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Towards a risk-based monitoring of feed and feed materials – the Dutch approach

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According to Regulation (EC) No 882/2004, EU-member states are obliged to conduct official quality controls of animal feed materials on the basis of the risk for feed and food safety. In order to meet these requirements, RIKILT - Institute of Food Safety, in close collaboration with the Netherlands Food and Consumer Product Safety Authority (NVWA), has developed a model for risk-based control and has performed trend analyses for several types of contaminants in feed and feed materials.

A spread sheet model was developed to predict the contribution of individual feed ingredients to the risk for human and animal health related to specific contaminants, viz. dioxins,

aflatoxin B1 and DON. The input of the model includes the total annual production of compound feed for the major farm animal species (cattle, pigs, poultry), the total annual usage of locally produced and imported feed ingredients including the country of origin, the composition of representative diets for the major animal categories. For each contaminant, the direct toxicity for animals and the indirect risk for human health via consumption of animal products is estimated. Moreover, for each feed ingredient and country of origin combination, the risk of substantial contamination is estimated based on trends in available analytical data and expert judgement including risk factors as climate, production process, quality control, etc.

Trend analysis has been performed for dioxins, aflatoxin B1, other mycotoxins, heavy metals, copper and zinc and meat and bone meal. The results from the past 10 years have been evaluated. For the major feeds and feed materials, the levels (average, median and 90th percentile) have been compared with the legal limits. Especially in the case that high and non-compliant levels were found, a differentiation has been made with regards to the countries of origin.

Based on the findings the Dutch Government has been advised about which types of feed (materials) and which importing countries need attention for each type of contaminant.

Keywords risk based feed safety control;feed materials;contaminants;model;trend analysis