Original thinking... applied

20th December 2021

To whom it may concern

Pesticide residues analyses in water

Pesticides are used to control a wide range of pests and weeds. The most common use for pesticides includes herbicides, insecticides, plant growth regulators and fungicides. Pesticides can leave harmful residues on food. The pesticides may also lead to contamination of freshwater thus causing harm to ecosystems.

Fera will undertake work on behalf of VitaCress to test for a defined list of pesticides. These pesticides will be tested using ISO17025 accredited methods. Fera's quality system is based on the EU SANTE document *"Guidance document on analytical quality control and method validation procedures for pesticide residues and analysis in food and feed".* The current version is SANTE/12682/2019.

The analysis of samples will be carried out with inclusion of following steps to ensure the results generated meet the criteria set in the above SANTE requirements for quantitative analysis.

- All methods used will be fully validated to meet the criteria set in DG SANTE guidelines.
- Positive control samples will be included in each analytical batch to demonstrate method performance. One of these positive control samples will be spiked at or very close to the limit of quantification (LoQ).
- Negative control samples will be included in each analytical batch to demonstrate that there is no lab contamination.
- Multi-level matrix matched calibration solutions will be freshly prepared. These calibration solutions will include all pesticides being sought. These solutions will be run in each analytical batch to accurately quantify any residues detected.
- Water samples being tested (along with control samples) will be bracketed with the multi-level calibration solutions to demonstrate the instrument performance throughout the duration of the run has met the criteria.
- Any residue detected above the highest calibrated level will be diluted in matrix blank and re-analysed within the calibrated range.
- Gas and Liquid chromatographic methods coupled with selective tandem Mass spectroscopy instruments will provide unequivocal evidence to support any results generated.
- The working standards used for calibration solutions will prepared using certified individual reference materials.
- Stable isotope labelled internal standards for representative compounds will also be included to provide additional evidence on the quality and validity of the results.
- All results generated are manually checked and evaluated to ensure all data meet the requirements of EU SANTE guidelines.
- All pesticides tested include relevant metabolites to ensure that the testing complies with full residue definitions defined in EU MRL Regulation (396/2005).

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Reference: *SANTE/12682/2019: Guidance document on analytical quality control and method validation procedures for pesticide residues and analysis in food and feed.*

Yours sincerely

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