins in Fatty acids

Biodieselproducer



200 t of fatty acids
up to 65 ng
PCDD/F- WHO
TEQ/kg

“mixed fatty acids
from raffinate for
technical use“

Fat blender



Producer of
fat for feed
use and for
technical use





25 Compound feed producer



5000 farms



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What do we learn from incidents?



**Feed
ingredients**



**The compound
feed producer
don't "produce"
dioxins or PCBs !**

- ✓ Select reliable suppliers!
- ✓ Check your suppliers regularly!
- ✓ Monitor the production process of feed ingredients!
- ✓ Be cautious whenever raw materials, processing aids or production methods of feed ingredients change!
- ✓ Select your feed ingredients based on risk assessment!
- ✓ Establish positive or negative lists!
- ✓ Be careful if unusually low prices for feed ingredients are offered!
- ✓ Take retained samples from each feed ingredient and analyse them risk based!
- ✓