

Persistent Organic Pollutants, POPs

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Persistent Organic Pollutants, POPs



- **Intentionally formed compounds**
 - Pesticides
 - Pharmaceuticals
 - Chemicals
- **Unintentionally formed compounds**
 - By-products
 - Transformation and degradation products
 - Combustion residues, exhaust gases



Persistent Organic Pollutants, POPs



- Intentionally formed compounds
 - Hexachlorobutadiene, PCBs, PCNs, Pentachlorobenzene, SCCP
 - Polyflourinated compounds (PFOS)
 - Brominated flame retardants
 - Pesticides
 - DDT, Aldrin, Chlordane, Clordecone, Dieldrin, Endrine, HCH, Heptachlor, Hexachlorobenzene, Mirex, Toxaphene



Persistent Organic Pollutants, POPs



- **Unintentionally formed compounds**
 - Dioxins
 - PAHs
 - Hexachlorobenzene
 - PCBs
 - Brominated dioxins
 - Etc.

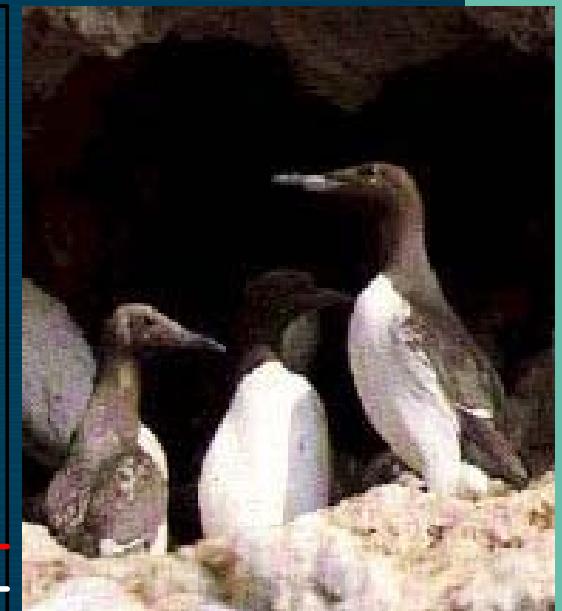
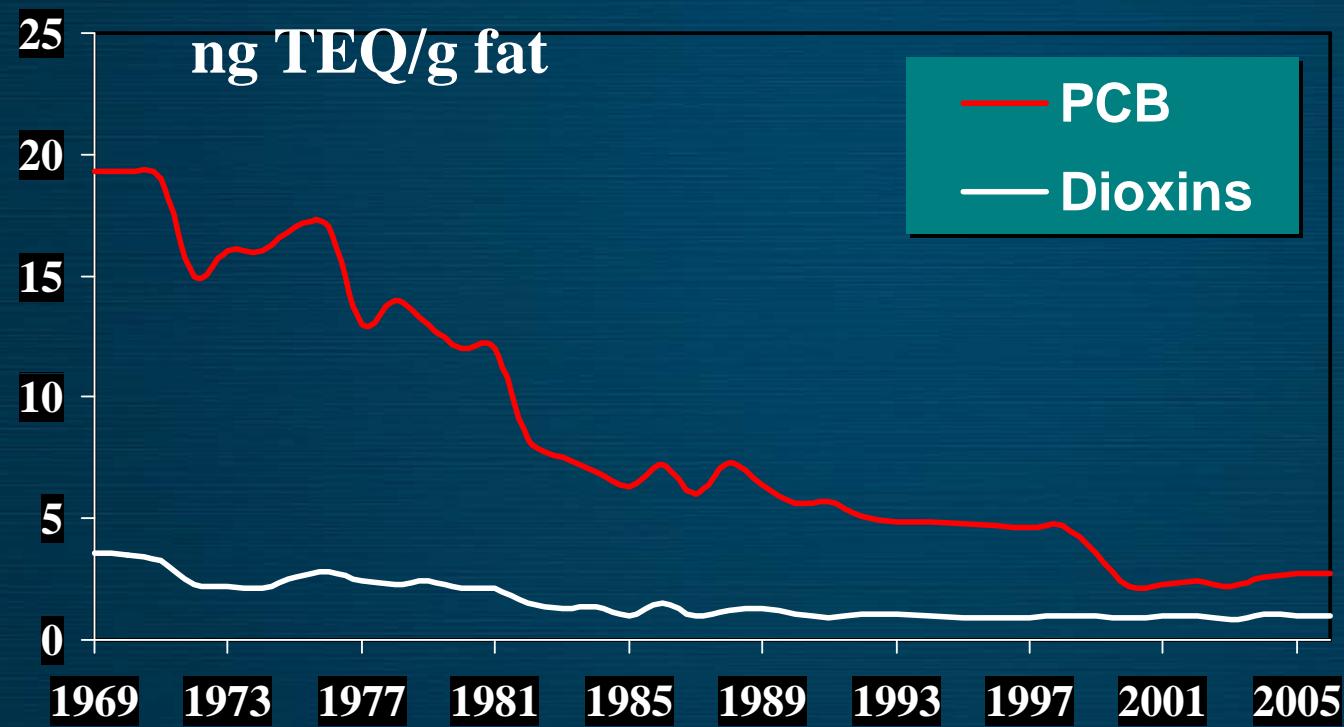


Consequences of high persistancy

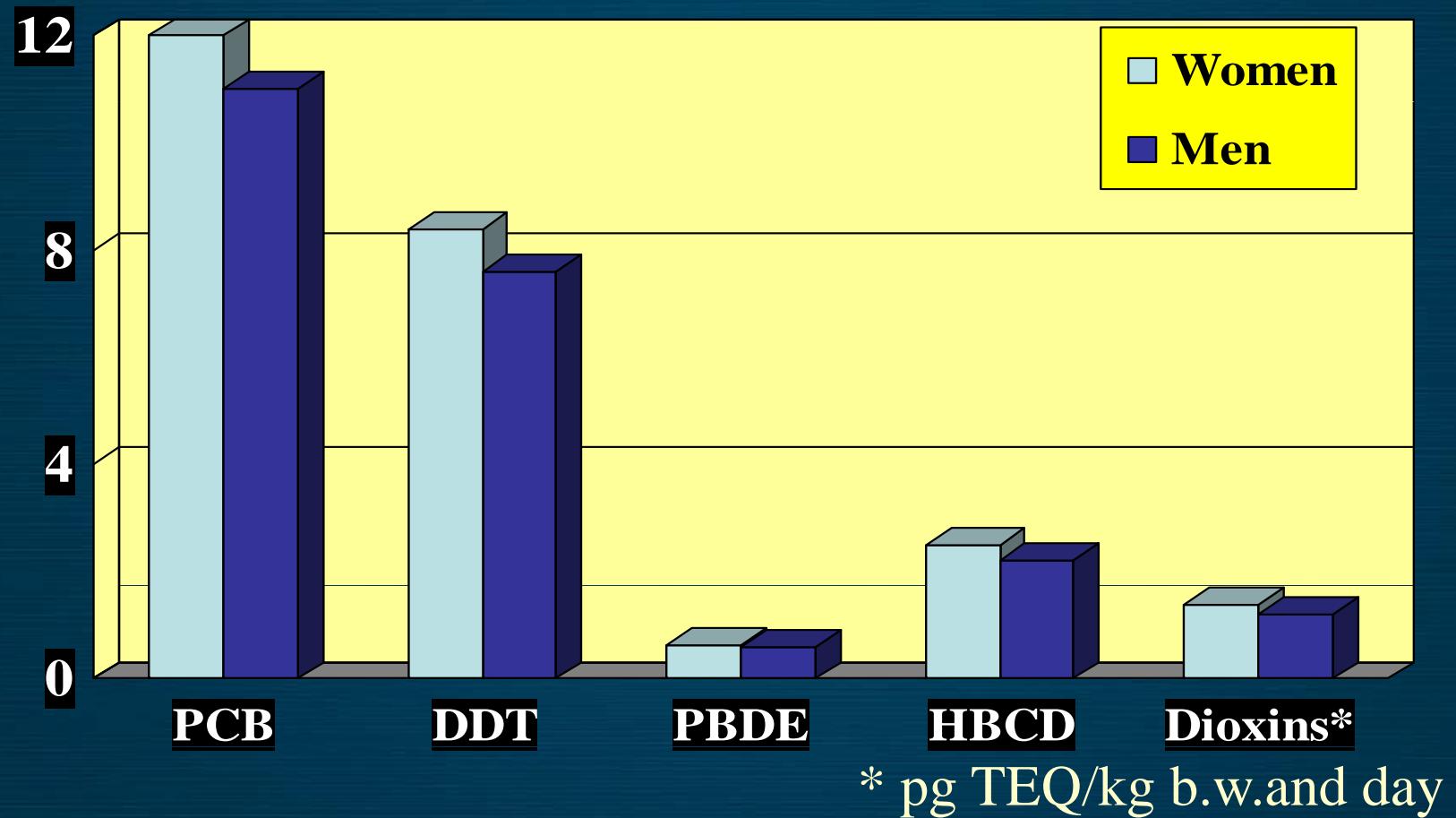
- Remains in the environment for decades or more
- Distributed not only locally but also over long distances
- Eventually accumulated in certain compartments in the environment
- Long exposure times
- Also effective actions will only slowly lead to improvements



Dioxins and PCBs in Guillemot



Alimentary exposure POPs, ng/kg b.w. and day

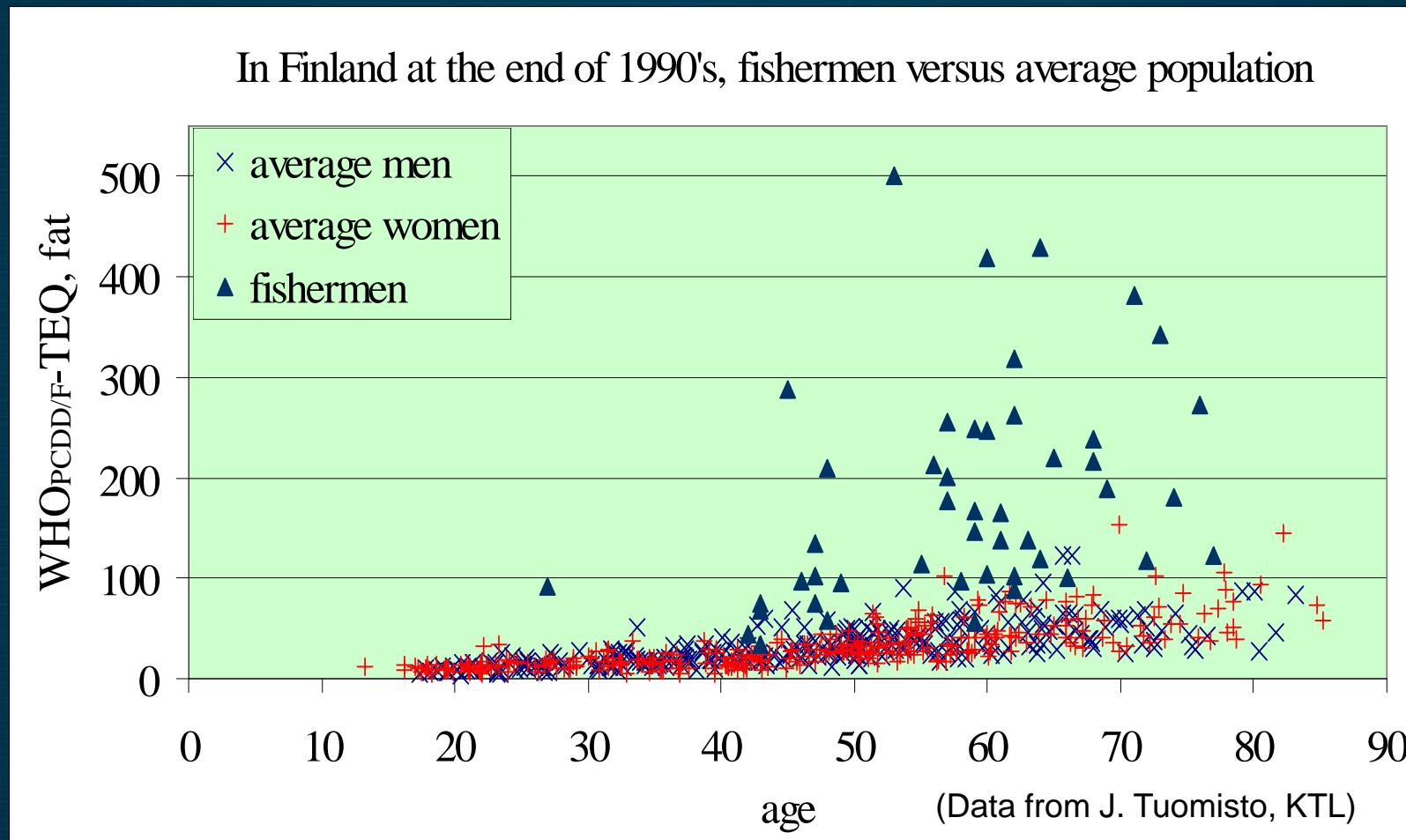


Important factors for POPs burden

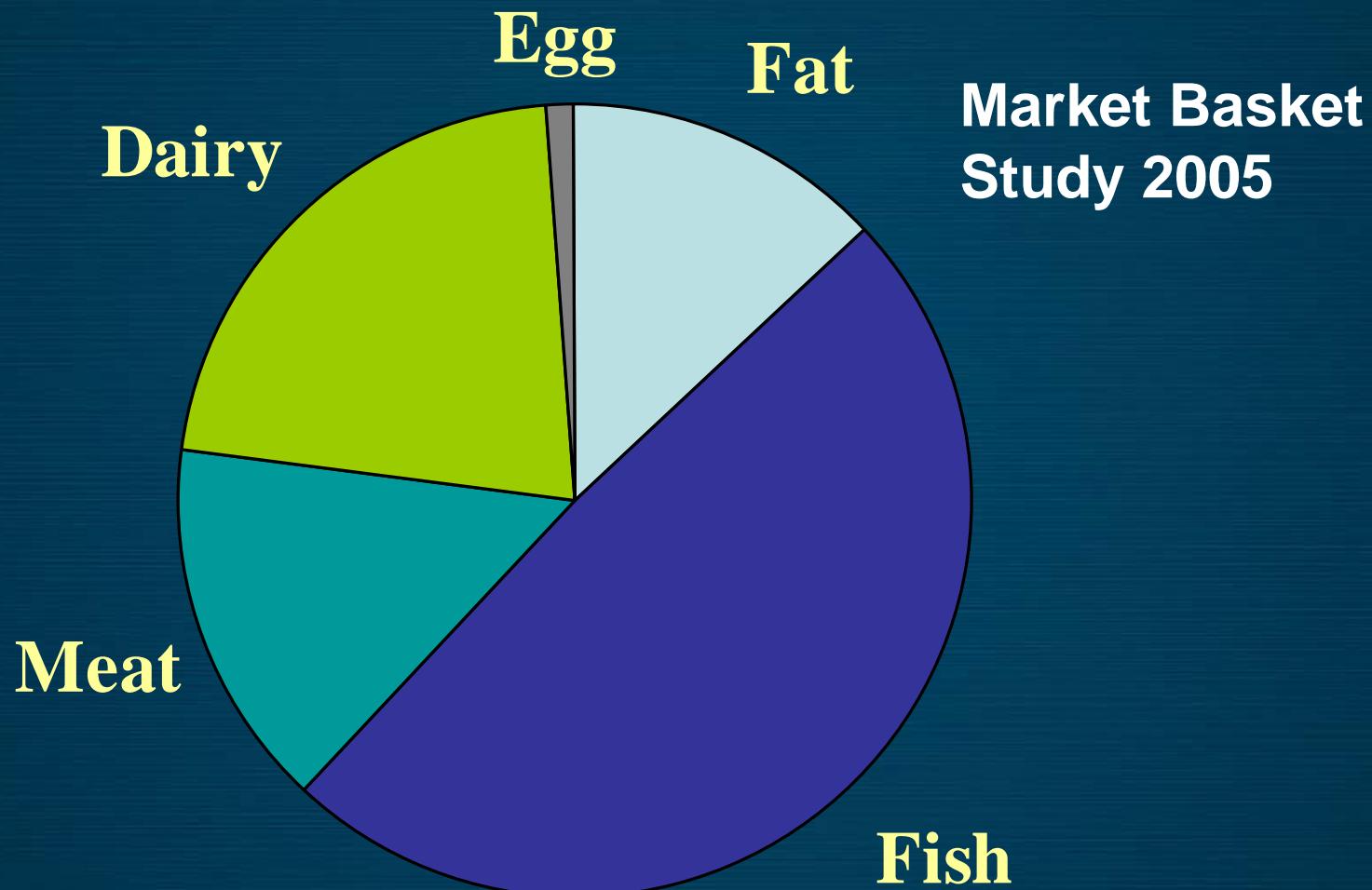
- Age
- Sex
- Dietary habits
- Occupation
- Site of residence
- Local environmental contamination



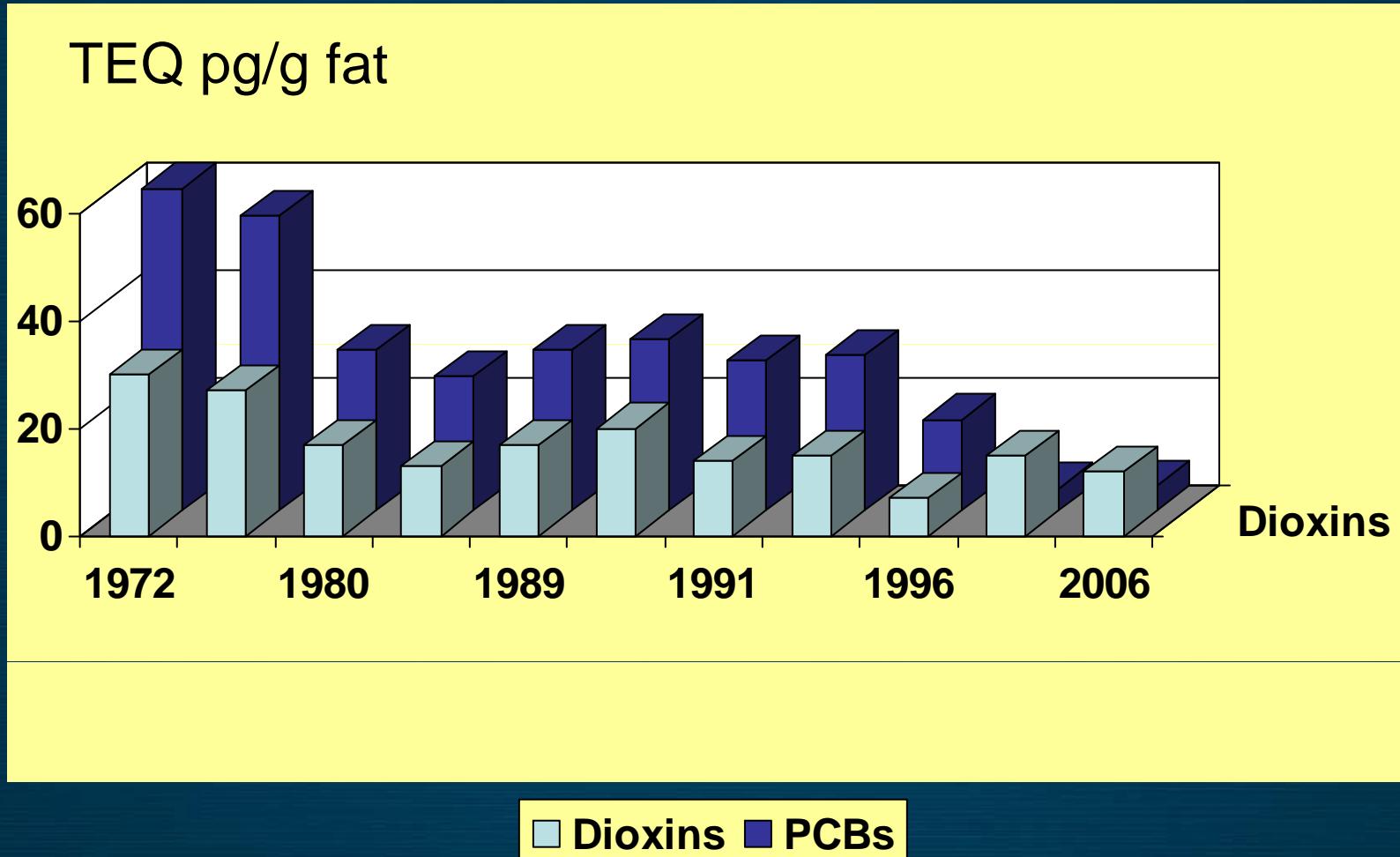
Dioxin concentrations in fishermen and in average population in Finland



Contribution of different food groups to intake of dioxins and dioxin-like PCBs



Dioxins and PCBs in Swedish breast milk



Conclusions

- Many compounds with POP characteristics are ubiquitous in the environment. Temporal trends important
- POPs in the environment will more or less rapidly also occur in food and feed
- Environmental protection improves food and feed quality



Thank you for your attention

