EU Proficiency test EUPT-CF10 – Incurred and Spiked Pesticide Residues in Rye Flour

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Introduction: The EURL-CF has in March/April 2016 organised a proficiency test (PT) on pesticide residues in rye. Participants are listed in Table 1.

Target Pesticide List: The list included 134 compulsory pesticides, of which 17 was new. Additionally, 7 voluntary pesticides were on the list.

Production of test material: The treatments of the rye are listed in Table 2.

Preliminary assigned values: The preliminary assigned values were calculated as Algorithm A means of the results from EU and EFTA participants, reporting that water was added to the sample prior to extraction. The assigned values ranged from 0.032-0.414 mg/kg, see Figure 1.

Algorithm A standard deviation: The average robust relative standard deviation (Alg A RSD) was 17 % and ranged from 14 to 23 %, see Figure 2.

False negatives and positives: No false positive results were reported and 42 false negative results of 14 different pesticides.

Acceptable z scores: The distribution of z scores are shown in Figure 3. Also in this EUPT some laboratories reported very high results for carbendazim, see Figure 4. This is due to the low solubility of the compound in organic solvent. Do not prepare stock solutions of carbendazim at concentrations >0.1 mg/ml.

Ion ratios: Reported information showed that 1.3% of the correct reported results did not fulfil the 30% criteria from SANTE/11945/2015. See Figure 5.

Retention times: Reported information showed that 1.6% of the correct reported results did not fulfil the +/- 0.1 min criteria from SANTE/11945/2015. See Figure 5.

Recoveries: Reported information on recoveries showed that 2.4% of the recoveries carried out in the same batch was outside the 70-120% criteria from SANTE/11945/2015. See Figure 5.