

Appendix A

Table 1: LC-MS/MS system LOQ for the 4 EU regulated PFAS analytes in the 10 fruit and vegetable matrices.

	PFHxS (µg/kg)	PFOA (µg/kg)	PFNA (µg/kg)	PFOS (µg/kg)
Carrot	0.0002	0.0001	0.0001	0.0003
Blueberry	0.0001	0.0001	0.0001	0.0001
Beetroot	0.0005	0.0001	0.0005	0.0002
Kale	0.0002	0.0001	0.0005	0.0001
Mushroom	0.0003	0.0001	0.0002	0.0004
Apple/pear	0.0016	0.0001	0.0001	0.0005
Potato	0.0017	0.0002	0.0001	0.0005
Onion	0.0005	0.0001	0.0002	0.0005
Tomato	0.0005	0.0005	0.0002	0.0005
Flour	0.0005	0.0005	0.0001	0.0005

Table 2: Method validation data for the analysis of EU regulated PFAS in carrot.

	PFHxS	PFOA	PFNA	PFOS
Blank	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	<0.0002	0.0020	0.0010	0.0010
NS spike 0.001 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0010	0.0010	<0.0001	0.0010
CV (%)	4.9	15.0	NR	8.4
Mean recovery (%)	123	82	NR	81
NS spike 0.005 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0050	0.0050	0.0040	0.0050
CV (%)	3.3	3.6	4.3	5.8
Mean recovery (%)	101	101	86	94
NS spike 0.050 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0470	0.0480	0.0490	0.0460
CV (%)	3.3	5.1	4.0	3.5
Mean recovery (%)	94	97	98	91

NR = no result due to insufficient data for calculations

Table 3: Method validation data for the analysis of EU regulated PFAS in blueberries.

	PFHxS	PFOA	PFNA	PFOS
Blank	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	<0.0001	0.0010	0.0010	<0.0001
NS spike 0.001 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0010	0.0010	<0.0001	0.0010
CV (%)	40.7	61.3	NR	69.5
Mean recovery (%)	79	62	NR	70
NS spike 0.005 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0050	0.0050	0.0050	0.0050
CV (%)	1.6	5.1	6.9	2.1
Mean recovery (%)	92	96	93	94
NS spike 0.050 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0450	0.0500	0.0490	0.0470
CV (%)	2.0	2.1	4.4	3.7
Mean recovery (%)	91	99	99	95

NR = no result due to insufficient data for calculations

Table 4: Method validation data for the analysis of EU regulated PFAS in beetroot.

	PFHxS	PFOA	PFNA	PFOS
Blank	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	<0.0005	0.0030	0.0010	0.0020
NS spike 0.001 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0010	0.0010	0.0010	0.0010
CV (%)	3.4	6.4	16.5	15.9
Mean recovery (%)	114	99	96	84
NS spike 0.005 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0050	0.0050	0.0050	0.0040
CV (%)	2.1	2.5	1.3	5.0
Mean recovery (%)	96	92	94	90
NS spike 0.050 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0470	0.0500	0.0490	0.0470
CV (%)	2.4	1.7	3.3	6.7
Mean recovery (%)	94	99	99	94

Table 5: Method validation data for the analysis of EU regulated PFAS in kale.

	PFHxS	PFOA	PFNA	PFOS
Blank	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0050	0.0030	0.0020	0.0060
NS spike 0.001 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0010	0.0010	0.0010	0.0020
CV (%)	27.0	21.6	19.6	27.1
Mean recovery (%)	86	101	114	165
NS spike 0.005 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0030	0.0050	0.0050	0.0020
CV (%)	40.0	25.2	20.8	46.3
Mean recovery (%)	62	105	102	48
NS spike 0.050 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0440	0.0500	0.0500	0.0450
CV (%)	6.5	6.3	6.3	8.4
Mean recovery (%)	88	101	100	89

Table 6: Method validation data for the analysis of EU regulated PFAS in mushroom.

	PFHxS	PFOA	PFNA	PFOS
Blank	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	<0.0003	0.0010	0.0020	0.0020
NS spike 0.001 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0010	0.0010	0.0010	0.0010
CV (%)	6.4	15.8	17.8	16.6
Mean recovery (%)	96	93	88	75
NS spike 0.005 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0050	0.0060	0.0050	0.0050
CV (%)	10.3	15.5	11.7	14.0
Mean recovery (%)	101	111	109	102
NS spike 0.050 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0450	0.0480	0.0490	0.0470
CV (%)	4.1	1.9	4.0	4.5
Mean recovery (%)	90	96	98	95

Table 7: Method validation data for the analysis of EU regulated PFAS in apple/pear composite.

	PFHxS	PFOA	PFNA	PFOS
Blank	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0010	0.0030	0.0030	0.0010
NS spike 0.001 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	<0.0016	0.0010	0.0010	<0.0005
CV (%)	NR	72.5	44.9	NR
Mean recovery (%)	NR	72	71	NR
NS spike 0.005 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0040	0.0040	0.0040	0.0040
CV (%)	7.1	13.6	12.5	15.9
Mean recovery (%)	74	84	83	84
NS spike 0.050 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0430	0.0500	0.0500	0.0410
CV (%)	8.5	5.1	4.1	8.8
Mean recovery (%)	85	101	101	81

NR = no result due to insufficient data for calculations

Table 8: Method validation data for the analysis of EU regulated PFAS in onion.

	PFHxS	PFOA	PFNA	PFOS
Blank	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0120	0.0010	<0.0002	0.0030
NS spike 0.001 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	<0.0005	0.0010	<0.0002	0.0010
CV (%)	NR	22.6	NR	44.5
Mean recovery (%)	NR	111	NR	142
NS spike 0.005 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0040	0.0050	0.0050	0.0050
CV (%)	101.5	10.9	10.4	11.2
Mean recovery (%)	86	100	108	96
NS spike 0.050 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0390	0.0490	0.0500	0.0450
CV (%)	5.2	5.1	3.9	5.2
Mean recovery (%)	79	98	100	90

NR = no result due to insufficient data for calculations

Table 9: Method validation data for the analysis of EU regulated PFAS in potato.

	PFHxS	PFOA	PFNA	PFOS
Blank	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0010	0.0020	0.0030	0.0010
NS spike 0.001 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.002	0.001	0.001	0.001
CV (%)	8.5	34.7	41.7	14.7
Mean recovery (%)	182	107	85	97
NS spike 0.005 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0070	0.0050	0.0050	0.0050
CV (%)	13.2	5.8	6.1	16.6
Mean recovery (%)	144	108	103	102
NS spike 0.050 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0480	0.0500	0.0510	0.0420
CV (%)	8.0	4.5	4.3	5.7
Mean recovery (%)	97	100	101	84

Table 10: Method validation data for the analysis of EU regulated PFAS in tomato.

	PFHxS	PFOA	PFNA	PFOS
Blank	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	<0.0005	<0.0005	<0.0001	0.0010
NS spike 0.001 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0010	<0.0005	<0.0001	0.0020
CV (%)	26.6	NR	NR	32.0
Mean recovery (%)	115	NR	NR	158
NS spike 0.005 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0050	0.0060	0.0050	0.0050
CV (%)	3.9	4.2	9.4	7.2
Mean recovery (%)	99	113	94	100
NS spike 0.050 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0450	0.0510	0.0490	0.0460
CV (%)	3.9	5.5	5.6	6.5
Mean recovery (%)	89	101	98	91

NR = no result due to insufficient data for calculations

Table 11: Method validation data for the analysis of EU regulated PFAS in wheat flour.

	PFHxS	PFOA	PFNA	PFOS
Blank	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0020	<0.0005	<0.0001	0.0020
NS spike 0.001 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.007	<0.0005	<0.0001	0.006
CV (%)	67.8	NR	NR	73.1
Mean recovery (%)	672	NR	NR	616
NS spike 0.005 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0040	0.0060	0.0050	0.0030
CV (%)	9.0	14.0	8.4	6.2
Mean recovery (%)	76	115	105	62
NS spike 0.050 µg/kg	N/A	N/A	N/A	N/A
Mean concentration (µg/kg)	0.0380	0.0430	0.0410	0.0370
CV (%)	9.7	11.1	8.2	9.6
Mean recovery (%)	76	85	83	74

NR = no result due to insufficient data for calculations