

Title**High sample throughput in a modern dioxin laboratory using dual acquisition****Authors and Affiliations**Wim Traag^{*1} and Jeroen Markesteijn^{*2}^{*1} DSP-Systems, Erichemseweg 7, 4117GG Erichem The Netherlands^{*2} NOFALab, Jan van Galenstraat 41, 3115JG Schiedam, The Netherlands**Abstract.**

Feed business operators including traders and import operators placing oils or derived products intended for the use in animal feed on the market, must have these products analyzed in accredited laboratories for the sum of dioxins and dioxin-like PCBs. The operator placing the feed on the market is responsible for the sampling and analyses. Only if the analysis result is favorable, the feed or the ingredient can be delivered (together with the report of analysis of the concerned batch as a proof). These requirements are based on EU-legislation, as laid down in Reg. (EU) No. 225/2012 and Commission Regulation (EC) No 152/2009.

This “positive release” requirements puts great pressure on laboratories. Reports of analysis should not only be based on state of the art technology and fully accredited methods but more over they should be available, due to high cost before the ship can be unloaded (**demurrage**), as soon as possible. In order to be able to report results of analysis within 24 hours automation of the whole procedure is a must. At Nofalab on request by the client a number of samples can be analyzed and reported within 8 hours. This has been achieved by introducing a new sample preparation system in combination with dual acquisition GC-HRMS.

The main advantages of the new sample preparation systems are:

- Extremely low solvent consumption (< 100ml per sample)
- Rapid turnaround time of only 90 minutes
- Small final volume of fraction of interest 1-2 ml
- Columns easy to connect and no leakage
- No cross contamination

By using dual data acquisition the capacity of a GC-HRMS system is almost doubled. The Dual Data Acquisition option enables alternating injection series into two GCs both coupled to one high resolution mass spectrometer resulting in a comparable sample throughput of two single GC-HRMS systems.

Author's Biography

Wim Traag started his professional career at the Rijkszuivelstation in Leiden in 1973 and worked at RIKILT until end 2014 as a senior scientist on pesticides, contaminants and mycotoxins and project manager for the development of mass spectrometric methods of analysis for organic contaminants (e.g. pesticides, dioxins, PCBs, PAHs etc) in feedstuffs, food, soil, vegetables, fruit, animal tissue, milk etc. He has been involved in dioxin analysis since 1990 and was actively involved in all major incidents related to dioxins in the food chain. He is (co) author of 85 peer reviewed papers and 9 book chapters, various oral presentations at meetings, workshops and conferences each year. Lectures at Wageningen University and Utrecht University on pesticides, mycotoxins, veterinary drugs, hormones, dioxins and food incidents.

Since 2015 he founded European company “Dioxin Sample Preparation-Systems” DSP-Systems will be introducing a whole new automated dioxin clean-up system into the European market as of 01.04.2015



Jeroen Markesteijn is lab manager at Nofalab and responsible for the dioxin analysis. He started his carrier in 2004 at Nofalab BV, responsible for mycotoxines and PAHs. In 2008 he set up the complete method for dioxins with HRMS at Nofalab. Now days Nofalab do more than 8000 samples a year.

Abstracts and Biography will be promoted on the symposium website and abstract book for the conference.