

# SIBEPRO (Sichere Beef-Produktion) A farm survey on the presence of dioxins and dl-PCB in beef production systems in Switzerland

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## Key words

Beef, dioxins, milk, PCDD, PCDF, dl-PCB, suckler cows

## Aim of the study

To identify the reasons of the exceedances of dioxin and dl-PCB concentrations in swiss beef and to give advice to farmers about possible measures to respect the regulation.

## Material and methods

A detail survey was conducted on eight farms. Depending on the production systems, on each farm several suckler cows and their calves or fattening bulls and heifers were selected and followed over several months. Seven soil samples, 59 milk samples, 45 forage and concentrate samples and 36 meat samples were taken and analyzed according to standard protocols.

## Results and significance

The sum of PCDD/F and dl-PCBs in soil averaged 1.4 pg WHO97-TEQ  g-1 dry matter (DM) across all farms. The mean value found in feed samples was 0.25 pg WHO97-TEQ  g-1 feed (88% DM), which is considerably lower than the legal maximum level of 1.25 pg WHO97-TEQ  g-1 feed. The mean value of milk from suckler cows was 2.75 pg, and the one of milk from dairy cows was 2 pg WHO97-TEQ  g-1 fat. Although two individual beef samples (out of 36) slightly exceeded the legal limit of 4.5 pg WHO97-TEQ  g-1 fat, the mean value of all beef samples was 2.3 pg WHO97-TEQ  g-1 fat.

The results did not allow to establish direct relationships between the presence of contaminants in feeds and milk or beef and they showed that variation in PCDD/F and dl-PCB contamination of meat within the same farm was very high. It can be concluded that the situation in Switzerland seems not to be alarming and that no particular measures have to be taken. Nevertheless farmers should be aware that extensive production coupled with absence of delay between weaning and slaughtering may induce some risk for producing non compliant beef.

## Publications, posters and presentations

Agroscope Liebefeld-Posieux ALP (2009) Project report SIBEPRO.

Hess, H.D.; Geinoz, M. (2009) PCB's und Dioxine im Schweizer Rindfleisch. Presentation held at the meeting on "Statuserhebung zu Dioxinen und PCB in Futter und vom Tier stammenden Lebensmittel". Bundesinstitut f  r Risikobewertung, Berlin, april 2009.

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**Project** 1.08.00

**Project duration** January 2008 – Mai 2009