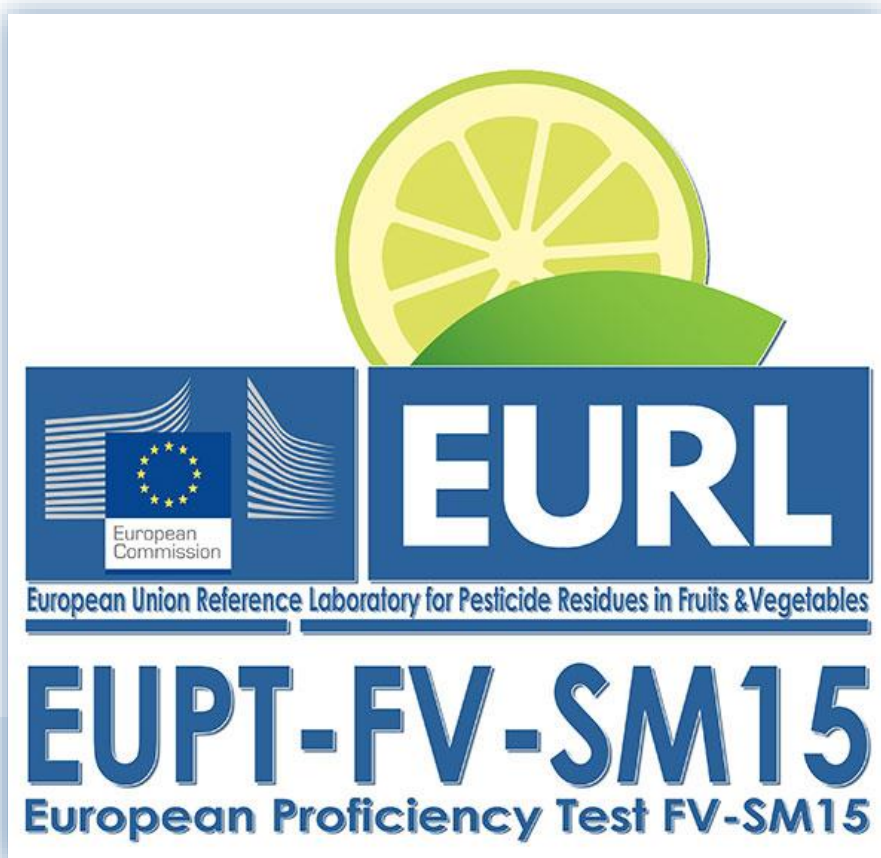


EUROPEAN COMMISSION PROFICIENCY TEST FOR PESTICIDE RESIDUES IN FRUITS AND VEGETABLES



SCREENING METHODS 15 WHEAT KERNELS



RESULTS



Preparation of the test item



Carbaryl

Carbofuran

Chlorpyrifos methyl

Chlorpyrifos

Cypermethrin (sum)

Deltamethrin

Fipronil

Flufenacet

Fluroxypyr

Metazachlor

Pirimiphos-methyl

Tebuconazole

Tetramethrin

Trinexapac-Ethyl

Preparation of the test item



ACTIVITY	DATE
Application Form from invited laboratories	16 th Jan 2023 – 10 th Feb 2023
Specific Protocol published on the Web site	24 th Feb 2023 at the latest
Sample distribution	6 th March 2023
Deadline for receiving results	72 hours after receiving the sample
Preliminary Report	May 2023
Final Report distributed to the Laboratories	August 2023

Participation

EUPF-FV-SM015- Participants				60 Participants
COUNTRY	No.	COUNTRY	No.	
Austria	1	Kenya	1	
Belgium	1	Lithuania	1	
Bulgaria	1	Luxembourg	1	
China	2	Norway	1	
Costa Rica	1	Perú	1	
Croatia	2	Poland	3	
Czech Republic	2	Portugal	2	
Denmark	2	Romania	1	
France	6	Slovenia	1	
Germany	7	Spain	11	
Hungary	2	Sweden	2	
Ireland	1	Switzerland	3	
Italy	1	The Netherlands	3	

65 Registered – 60 Sent Results



Participation

22 EU/EFTA Countries

Austria
Belgium
Bulgary
Croatia
Czech Republic
Denmark
France
Germany
Hungary
Ireland
Italy
Lithuania
Luxemburg
Norway
Poland
Portugal
Romania
Slovenia
Spain
Sweden
Switzerland
The Netherlands

China
Costa Rica
Kenya
Peru

4 Non EU/EFTA Countries



RESULTS

LEUPT

Results

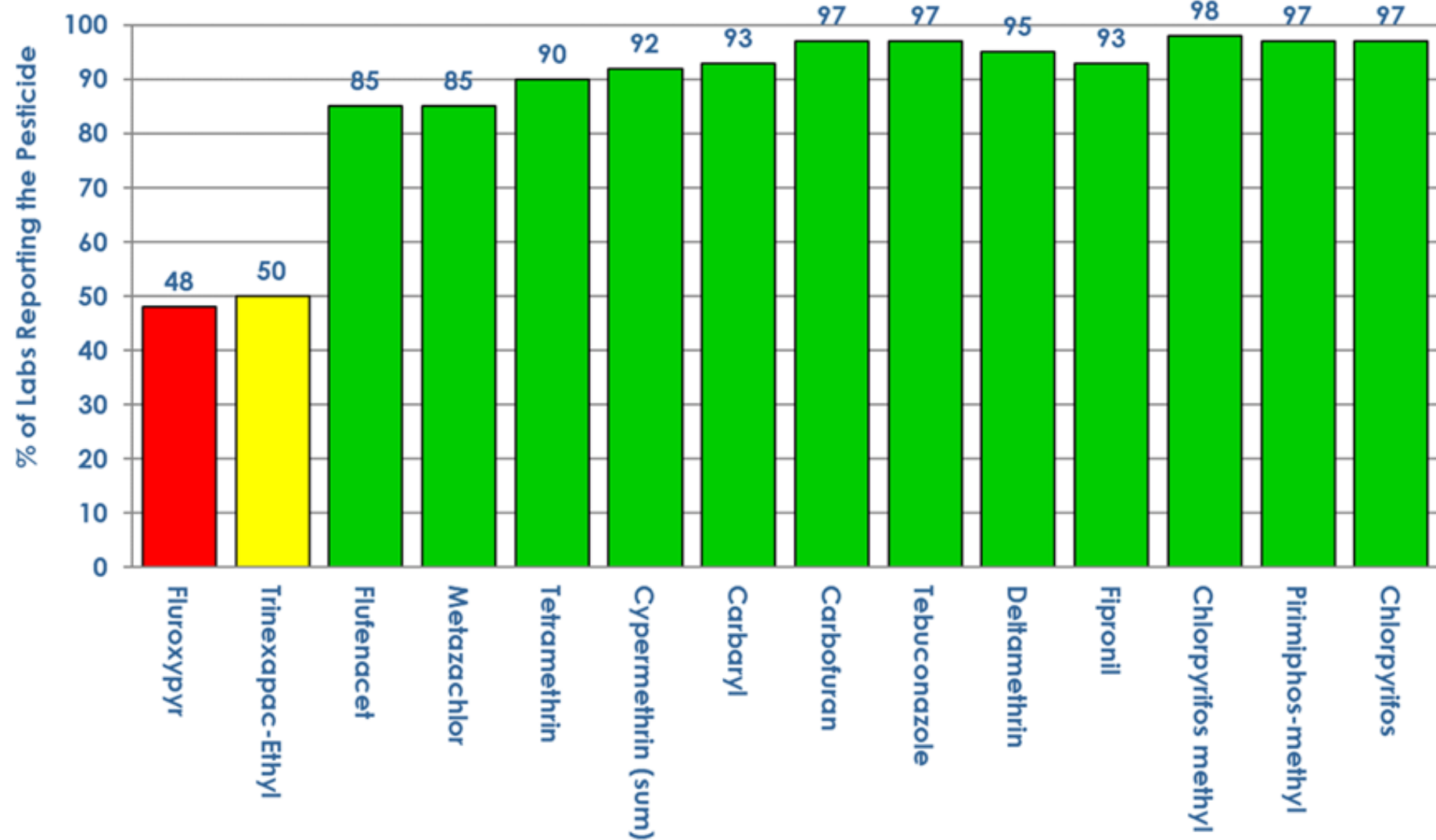
14 Evaluated Pesticides
60 Laboratories

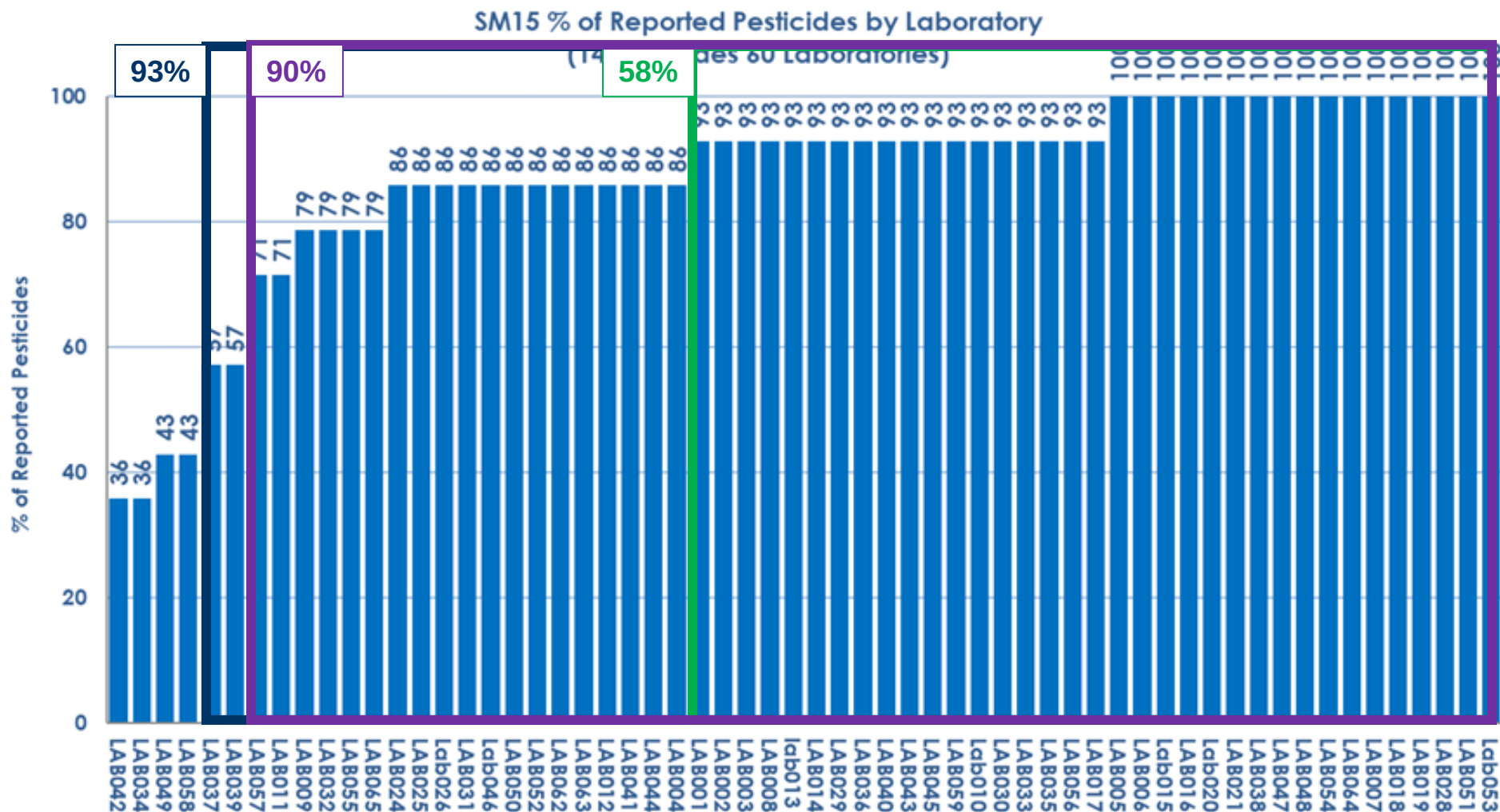
14 Pesticides= 1+1+12

	Carbaryl	Carbofuran	Chlorpyrifos	Chlorpyrifos methyl	Cypermethrin	Deltamethrin	Fipronil	Flufenacet	Fluroxypyr	Metazachlor	Pyrimiphos methyl	Tebuconazole	Tetramethrin	Trinexapac ethyl
Total Number of Labs reporting	56	58	59	58	55	57	56	51	29	51	58	58	54	30
% of labs reporting	93	97	98	97	92	95	93	85	48	85	97	97	90	50



SM15 % of Reported Pesticides
(60 Laboratories Reported Data)







Compounds reported by 3 or more laboratories:

Chlormequat (10 laboratories)

Fenfuram (3 laboratories)



European Union Reference Laboratory for Pesticide Residues

Fruits and Vegetables

EUPF-FV-SM15 SPECIFIC PROTOCOL

European Union Proficiency Test for Pesticide Residues in Fruits and Vegetables Screening Multiresidue Methods (2023)

Introduction

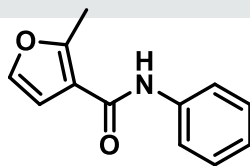
This protocol is complementary to the General Protocol for EU Proficiency Tests (EUPF) dealing with Pesticide Residues in Food and Feed. This Proficiency Test is organised by the EURL for Pesticide Residues in Fruits and Vegetables and covers the screening of pesticides using multiresidue methods of analysis.



Compounds reported by 3 or more laboratories:

Chlormequat (10 laboratories)

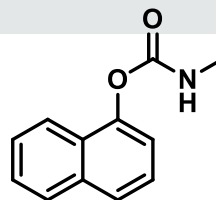
Fenfuram (3 laboratories)



Fenfuram

Chemical Formula: $C_{12}H_{11}NO_2$

Exact Mass: 201.0790

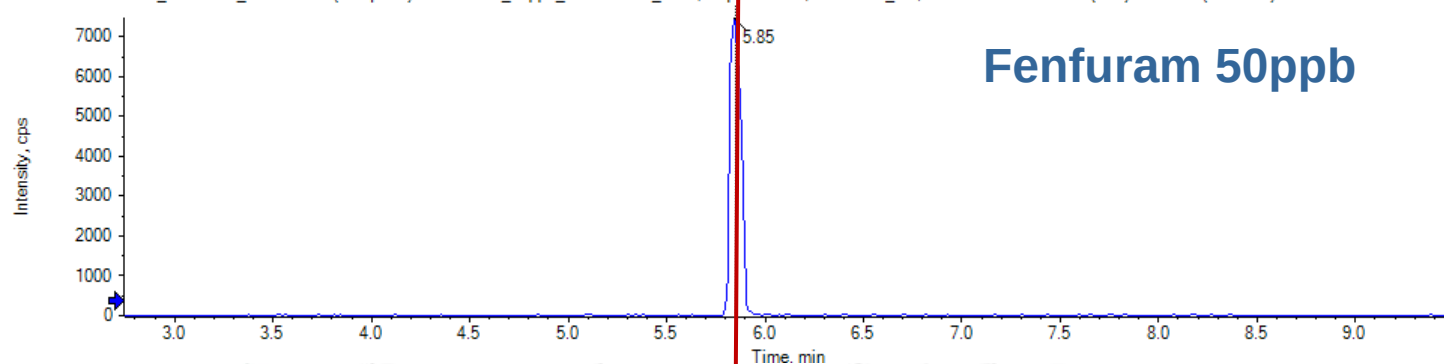


Carbaryl

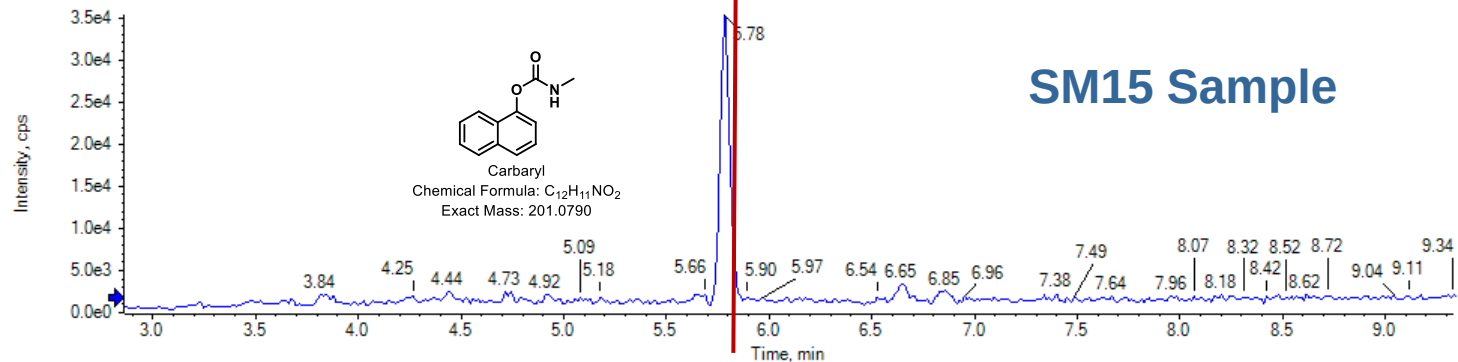
Chemical Formula: $C_{12}H_{11}NO_2$

Exact Mass: 201.0790

XIC from 20230505_Fenfuram_SM15.wiff2 (sample 2) - Fenfuram_50ppb_MeCN-H₂O_dilx5, Experiment 3, Fenfuram_HE, +MRMhr TOF MSMS (CID) of 202.1 (50 - 210): 202.086 +/- 0.010 Da



TIC from 20230505_Fenfuram_SM15.wiff2 (sample 3) - SM15_wheat_000ppb_Fenfuram_MeCN-H₂O_dilx5_R1, Experiment 3, Fenfuram_HE, +MRMhr TOF MSMS (CID) of 202.1 (50 - 210)



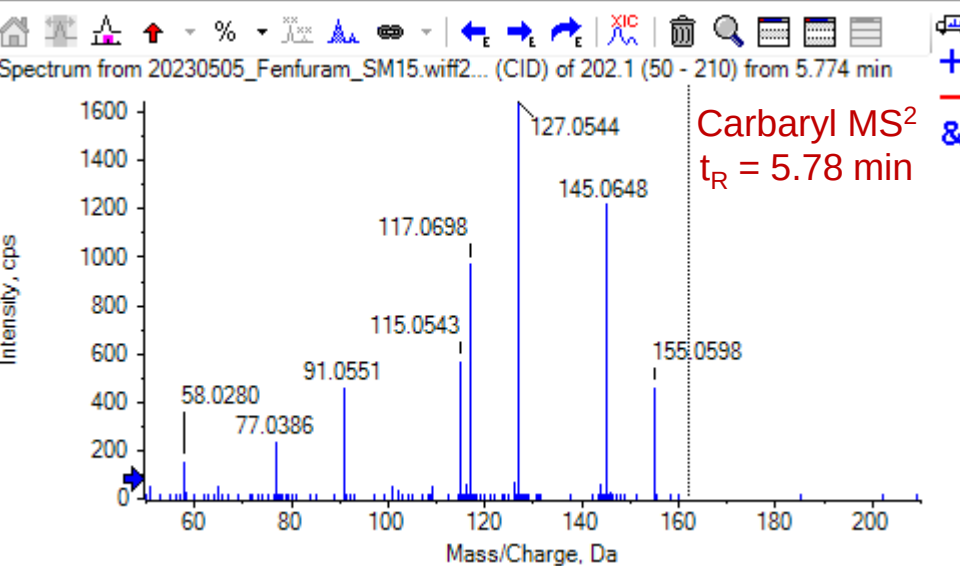
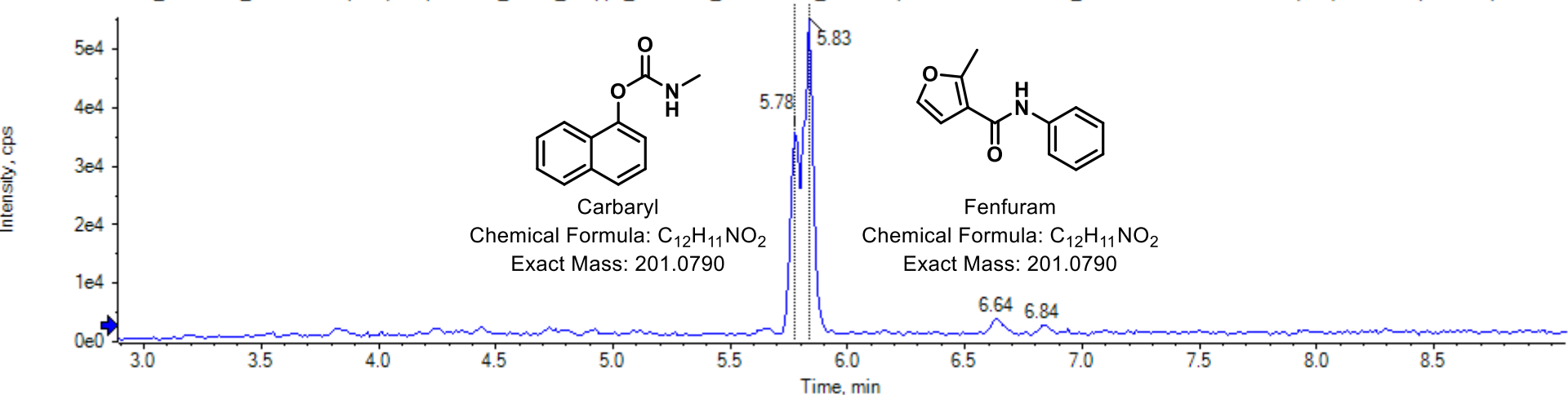
Carbaryl in SM15 wheat sample spiked with 0.025 mg/kg fenfuram



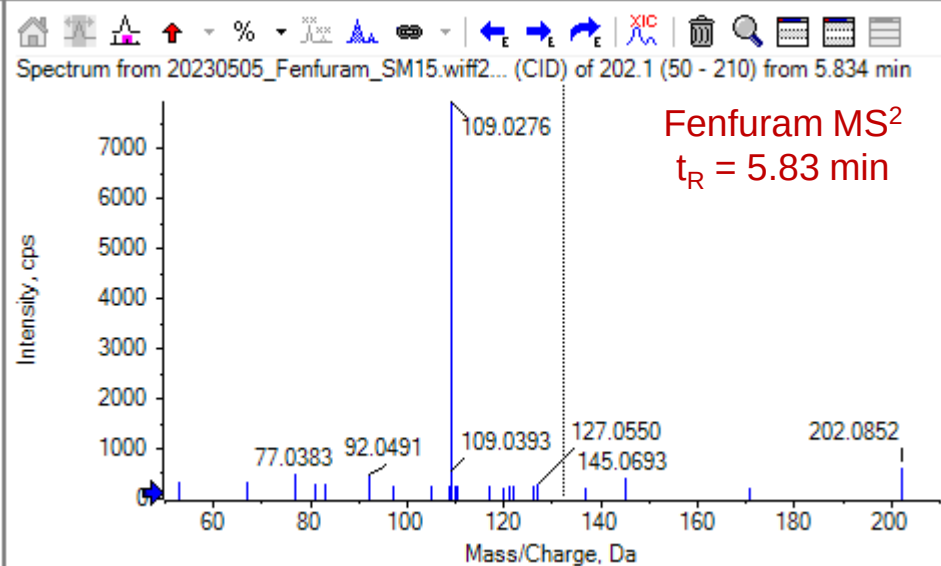
EURL-FV



TIC from 20230505_Fenfuram_SM15.wiff2 (sample 6) - SM15_wheat_025ppb_Fenfuram_MeCN-H2O_dilx5, Experiment 3, Fenfuram_HE, +MRMhr TOF MSMS (CID) of 202.1 (50 - 210)



Carbaryl MS²
 $t_R = 5.78$ min

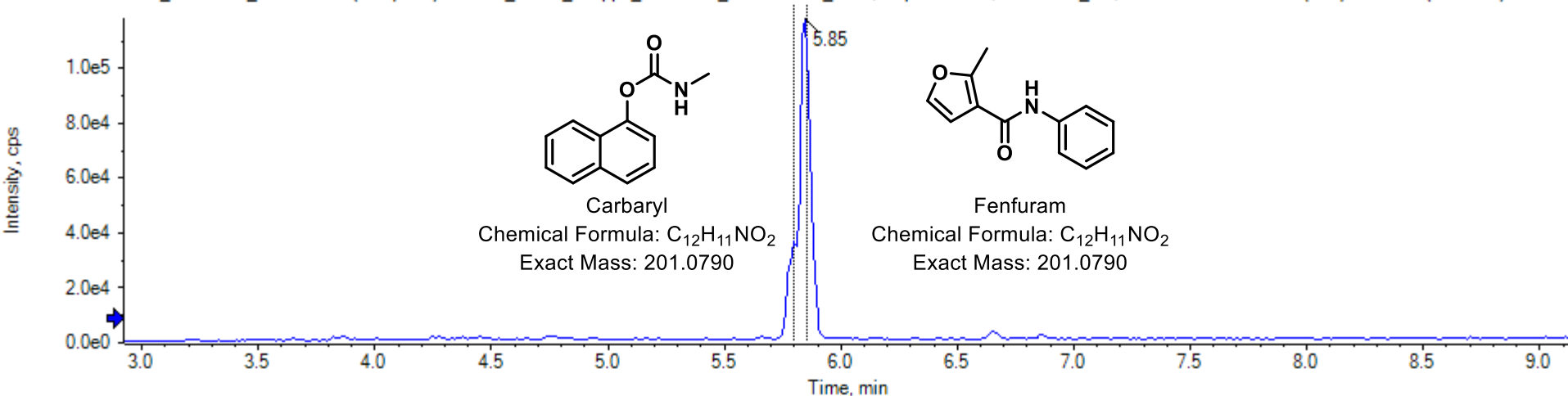


Fenfuram MS²
 $t_R = 5.83$ min

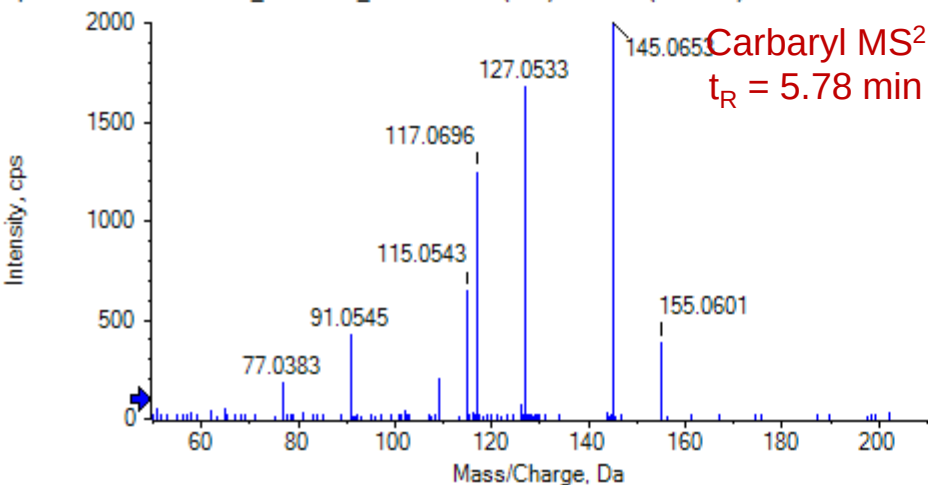


Carbaryl in SM15 wheat sample spiked with 0.050 mg/kg fenfuram

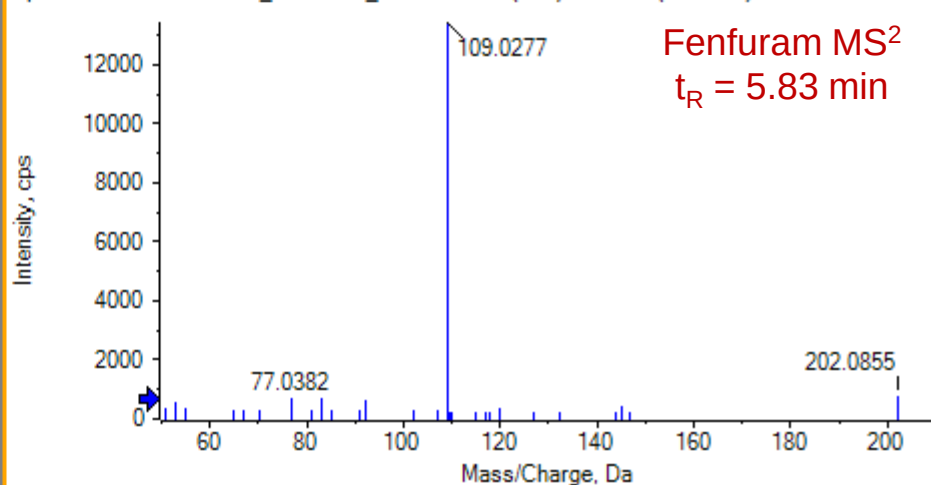
TIC from 20230505_Fenfuram_SM15.wiff2 (sample 7) - SM15_wheat_050ppb_Fenfuram_MeCN-H2O_dilx5, Experiment 3, Fenfuram_HE, +MRMhr TOF MSMS (CID) of 202.1 (50 - 210)



Spectrum from 20230505_Fenfuram_SM15.wiff2... (CID) of 202.1 (50 - 210) from 5.798 min



Spectrum from 20230505_Fenfuram_SM15.wiff2... (CID) of 202.1 (50 - 210) from 5.858 min



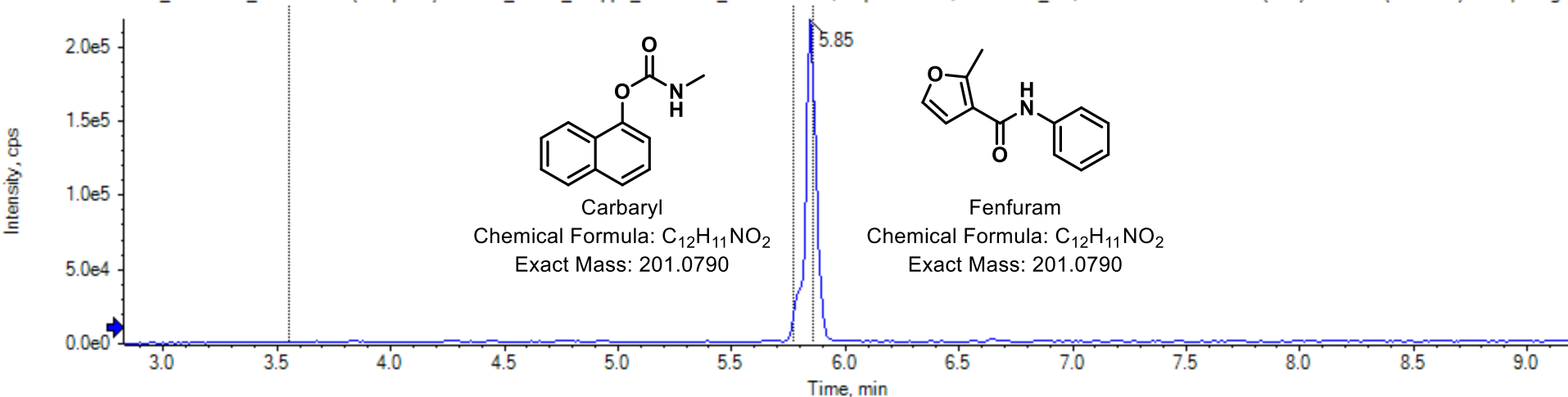
Carbaryl in SM15 wheat sample spiked with 0.100 mg/kg fenfuram



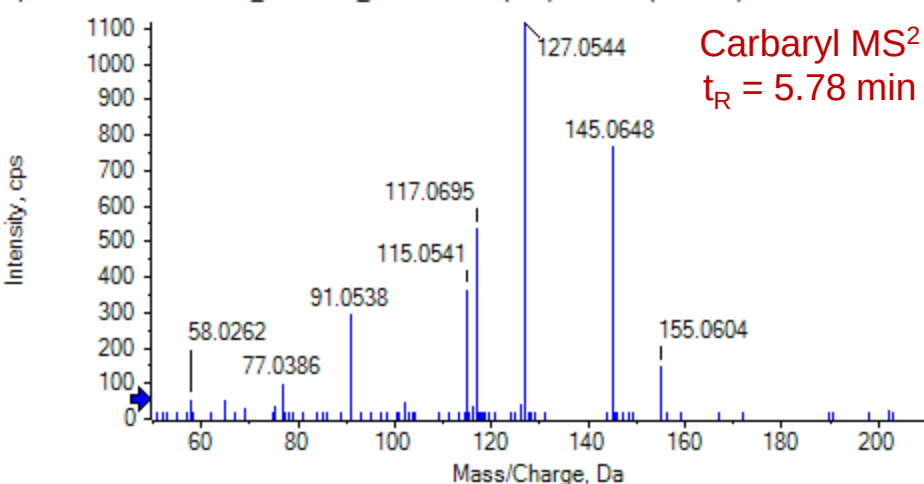
EURL-FV



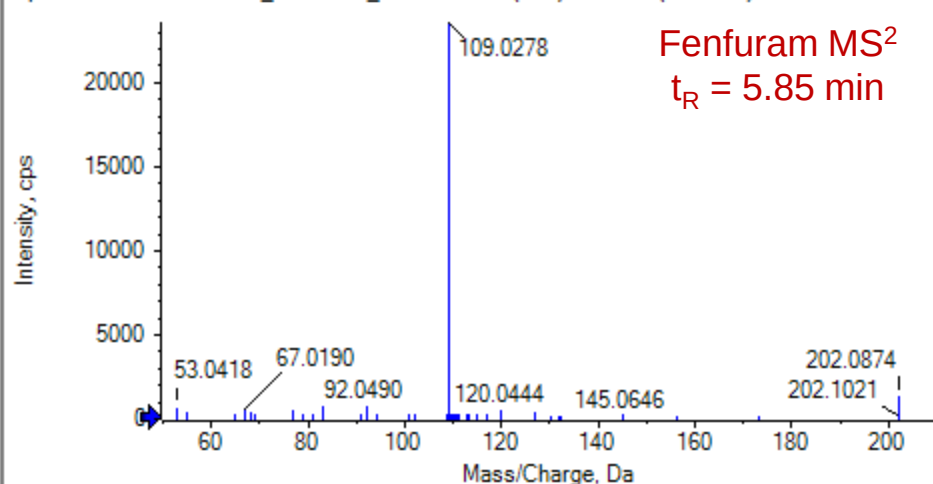
TIC from 20230505_Fenfuram_SM15.wiff2 (sample 8) - SM15_wheat_100ppb_Fenfuram_MeCN-H...x5, Experiment 3, Fenfuram_HE, +MRMhr TOF MSMS (CID) of 202.1 (50 - 210) - Acquiring



Spectrum from 20230505_Fenfuram_SM15.wiff2... (CID) of 202.1 (50 - 210) from 5.773 min



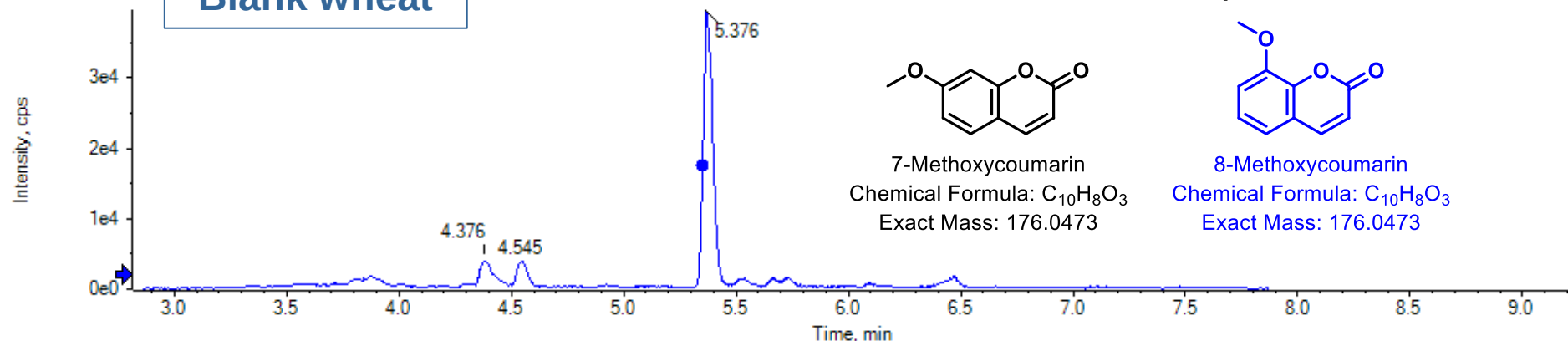
Spectrum from 20230505_Fenfuram_SM15.wiff2... (CID) of 202.1 (50 - 210) from 5.858 min



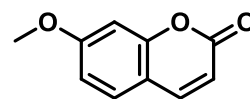


A precursor of m/z 177.0546 ($C_{10}H_8O_3+H^+$) is responsible for fragment m/z 109.0283

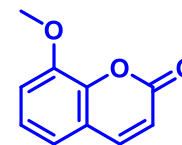
Blank wheat



Natural wheat products

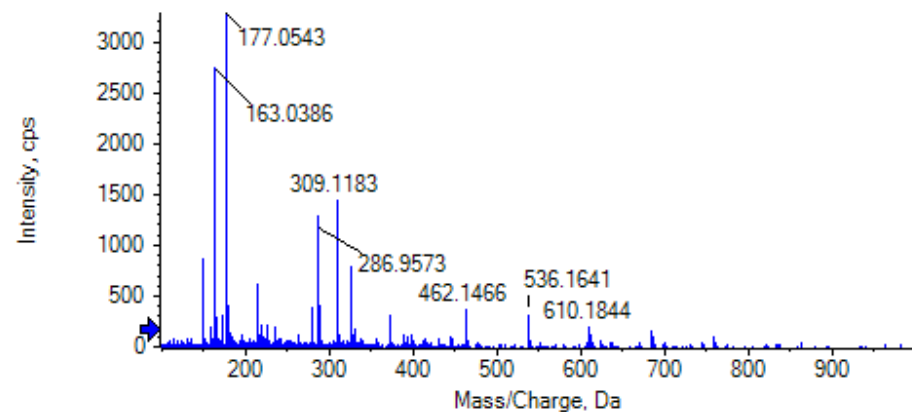


7-Methoxycoumarin
Chemical Formula: $C_{10}H_8O_3$
Exact Mass: 176.0473

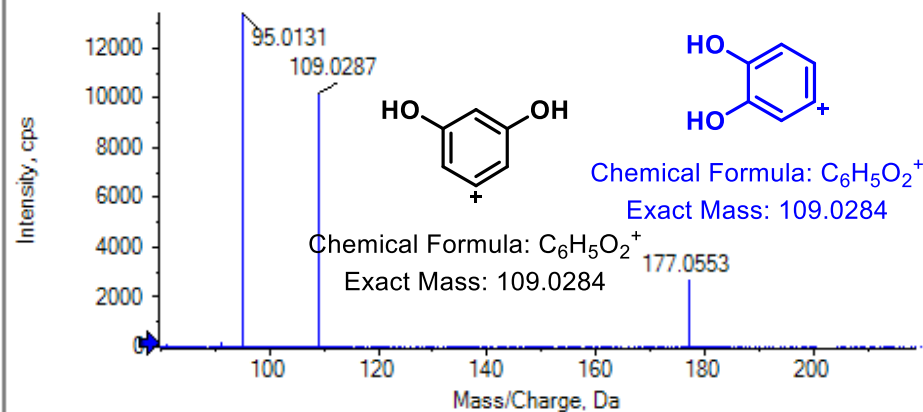


8-Methoxycoumarin
Chemical Formula: $C_{10}H_8O_3$
Exact Mass: 176.0473

Spectrum from SM15_blank_wheat_IDA_MeCN...+IDA TOF MS (100 - 1000) from 5.351 min



Spectrum from SM15_blank_wheat_IDA_MeCN...ursor: 177.1 Da, +1, CE: 35.0, CES: 15.0





Results

Other compounds reported by less than 3 labs:

Reported below 0.01 mg/kg or not quantified

((8z,11z)-2-heptadeca-8,11-dienyl)-
4,5-dihydro-oxazole

4,4'-dichlorobenzophenone

Benzoic acid

BHC

Biphenyl

Canolol

Carvone

DDE

DDT

Dicyclohexylphthalate

Diphenamid

Empenthrin

Endrin ketone

Fenclorim

Glycerol tricaprylate

Methoprene

Methyl ferulate

Pendimethalin

Permethrin

Picaridin

Pyrimidine

Pyrimitate

Sulcotriona

Tma c16

Trans synapyl
alcohol

Results

Other compounds reported by less than 3 labs :

Reported ABOVE 0.01 mg/kg

8-Hydroxyquinoline

Acephate

Azobenzene

Bromide

Captafol

Captan

Dinobuton

Fenbuconazole

Formetanate

Ferulic acid

Fluopyram

Glyphosate

Indole-3-acetic acid

Parathion-methyl

Propisochlor

Tryciclazole



Concentrations

(only for informative purposes)





Concentrations (only for informative purposes)

Pesticides	No of Detections	N° of Labs detected the pesticide	% of Labs detected the pesticide	No of Conc. Reported	No of Conc. Reported by EU/EFTA labs	Conc. Homogeneity test (mg/kg)	Robust mean (mg/kg)	CV (%)
Carbaryl	62	56	93	56	53	0.103	0.101	27.0
Carbofuran	63	58	97	58	55	0.182	0.170	29.2
Chlorpyrifos	69	58	97	62	59	0.189	0.182	24.1
Chlorpyrifos methyl	67	59	98	62	58	0.113	0.109	32.2
Cypermethrin (sum)	61	55	92	55	52	0.064	0.058	33.5
Deltamethrin	64	57	95	59	55	0.130	0.116	33.1
Fipronil	66	56	93	61	57	0.077	0.066	32.9
Flufenacet	57	51	85	51	49	0.067	0.063	26.1
Fluroxypyr	29	29	48	27	27	0.135	0.110	37.4
Metazachlor	57	51	85	49	46	0.059	0.057	20.7
Pirimiphos-methyl	68	58	97	62	59	0.085	0.079	25.8
Tebuconazole	63	58	97	59	55	0.055	0.052	24.9
Tetramethrin	60	54	90	52	49	0.093	0.091	22.8
Trinexapac-Ethyl	31	30	50	26	25	0.057	0.059	32.4



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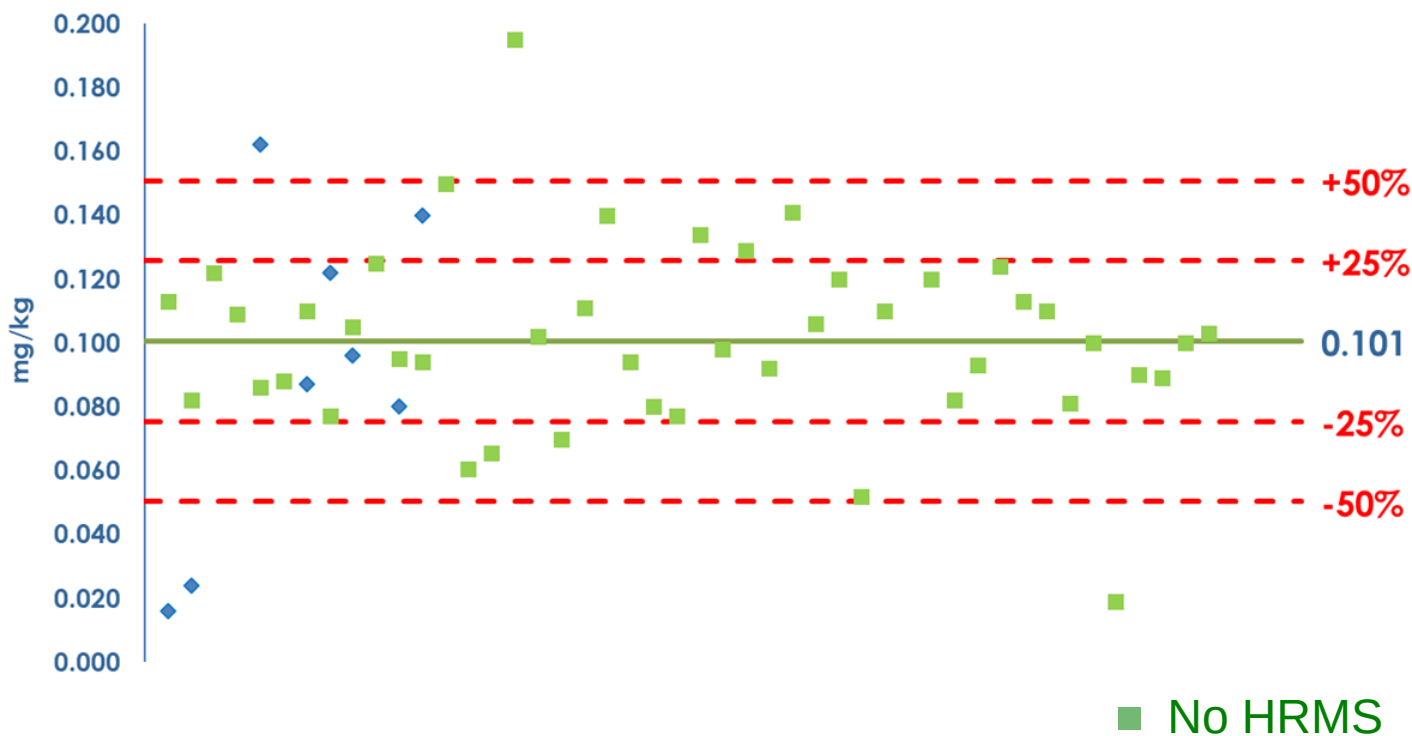
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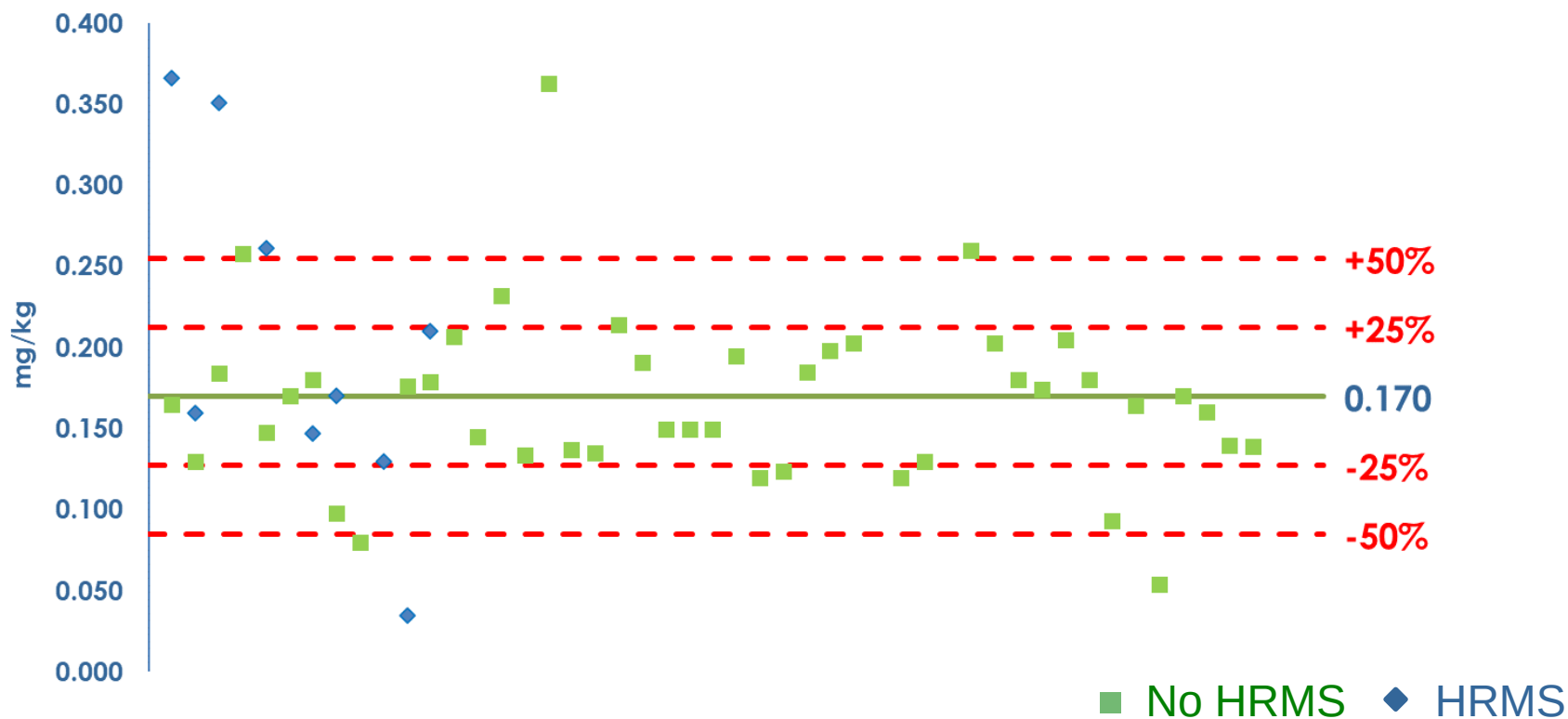
Carbaryl





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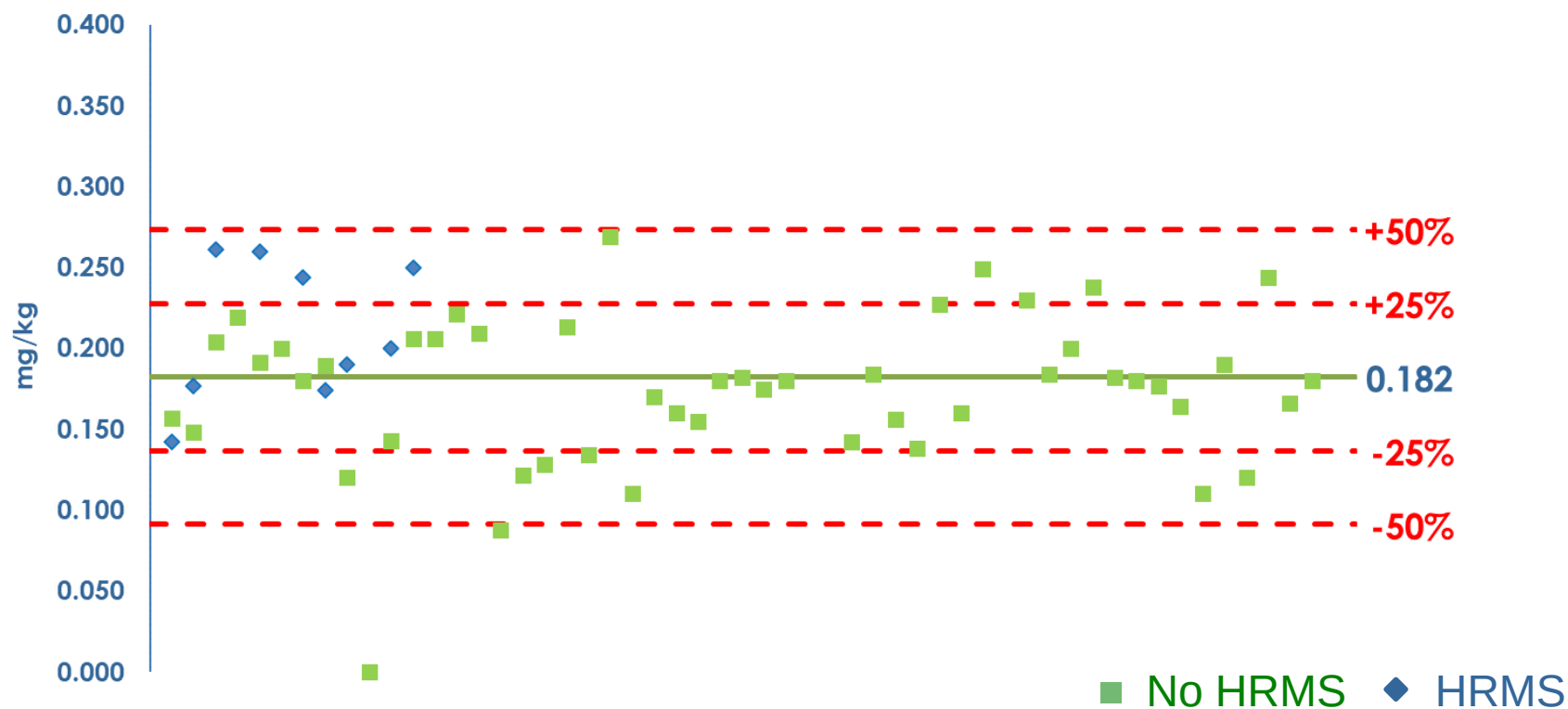
Carbofuran





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Chlorpyrifos	69	58	97	62	59	0.189	0.182	24.1

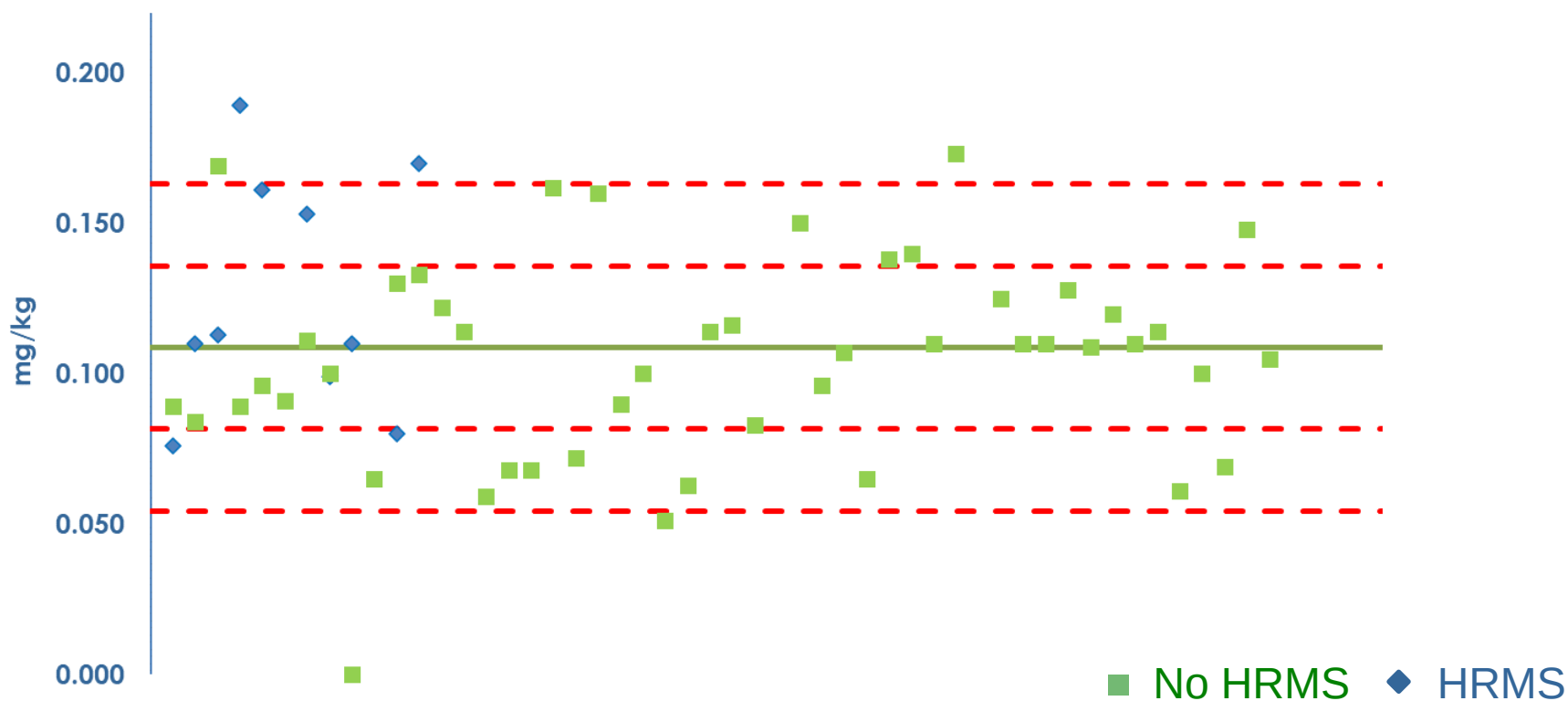
Chlorpyrifos





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Chlorpyrifos methyl	67	59	98	62	58	0.113	0.109	32.2

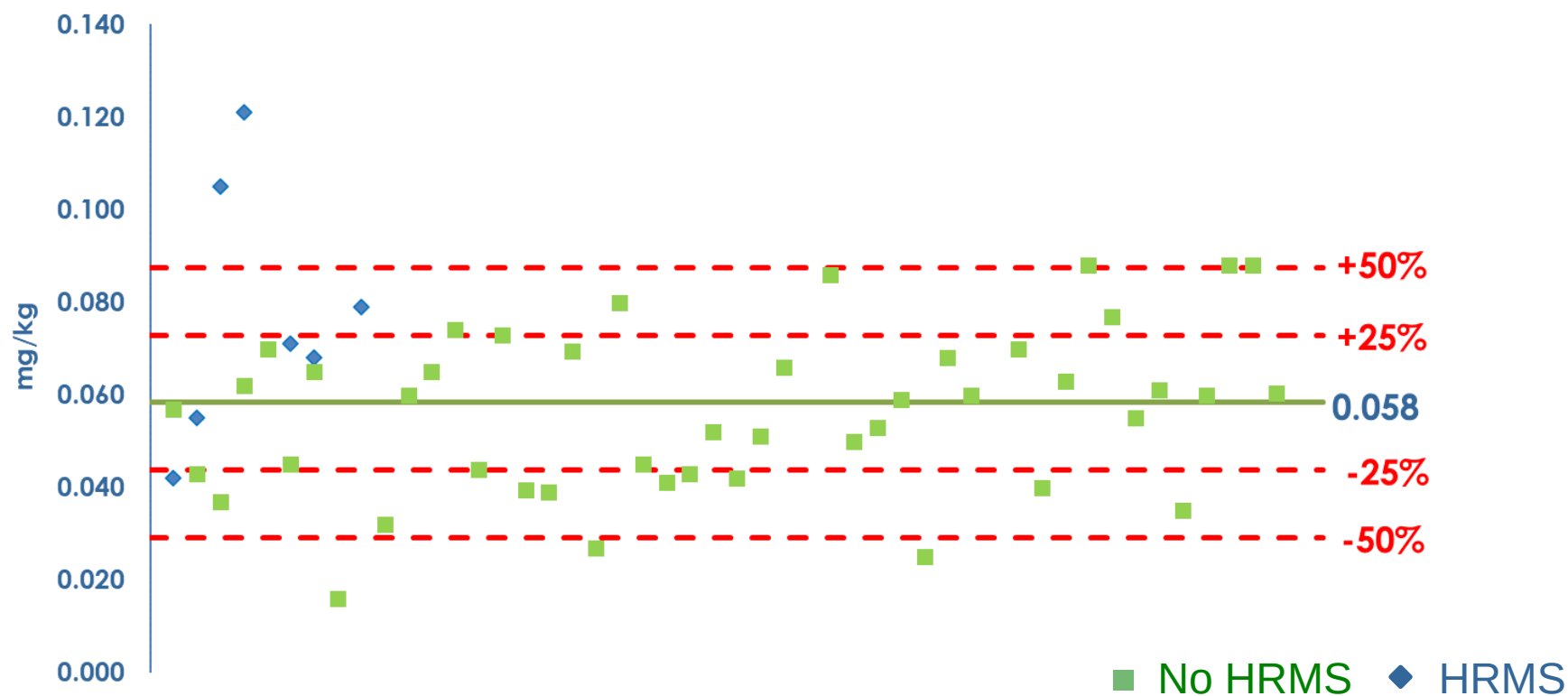
Chlorpyrifos Methyl





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Cypermethrin (sum)	61	55	92	55	52	0.064	0.058	33.5

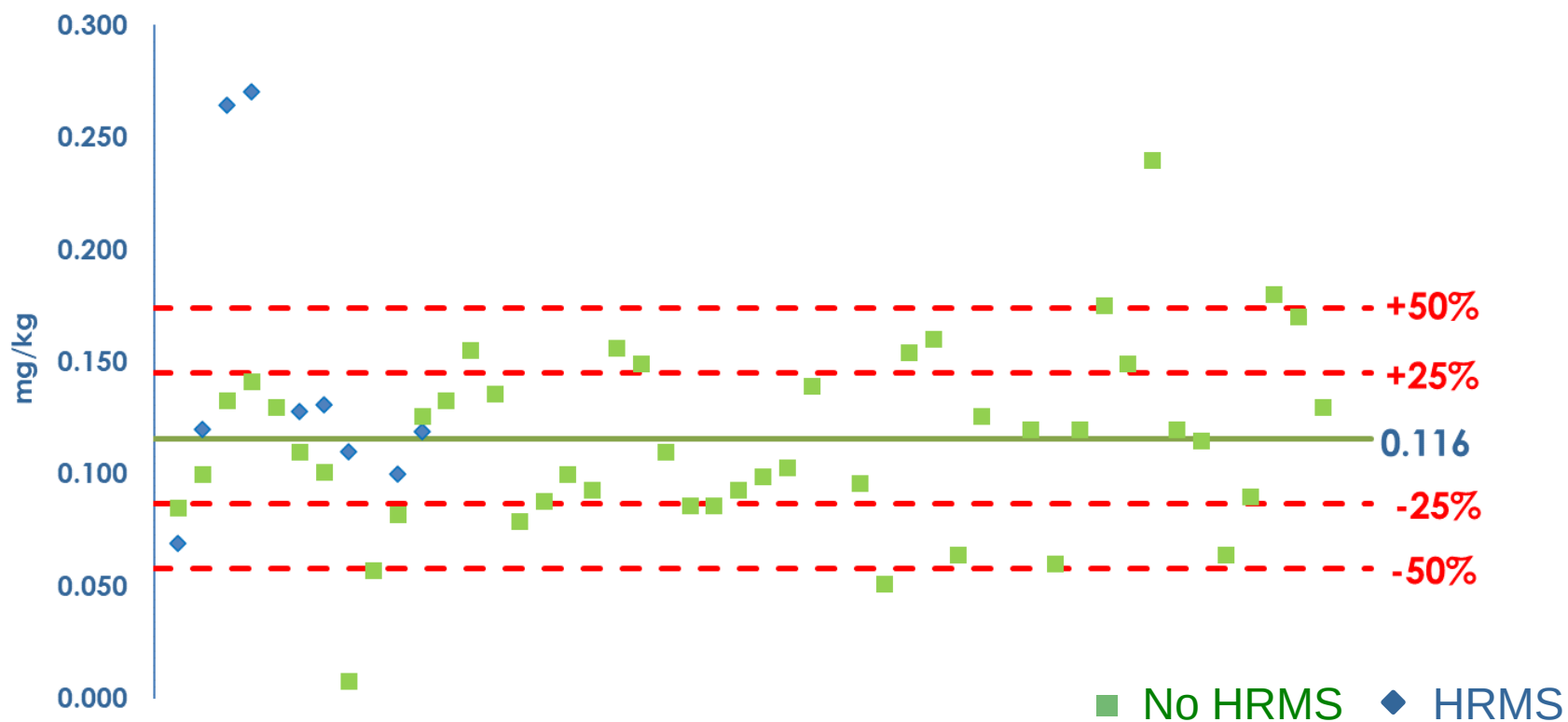
Cypermethrin





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Deltamethrin	64	57	95	59	55	0.130	0.116	33.1

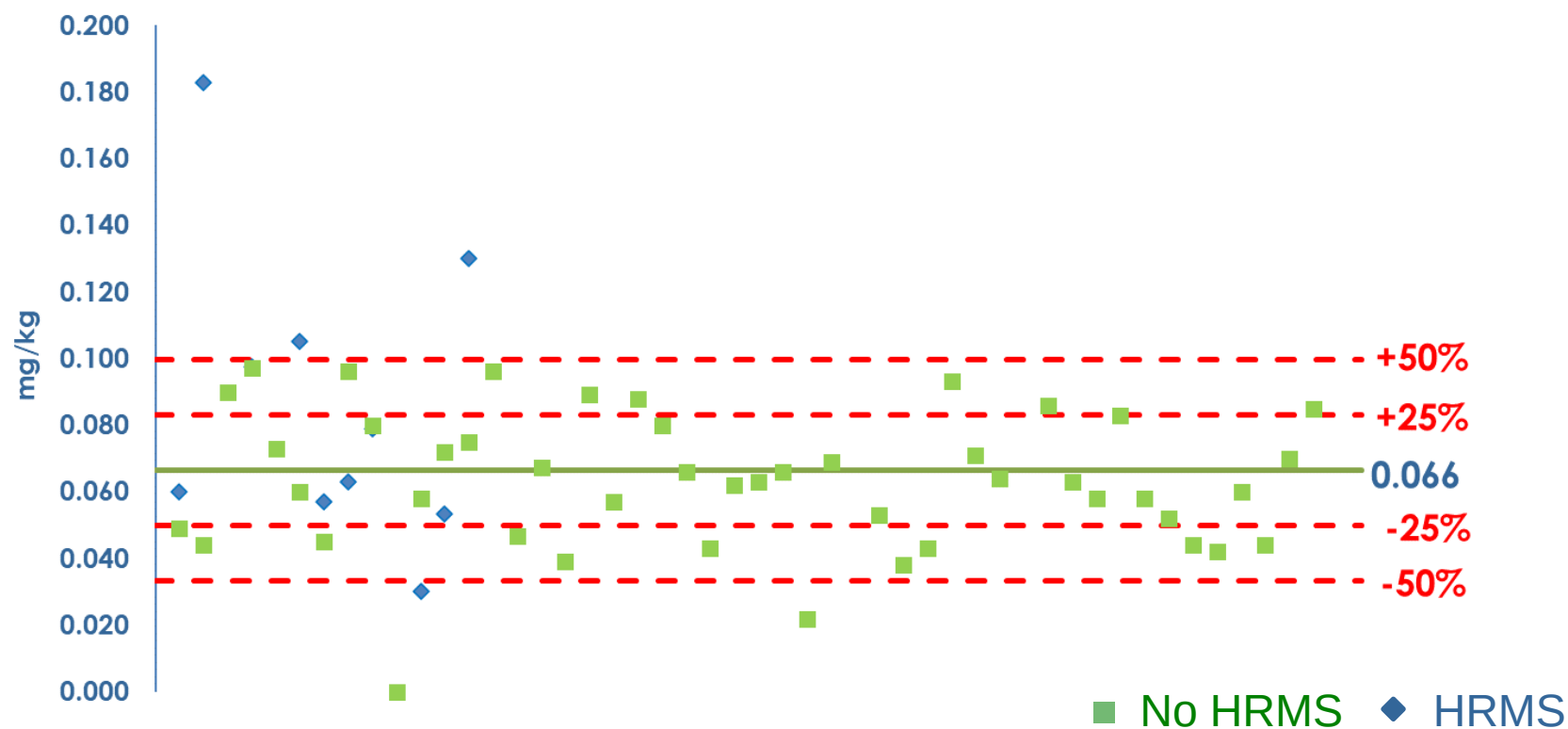
Deltamethrin





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Fipronil	66	56	93	61	57	0.077	0.066	32.9

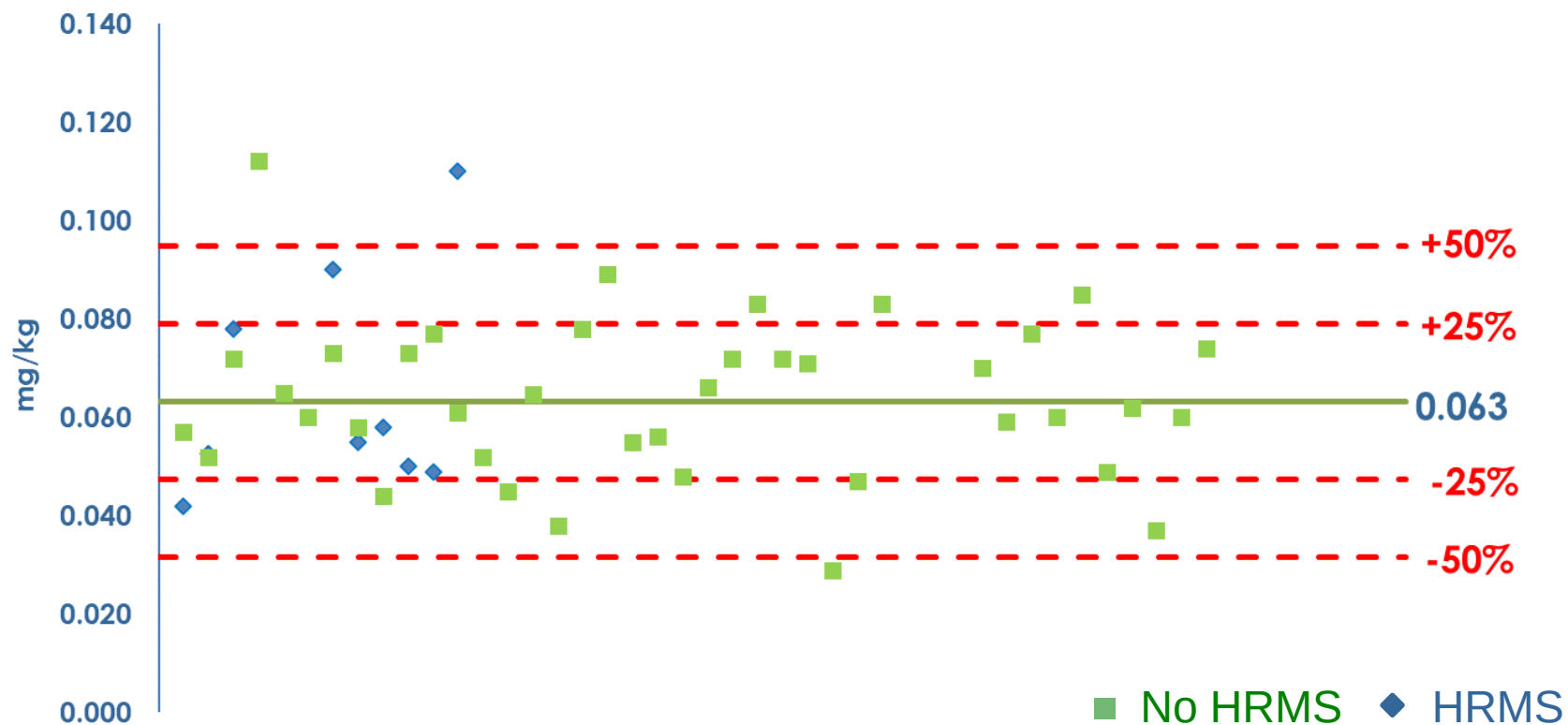
Fipronil





Pesticides	No of Detections	N° of Labs detected the pesticide	% of Labs detected the pesticide	No of Conc. Reported	No of Conc. Reported by EU/EFTA labs	Conc. Homogeneity Test (mg/kg)	Robust mean (mg/kg)	CV (%)
Flufenacet	57	51	85	51	49	0.067	0.063	26.1

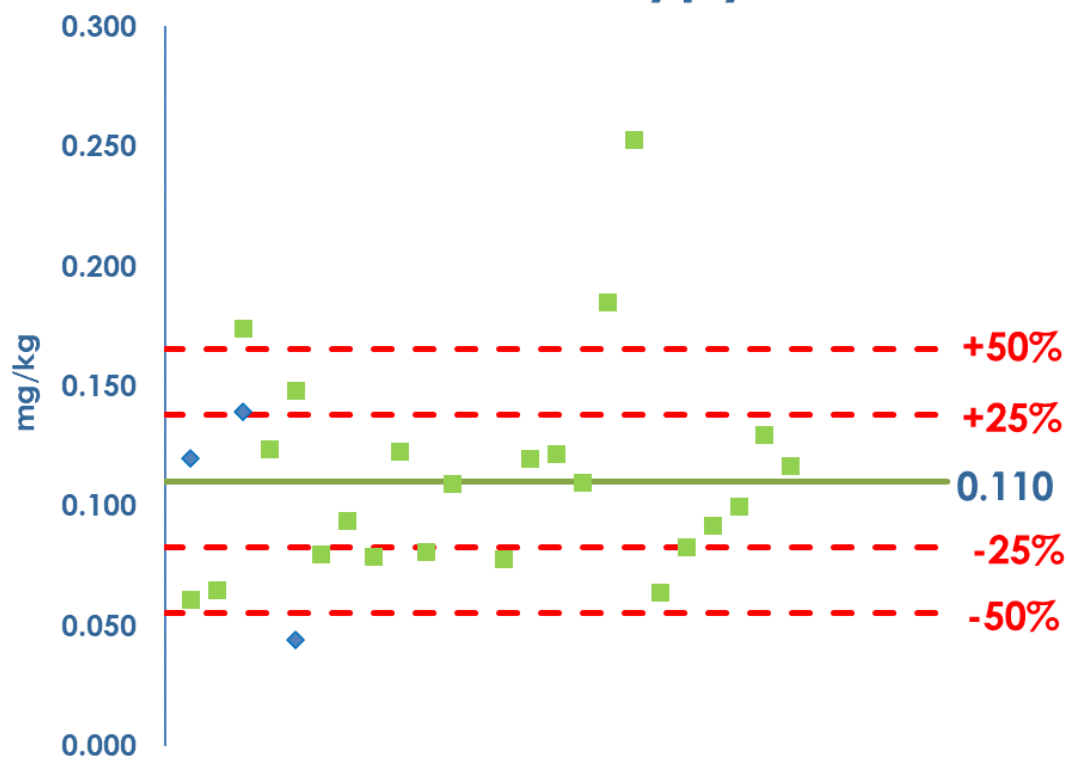
Flufenacet





Pesticides	No of Detections	N° of Labs detected the pesticide	% of Labs detected the pesticide	No of Conc. Reported	No of Conc. Reported by EU/EFTA labs	Conc. Homogeneity Test (mg/kg)	Robust mean (mg/kg)	CV (%)
Fluroxypyr	29	29	48	27	27	0.135	0.110	37.4

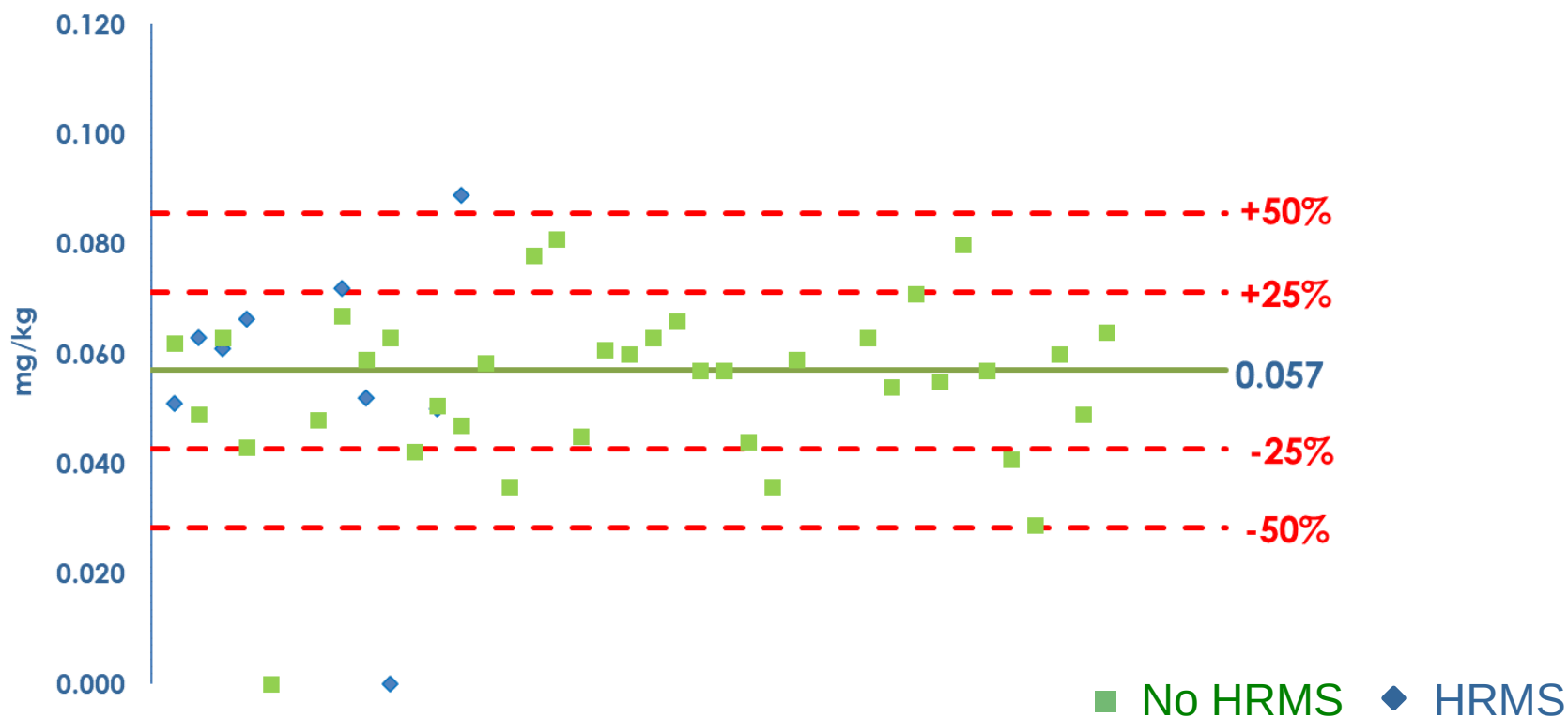
Fluroxypyr





Pesticides	No of Detections	N° of Labs detected the pesticide	% of Labs detected the pesticide	No of Conc. Reported	No of Conc. Reported by EU/EFTA labs	Conc. Homogeneity Test (mg/kg)	Robust mean (mg/kg)	CV (%)
Metazachlor	57	51	85	49	46	0.059	0.057	20.7

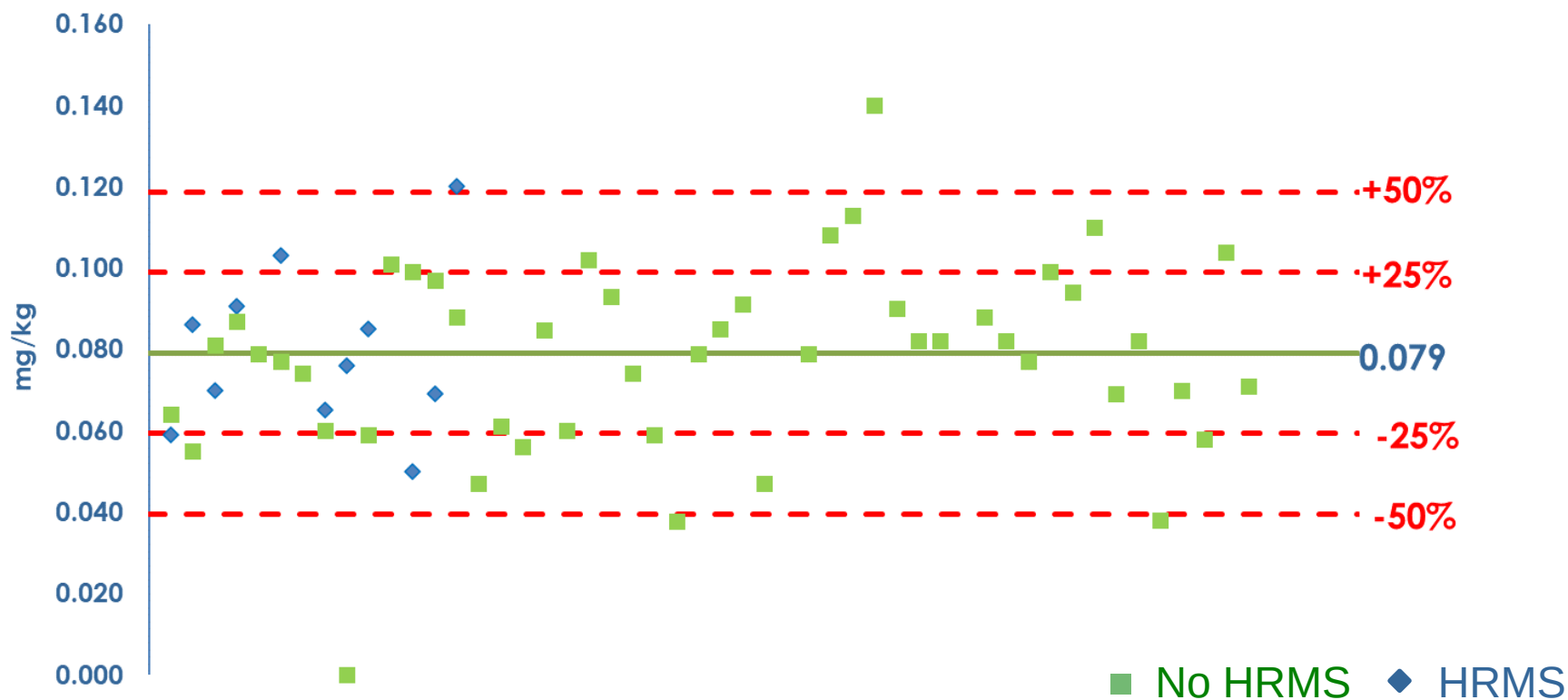
Metazachlor





Pesticides	No of Detections	N° of Labs detected the pesticide	% of Labs detected the pesticide	No of Conc. Reported	No of Conc. Reported by EU/EFTA labs	Conc. Homogeneity Test (mg/kg)	Robust mean (mg/kg)	CV (%)
Pirimiphos-methyl	68	58	97	62	59	0.085	0.079	25.8

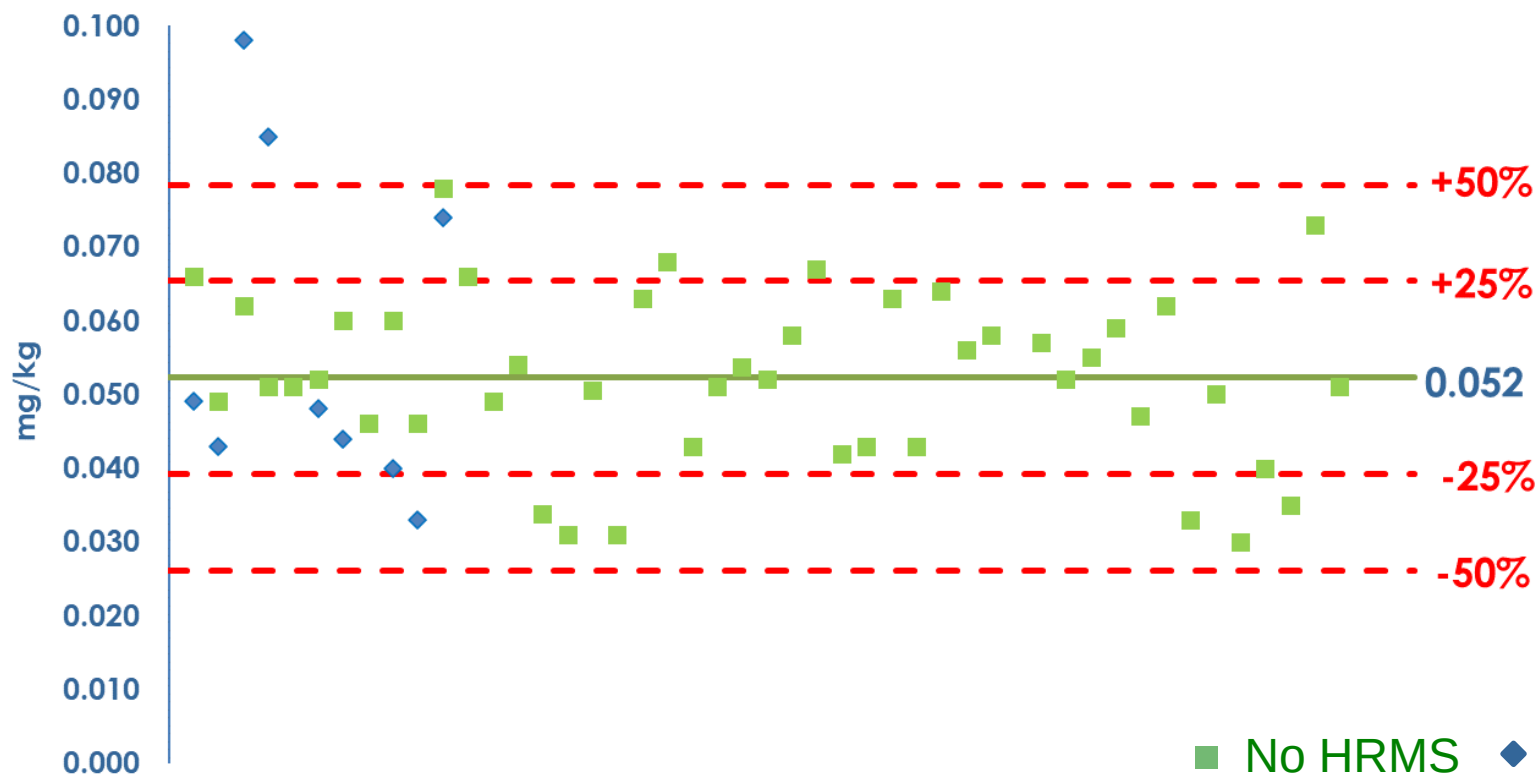
Pirimiphos Methyl





Pesticides	No of Detections	N° of Labs detected the pesticide	% of Labs detected the pesticide	No of Conc. Reported	No of Conc. Reported by EU/EFTA labs	Conc. Homogeneity Test (mg/kg)	Robust mean (mg/kg)	CV (%)
Tebuconazole	63	58	97	59	55	0.055	0.052	24.9

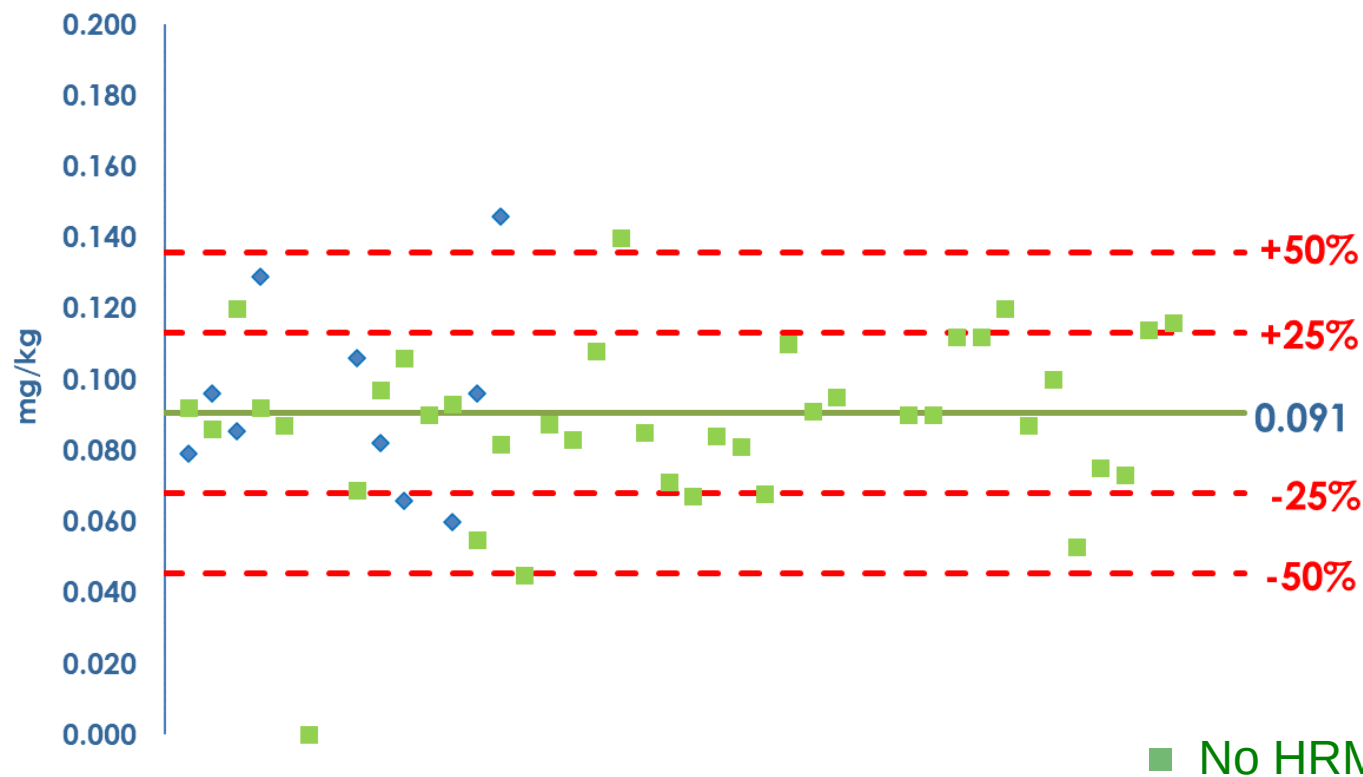
Tebuconazole





Pesticides	No of Detections	N° of Labs detected the pesticide	% of Labs detected the pesticide	No of Conc. Reported	No of Conc. Reported by EU/EFTA labs	Conc. Homogeneity Test (mg/kg)	Robust mean (mg/kg)	CV (%)
Tetramethrin	60	54	90	52	49	0.093	0.091	22.8

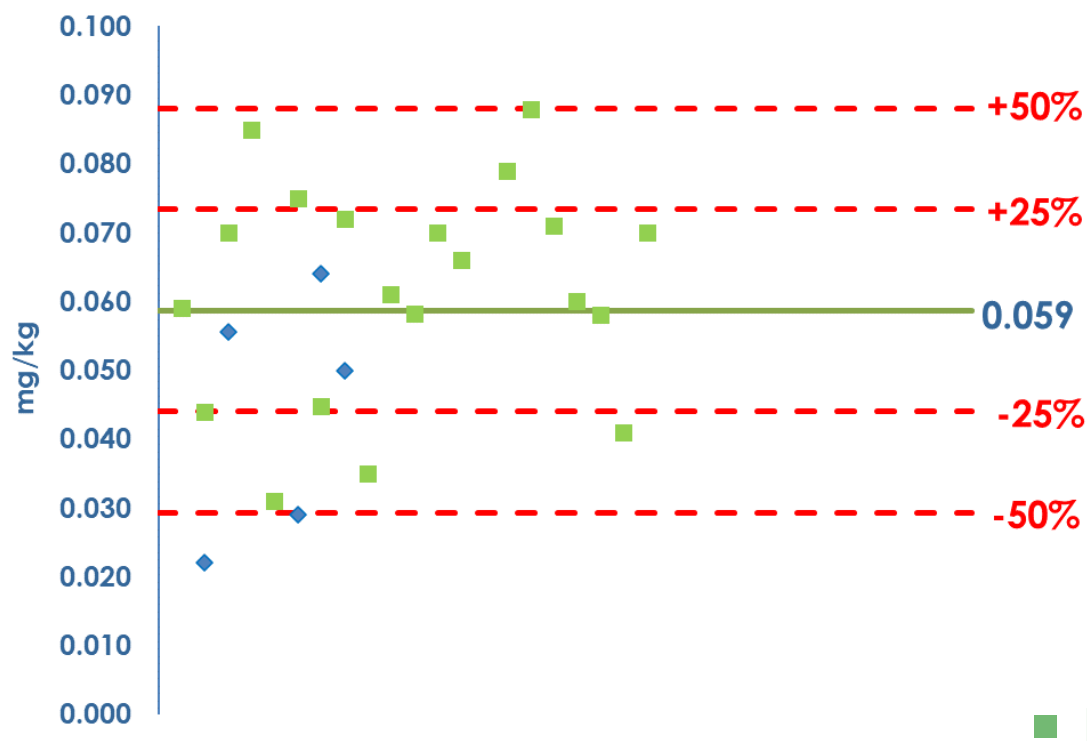
Tetramethrin



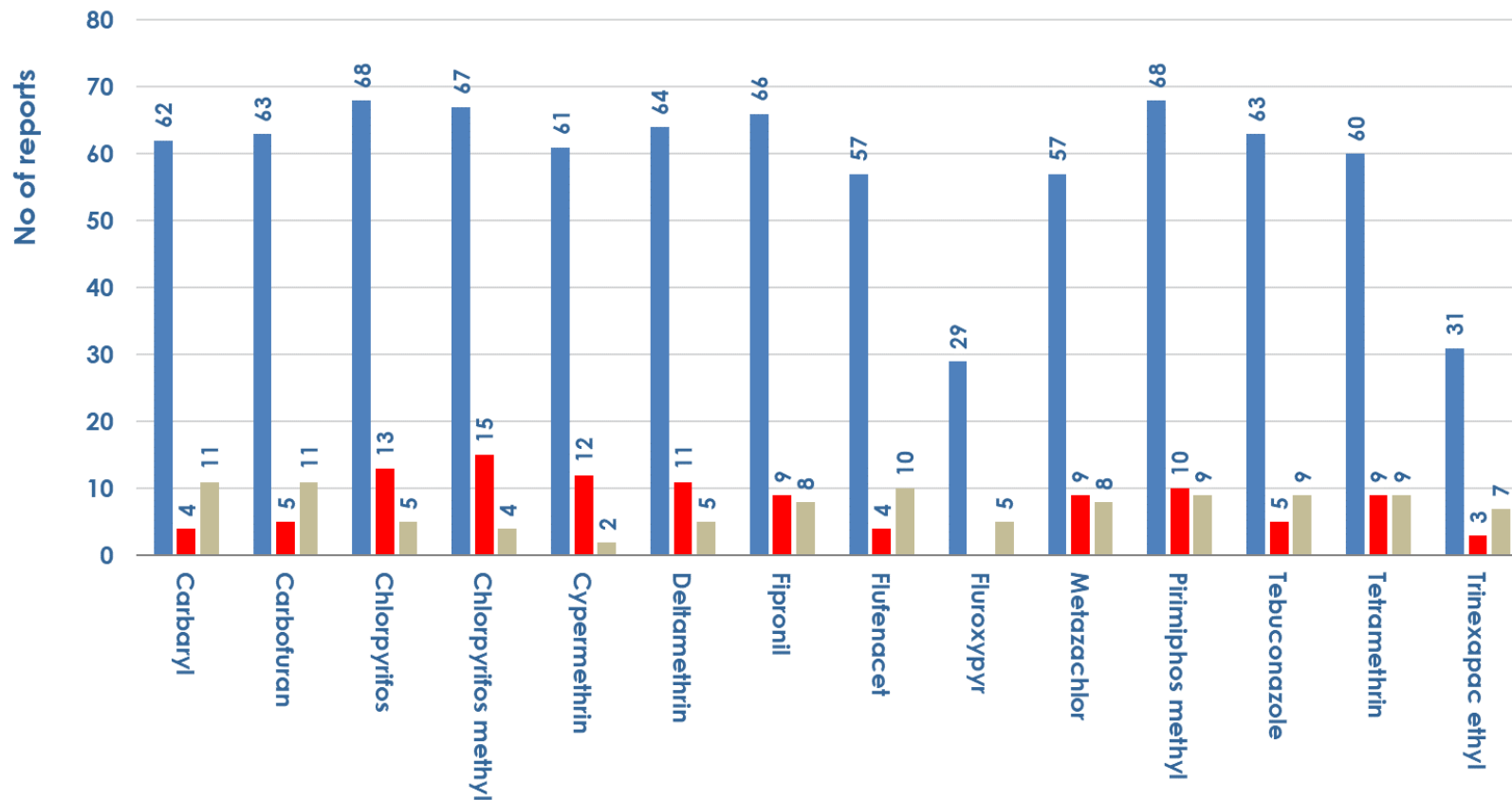


Pesticides	No of Detections	N° of Labs detected the pesticide	% of Labs detected the pesticide	No of Conc. Reported	No of Conc. Reported by EU/EFTA labs	Conc. Homogeneity Test (mg/kg)	Robust mean (mg/kg)	CV (%)
Trinexapac-Ethyl	31	30	50	26	25	0.057	0.059	32.4

Trinexapac Ethyl



SM-15 Techniques (Full Scan/AIF)



■ Total Number of Reported Detections (some laboratories apply more than one technique) ■ Full Scan/AIF GC ■ Full Scan/AIF LC

LAB. CODE	Lab001	Lab002	Lab003	Lab004	Lab005	Lab006	Lab007	Lab008	Lab011	Lab012	Lab013	Lab014	Lab015	Lab016	Lab018	Lab019	Lab020	Lab021	Lab022	Lab023	Lab024	Lab025	Lab026	Lab027	Lab029	Lab030	Lab031	Lab032	Lab033	Lab034	Lab035	Lab036	Lab037	Lab038	Lab039	Lab040	Lab041	Lab042	Lab043	Lab044	Lab045	Lab046	Lab047	Lab048	Lab049	Lab050	Lab051	Lab052	Lab053	Lab054	Lab056	Lab057	Lab059	Lab060	Lab061	Lab062	Lab063	Lab064	Lab065	Lab066	Lab067	Lab068	Lab069	Lab070	Lab071	Lab072	Lab073	Lab074	Lab075	Lab076	Lab077	Lab078	Lab079	Lab080	Lab081	Lab082	Lab083	Lab084	Lab085	Lab086	Lab087	Lab089	Lab090
Total Detections (all of them)	22	11	15	16	17	6	14	8	3	16	19	25	14	11	14	14	14	21	10	16	33	24	14	13	23	12	16	22	15	14	13	0	9	13	13	13	21	12	5	9	7	12	1	10	8	1	8	3	13	14	11	15	8	20	14	26	15	23	16	10	35	15	11	8	16	15	9	13	14	2	19	6	4	14	12	13							
GC Detections	10	7	8	11	2	6	3	8	0	9	8	0	14	1	8	8		3	5	9	6	14	4	7	8	6	5	9	8	3	9		9	2	4	8	15	3	2	6	6	7	1	5	3	0	8	0	1	7	6	6	7	7	4	9	9	4	13	0	4	6	5	9	7	5	9	25	11	6	3	11	5	5	8	12	2	2	0	4		7	0
LC Detections	Total Detections: 816 Total Full Scan/AIF: 212 26% of Total Detections																														GC Detections: 384 GC Full Scan/AIF: 109 (28% of the GC detections) 13% of Total Detections										LC Detections: 432 LC Full Scan/AIF: 103 (24% of the LC Detections) 13% of Total Detections											5	13																														
Total Full Scan	22	7	15	0	0	0	0	8	0	0	0	14	10		0		21	0	13	16	0	0		9	0	0	22	0	14	0	0	0	11	9	13	0	12	0	0		0	1	0	0		0	0	0		0	9	1	8	4	0	0	13	8	15	0	12	0	0		9	35	0	0	0	5	1	0	0	14	0	16	0	0		11	13		
GC Full Scan	10	7	8	0	0	0	0	8	0	0	0	14	0		0		3	0	9	4	0	0		0	0	0	9	0	3	0	0	0	0	0	8	0	3	0	0		0	1	0	0		0	0	0		0	0	1	7	4	0	0	13	0	0	0	0	0		9	25	0	0	0	0	0	0	12	0	0	0	0		6	0				
LC Full Scan	12	0	7	0	0	0	0	0	0	0	0	0	10		0		18	0	4	12	0	0		9	0	0	13	0	11	0	0	0	11	9	5	0	9	0	0		0	0	0		0	0	0		0	9	0	1	0	0	8	15	0	12	0	0		0	10	0	0	0	5	1	0	0	2	0	16	0	0		5	13					



NO OF PARTICIPATING LABS 60 LABS

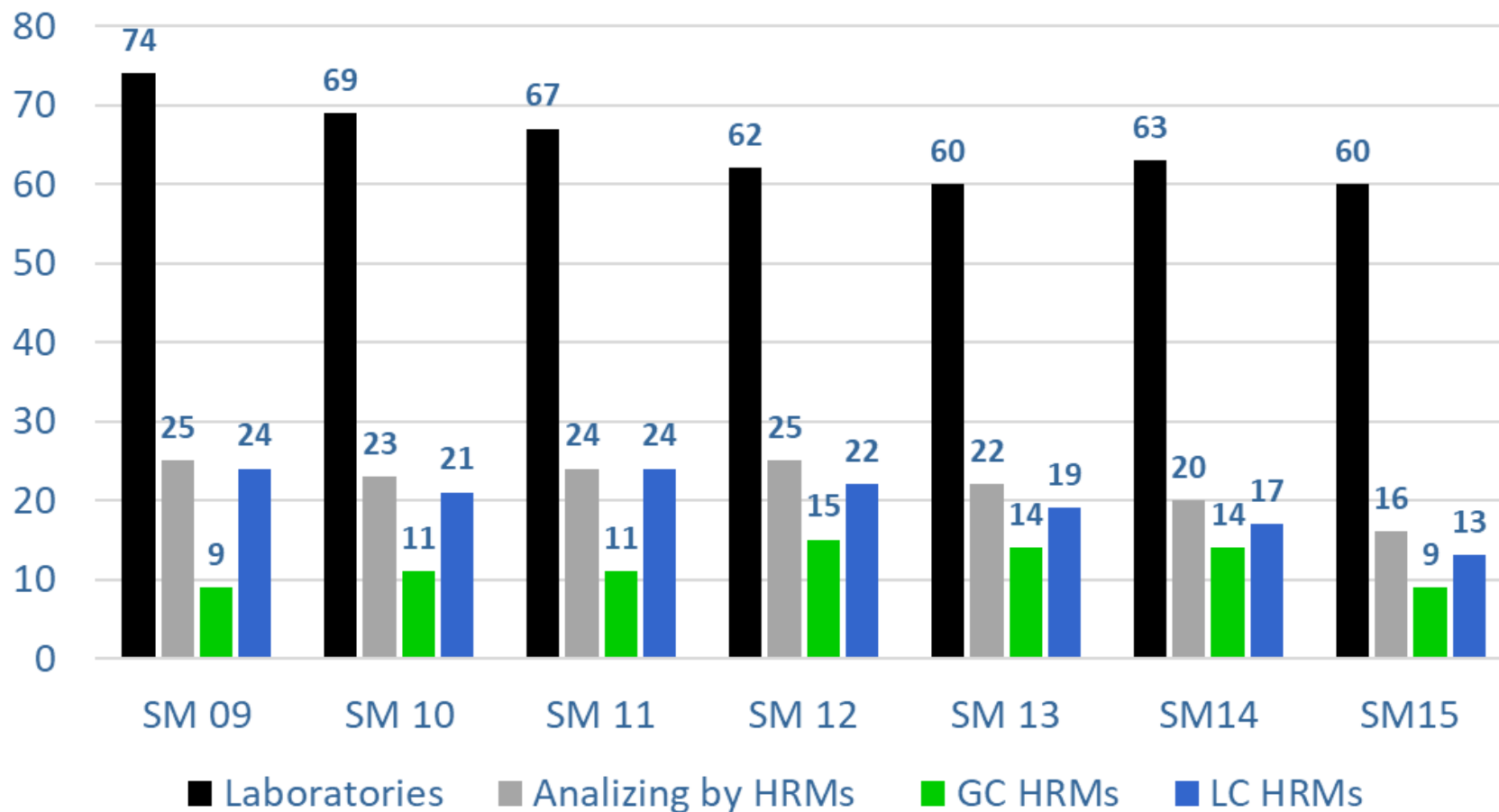
Labs **NOT ANALIZING BY** HRMS
44 Labs (73%)

Labs **ANALIZING BY** HRMS
16 Labs (27%)

Labs ANALIZING BY **GC-HRMS**
9 Labs
56% from the 20 laboratories
using HRMS

Labs ANALIZING BY **LC-HRMS**
13 Labs
65% from the 20 laboratories
using HRMS

Laboratories Analysing by HRMs



**Thank You
for Your Attention**



EURL EUROPEAN
UNION
REFERENCE
LABORATORY



EUPT-FV-SC06
European Proficiency Test FV-SC06



Chili Peppers

211 pesticides

Same as Target List FV24

Acephate	Carbaryl	Cyproconazole	Endosulfan sulfate	Fenpropidin
Acetamiprid	Carbendazim	Cyprodinil	EPN	Fenpropimorph (sum of isomers)
Aclonifen	Carbofuran	Deltamethrin (cis-deltamethrin)	Epoxiconazole	Fenpyrazamine
Acrinathrin	Carbofuran-3-hydroxy	Demeton-S-methylsulfone	Ethion	Fenpyroximate
Aldicarb	Chlorantraniliprole	Diazinon	Ethirimol	Fenthion
Aldicarb Sulfone	Chlorfenapyr	Dichlofluanid	Ethoprophos	Fenthion oxon
Aldicarb Sulfoxide	Chlorfenvinphos	Dichlorvos	Etofenprox	Fenthion oxon sulfone
Aldrin	Chlorobenzilate	Dicloran	Etoazole	Fenthion oxon sulfoxide
Ametoctradin	Chlorothalonil	Dicofol (sum of p, p´ and o,p´ isomers)	Famoxadone	Fenthion sulfone
Azinphos-methyl	Chlorpropham	Dieldrin	Fenamidone	Fenthion sulfoxide
				Fenvalerate (any ratio of constituent isomers (RR, SS, RS & SR) including esfenvalerate)
Azoxystrobin	Chlorpyrifos	Diethofencarb	Fenamiphos	Fipronil
				Fipronil sulfone
Bifenthrin (sum of isomers)	Chlorpyrifos-methyl	Difenoconazole	Fenamiphos sulfone	Flonicamid
Biphenyl	Clofentezine	Diflubenzuron	Fenamiphos sulfoxide	
Bitertanol (sum of isomers)	Clothianidin	Dimethoate	Fenarimol	
Boscalid	Cyantraniliprole	Dimethomorph (sum of isomers)	Fenazaquin	Flubendiamide
		Dimethylaminosulfotoluidide (DMST)	Fenbuconazole	Fludioxonil
Bromopropylate	Cyazofamid			
	Cyflufenamid: sum of cyflufenamid (Z-isomer) and its E-isomer	Diniconazole (sum of isomers)	Fenhexamid	Flufenoxuron
Bromuconazole (sum of diastereoisomers)	Cyfluthrin (cyfluthrin incl. other mixtures of constituent isomers (sum of isomers))	Diphenylamine	Fenitrothion	
Bupirimate	Cymoxanil	Endosulfan alpha	Fenoxycarb	Fluopicolide
Buprofezin	Cypermethrin (cypermethrin incl. other mixtures of constituent isomers (sum of isomers))	Endosulfan beta	Fenpropathrin	Fluopyram
Cadusafos				Fluquinconazole

211 pesticides

Same as Target List FV24

Flusilazole	Flusilazole	Malathion	Paclobutrazole	Spiroxamine (sum of isomers)	Triazophos
Flutolanil	Flutolanil	Mandipropamid	Paraoxon-methyl	Sulfoxaflor (sum of isomers)	Trichlorfon
Flutriafol	Flutriafol	Mepanipyrim	Parathion-ethyl	Tau-Fluvalinate	Tricyclazole
Fluxapyroxad	Fluxapyroxad	Metaflumizone (sum of E- and Z- isomers)	Parathion-methyl	Tebuconazole	Trifloxystrobin
Fosthiazate	Fosthiazate	Metalaxyl and metalaxyl-M	Penconazole	Tebufenozide	Triflumizole
Hexaconazole	Hexaconazole	Methamidophos	Pencycuron	Tebufenpyrad	Triflumizole metabolite (FM-6-1)
Hexythiazox	Hexythiazox	Methidathion	Pendimethalin	Teflubenzuron	Triflumuron
Imazalil	Imazalil	Methiocarb	Permethrin (sum of isomers)	Tefluthrin	Trifluralin
Imidacloprid	Imidacloprid	Methiocarb sulfone	Phenthoate	Terbutylazine	Triticonazole
Indoxacarb (sum of indoxacarb and its R enantiomer)	Indoxacarb (sum of indoxacarb and its R enantiomer)	Methiocarb sulfoxide	Phosalone	Tetraconazole	Vinclozolin (only parent compound)
Iprodione	Iprodione	Methomyl	Phosmet	Tetradifon	Zoxamide
Iprovalicarb	Iprovalicarb	Methoxyfenozide	Phosmet oxon	Thiabendazole	
Isocarbophos	Isocarbophos	Metrafenone	Phoxim	Thiacloprid	
Isofenphos-methyl	Isofenphos-methyl	Monocrotophos	Pirimicarb	Thiamethoxam	
Isoprothiolane	Isoprothiolane	Myclobutanyl	Pirimicarb-desmethyl	Thiodicarb	
Kresoxim-methyl	Kresoxim-methyl	Omethoate	Pirimiphos-methyl	Thiophanate-methyl	
Lambda-Cyhalothrin	Lambda-Cyhalothrin	Orthophenylphenol (Free compound only)	Prochloraz (only parent compound)	Tolclofos-methyl	
Linuron	Linuron	Oxadixyl	Procymidone	Tolyfluanid	
Lufenuron (any proportion of constituent isomers)	Lufenuron (any proportion of constituent isomers)	Oxamyl	Profenofos	Triadimefon	
Malaoxon	Malaoxon	Oxydemeton-methyl	Propamocarb (only parent compound)	Triadimenol (any proportion of constituent isomers)	

Calendar

EUPT-SC06 CALENDAR

ACTIVITY	DATE
Registration period	21 st October 2022- 7 th November 2022
Specific Protocol published on the Web site.	14 th November 2021 at the latest
Sample distribution.	28 th November 2022
Deadline for receiving results	9 th January 2023
Preliminary Report: (containing preliminary assigned values and z scores)	February 2023
Final Report distributed to the Laboratories.	August 2023



**Chili peppers were bought from
a producer in Almería**

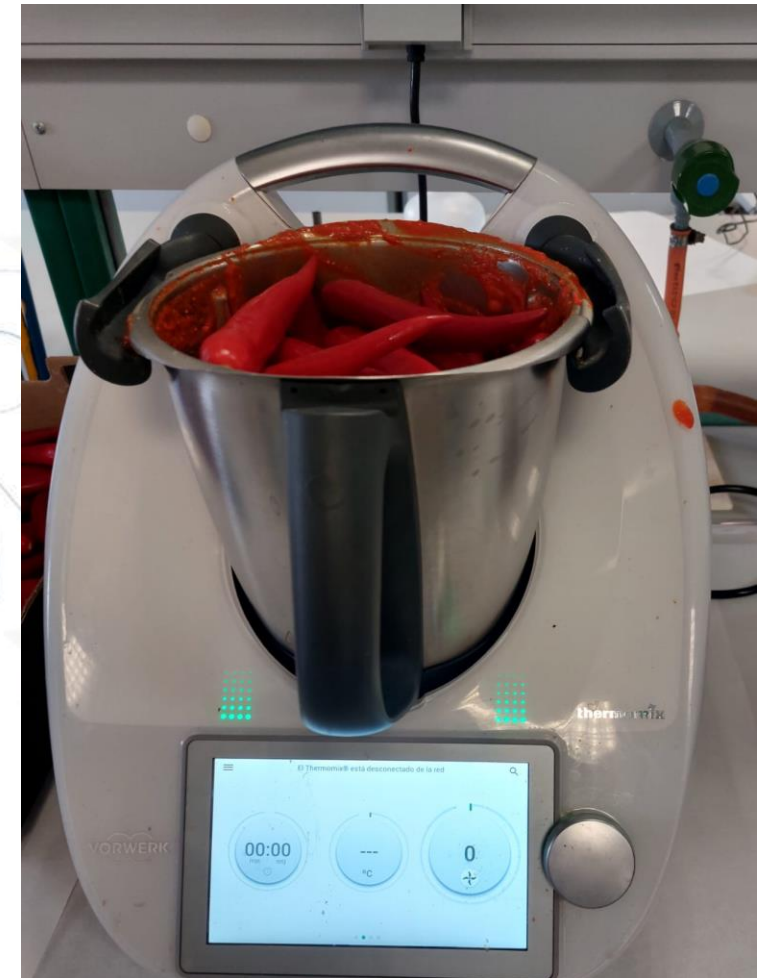
They contained incurred residues of:

Chlorantraniliprole

Tebuconazole

And they were processed with dry ice

Their stems were removed



After grinding, they were spiked with
analytical standards

Acetamiprid

Buprofezin

Chlorfenapyr

Chlorpyrifos

Cypermethrin

Dimethoate

Ethion

Flusilazole

Lambda Cyhalothrin

Omethoate

Pyridaben

Triazophos





Once homogenised, the material was
packed in zip bags and frozen

The frozen blocks of chili pepper homogenate were grinded in an ice crusher with dry ice





And the material was packed in
plastic bottles

Homogeneity

The homogeneity in the treated sample was studied using the 2006 Harmonised Protocol.

Stability

1st Analysis - prior to the sample shipment

2nd Analysis - after the deadline for reporting results

3rd Analysis - reproducing the delivery conditions that the samples experienced during 48 hours

All the pesticides passed the homogeneity and stability tests

Participation

Total No. of Labs = 37
EU/EFTA Labs = 34
Other countries Labs = 3

Total No. of Countries = 19
EU/EFTA countries = 17
Other countries = 2

They all submitted results

Participation

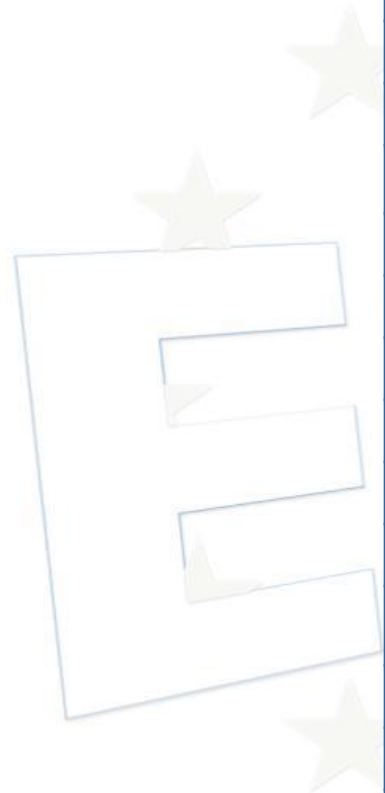
Member State	No. Labs
Austria	1
Belgium	2
Croatia	1
Czech Republic	1
Estonia	1
France	2
Germany	5
Greece	1
Iceland	1
Ireland	1
Italy	3
Luxembourg	2
Norway	1
Poland	1
Romania	2
Spain	9
The Netherlands	2

Non-EU/EFTA	No. Labs
Serbia	2
Peru	1

Results

Assigned values

	Robust Mean X* (mg/kg)
Chlorantraniliprole	0,018
Flusilazole	0,062
Pyridaben	0,068
Lambda-Cyhalothrin	0,073
Tebuconazole	0,098
Cypermethrin	0,098
Triazophos	0,102
Omethoate	0,139
Ethion	0,149
Chlorfenapyr	0,182
Dimethoate	0,192
Buprofezin	0,202
Acetamiprid	0,361
Chlorpyrifos	0,890



Assigned values

AV < 3xMRRL

For informative purposes

	Robust Mean X* (mg/kg)
Chlorantraniliprole	0,018
Flusilazole	0,062
Pyridaben	0,068
Lambda-Cyhalothrin	0,073
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Dimethoate	0,192
Buprofezin	0,202
Acetamiprid	0,361
Chlorpyrifos	0,890



Assigned values

< 0.1 mg/kg



	Robust Mean X* (mg/kg)
Chlorantraniliprole	0,018
Flusilazole	0,062
Pyridaben	0,068
Lambda-Cyhalothrin	0,073
Tebuconazole	0,098
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Assigned values

< 0.1 mg/kg

0.1-0.5 mg/kg

	Robust Mean X* (mg/kg)
Chlorantraniliprole	0,018
Flusilazole	0,062
Pyridaben	0,068
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Dimethoate	0,192
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Assigned values

< 0.1 mg/kg

0.1-0.5 mg/kg

> 0.5 mg/kg

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Triazophos	0,102
Omethoate	0,139
Ethion	0,149
Chlorfenapyr	0,182
Dimethoate	0,192
Buprofezin	0,202
Acetamiprid	0,361
Chlorpyrifos	0,890



Assigned values and CVs

EU/EFTA Laboratories

	MRRL (mg/kg)	Robust Mean (mg/kg)	CV (%)	Uncertainty (mg/kg)
Acetamiprid	0,01	0,361	20,6	0,016
Buprofezin	0,01	0,202	17,0	0,007
Chlorantraniliprole ⓘ	0,01	0,018	20,1	0,001
Chlorfenapyr	0,01	0,182	14,3	0,006
Chlorpyrifos	0,005	0,890	18,0	0,035
Cypermethrin	0,01	0,098	16,5	0,004
Dimethoate	0,003	0,192	15,0	0,006
Ethion	0,01	0,149	15,6	0,005
Flusilazole	0,01	0,062	20,0	0,003
Lambda-Cyhalothrin	0,01	0,073	18,8	0,003
Omethoate	0,003	0,139	18,0	0,006
Pyridaben	0,01	0,068	14,9	0,002
Tebuconazole	0,01	0,098	25,2	0,005
Triazophos	0,005	0,102	20,0	0,005

ⓘ For informative purposes



	MRRL (mg/kg)	Robust Mean (mg/kg)	CV (%)	Uncertainty (mg/kg)
Acetamiprid	0,01	0,361	20,6	0,016
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ⓘ For informative purposes



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ⓘ For informative purposes



Assigned values and CVs

EU/EFTA Laboratories

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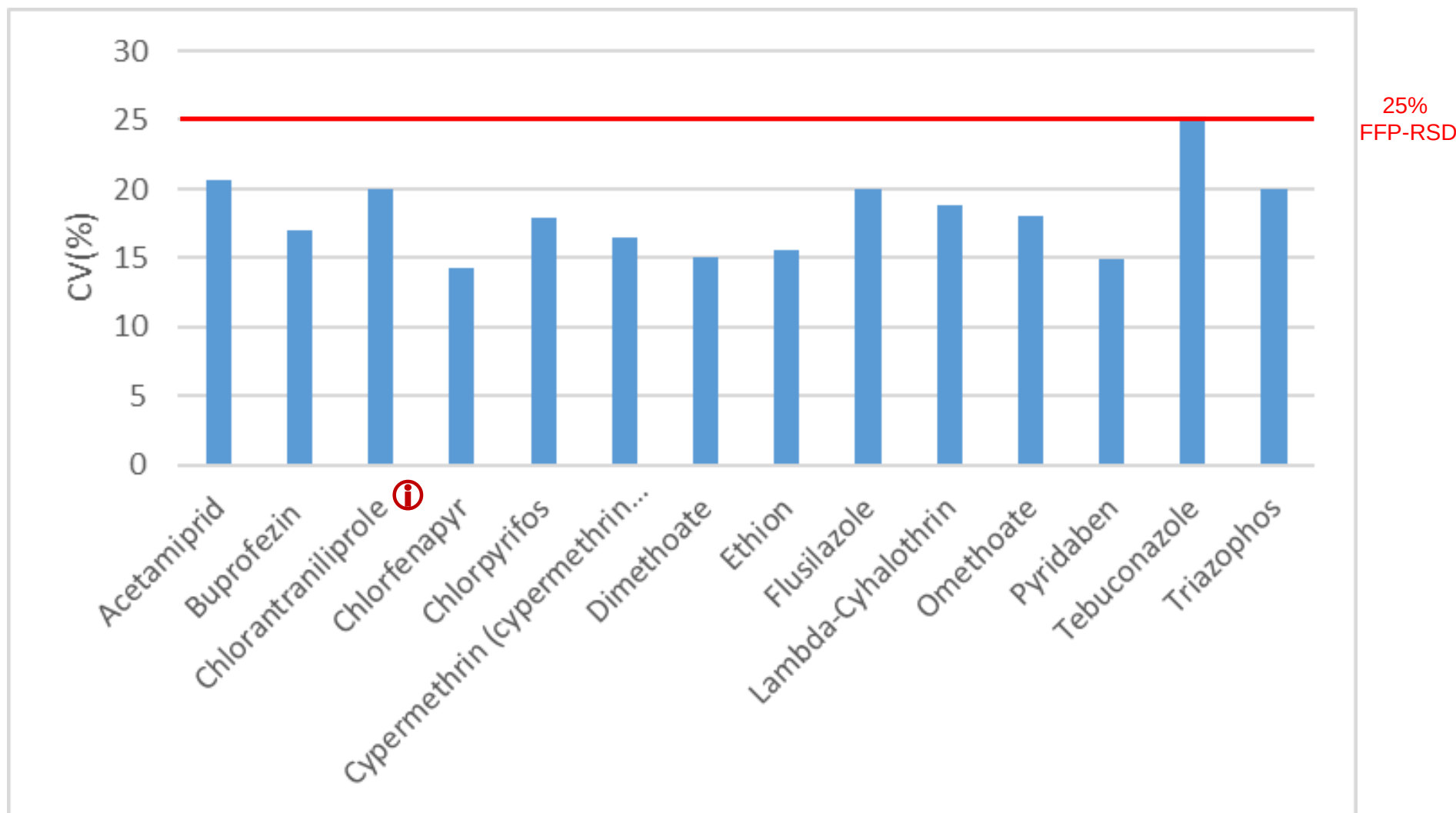
ⓘ For informative purposes



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Cypermethrin	0,01	0,098	16,5	0,004
Dimethoate	Average CV (%): 18,2 %		15,0	0,006
Ethion			15,6	0,005
Flusilazole	0,01	0,062	20,0	0,003
Lambda-Cyhalothrin	0,01	0,073	18,8	0,003
Omethoate	0,003	0,139	18,0	0,006
Pyridaben	0,01	0,068	14,9	0,002
Tebuconazole	0,01	0,098	25,2	0,005
Triazophos	0,005	0,102	20,0	0,005

ⓘ For informative purposes

Dispersion of Results





Reported, analysed and not analysed results

EU/EFTA Laboratories

	No. of Reported Results	No. of False Negative Results	No. of Not Analysed Results	Percentage of Labs Reporting Results (out of 34)
Acetamiprid	32	0	2	94
Buprofezin	33	0	1	97
Chlorantraniliprole ⓘ	28	3 NR	3	82
Chlorfenapyr	31	0	3	91
Chlorpyrifos	33	0	1	97
Cypermethrin	31	0	3	91
Dimethoate	33	0	1	97
Ethion	33	0	1	97
Flusilazole	33	1	0	97
Lambda-Cyhalothrin	31	1	2	91
Omethoate	31	1	2	91
Pyridaben	32	2	0	94
Tebuconazole	33	0	1	97
Triazophos	32	0	2	94

ⓘ For informative purposes



Reported, analysed and not analysed results

EU/EFTA Laboratories

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Chlorpyrifos	33	0	1	97
Cypermethrin	31	0	3	91
Dimethoate	33	0	1	97
Ethion	33	0	1	97
Flusilazole	33	1	0	97
Lambda-Cyhalothrin	31	1	2	91
Omethoate	31	1	2	91
Pyridaben	32	2	0	94
Tebuconazole	33	0	1	97
Triazophos	32	0	2	94

ⓘ For informative purposes

	No. of Reported Results	No. of False Negative Results	No. of Not Analysed Results	Percentage of Labs Reporting Results (out of 34)
Acetamiprid	32	0	2	94
Buprofezin	33	0	1	97
Chlorantraniliprole ⓘ	28	3 NR	3	82
Chlorfenapyr	31	0	3	91
Chlorpyrifos	33	0	1	97
Cypermethrin	31	0	3	91
Dimethoate	33	0	1	97
Ethion	33	0	1	97
Flusilazole	33	1	0	97
Lambda-Cyhalothrin	31	1	2	91
Omethoate	31	1	2	91
Pyridaben	32	2	0	94
Tebuconazole	33	0	1	97
Triazophos	32	0	2	94

ⓘ For informative purposes

z scores



z score classification

	Robust Mean (mg/kg)	% Acceptable z scores	% Questionable z scores	% Unacceptable z scores
Acetamiprid	0,361	88	6	6
Buprofezin	0,202	94	3	3
Chlorfenapyr	0,182	100	0	0
Chlorpyrifos	0,890	97	3	0
Cypermethrin	0,098	97	0	3
Dimethoate	0,192	94	3	3
Ethion	0,149	97	3	0
Flusilazole	0,062	91	3	6
Lambda Cyhalothrin	0,073	94	3	3
Omethoate	0,139	94	0	6
Pyridaben	0,068	94	0	6
Tebuconazole	0,098	91	3	6
Triazophos	0,102	97	3	0

① For informative purposes



z score classification

	Robust Mean (mg/kg)	% Acceptable z scores	% Questionable z scores	% Unacceptable z scores
Acetamiprid	0,361	88	6	6
Buprofezin	0,202	94	3	3
Chlorfenapyr	0,182	100	0	0
Chlorpyrifos	0,890	97	3	0
Cypermethrin	0,098	97	0	3
Dimethoate	0,192	94	3	3
Ethion	0,149	97	3	0
Flusilazole	0,062	91	3	6
Lambda Cyhalothrin	0,073	94	3	3
Omethoate	0,139	94	0	6
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Tebuconazole	0,098	91	3	6
Triazophos	0,102	97	3	0

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Pyridaben	0,068	94	0	6
Tebuconazole	0,098	91	3	6
Triazophos	0,102	97	3	0

① For informative purposes

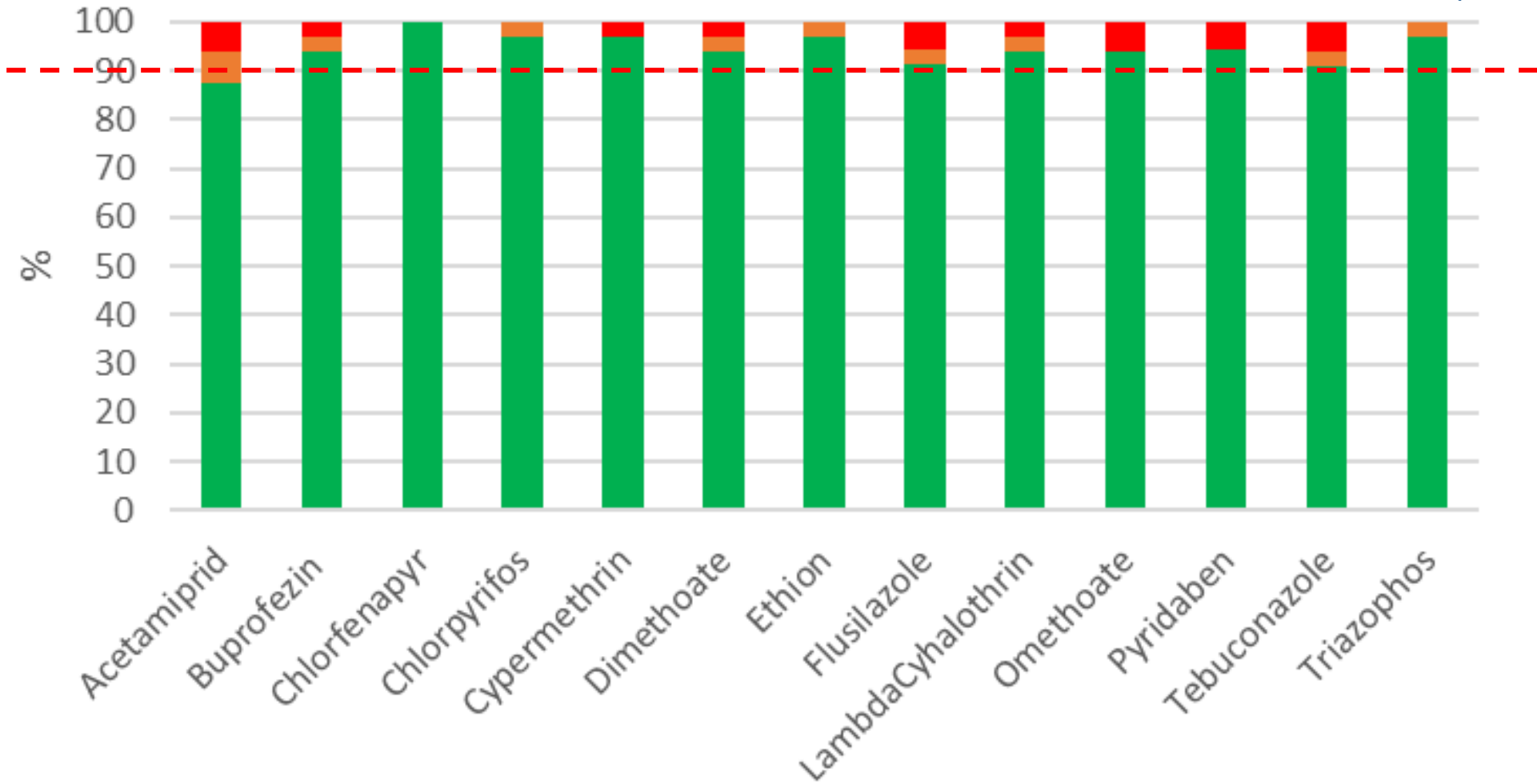


	Robust Mean (mg/kg)	% Acceptable z scores	% Questionable z scores	% Unacceptable z scores
Acetamiprid	0,361	88	6	6
Buprofezin	0,202	94	3	3
Chlorfenapyr	0,182	100	0	0
Chlorpyrifos	0,890	97	3	0
Cypermethrin	0,098	97	0	3
Dimethoate	0,192	94	3	3
Ethion	0,149	97	3	0
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Lambda Cyhalothrin	0,073	94	3	3
Omethoate	0,139	94	0	6
Pyridaben	0,068	94	0	6
Tebuconazole	0,098	91	3	6
Triazophos	0,102	97	3	0

① For informative purposes

z score classification

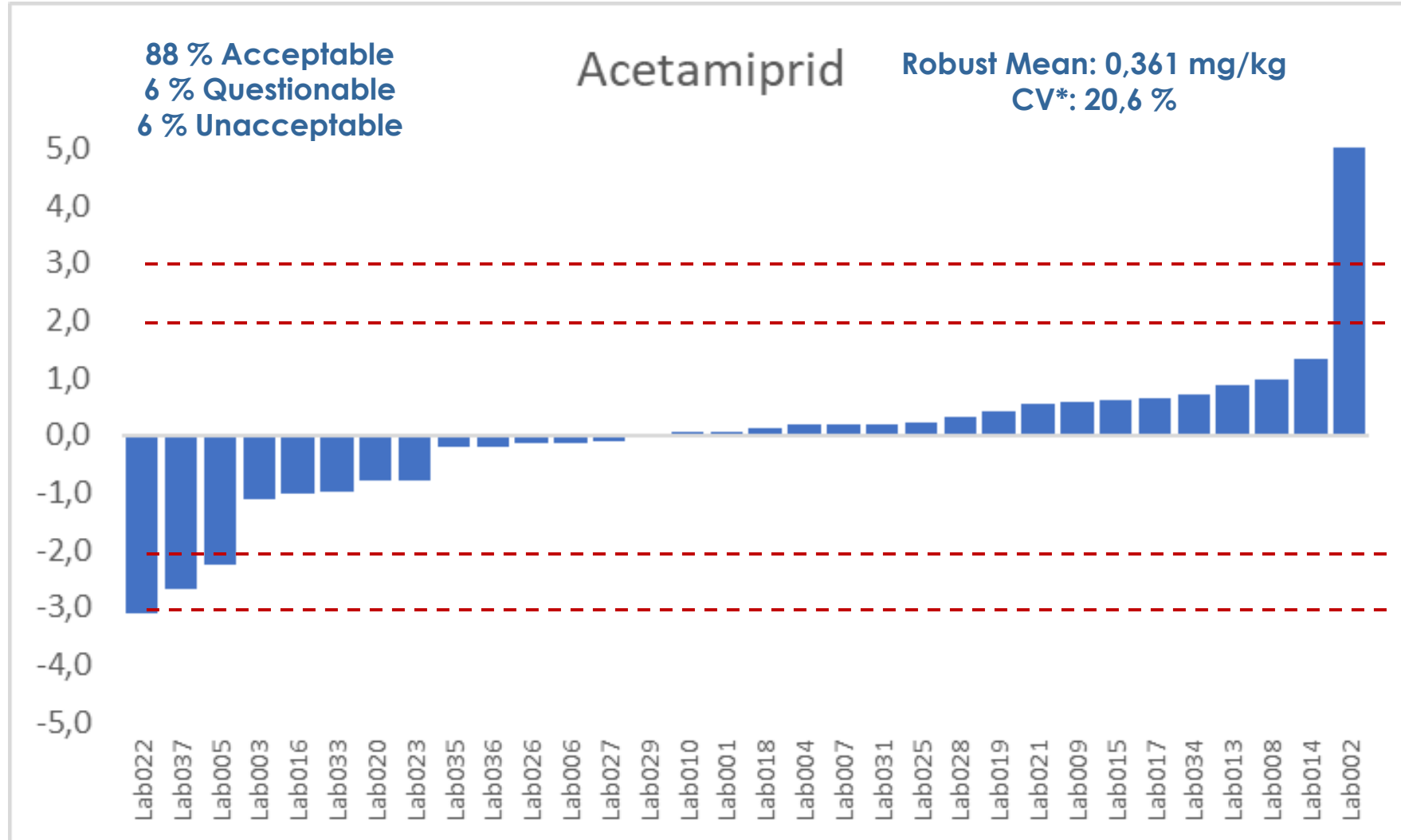
EU/EFTA Laboratories

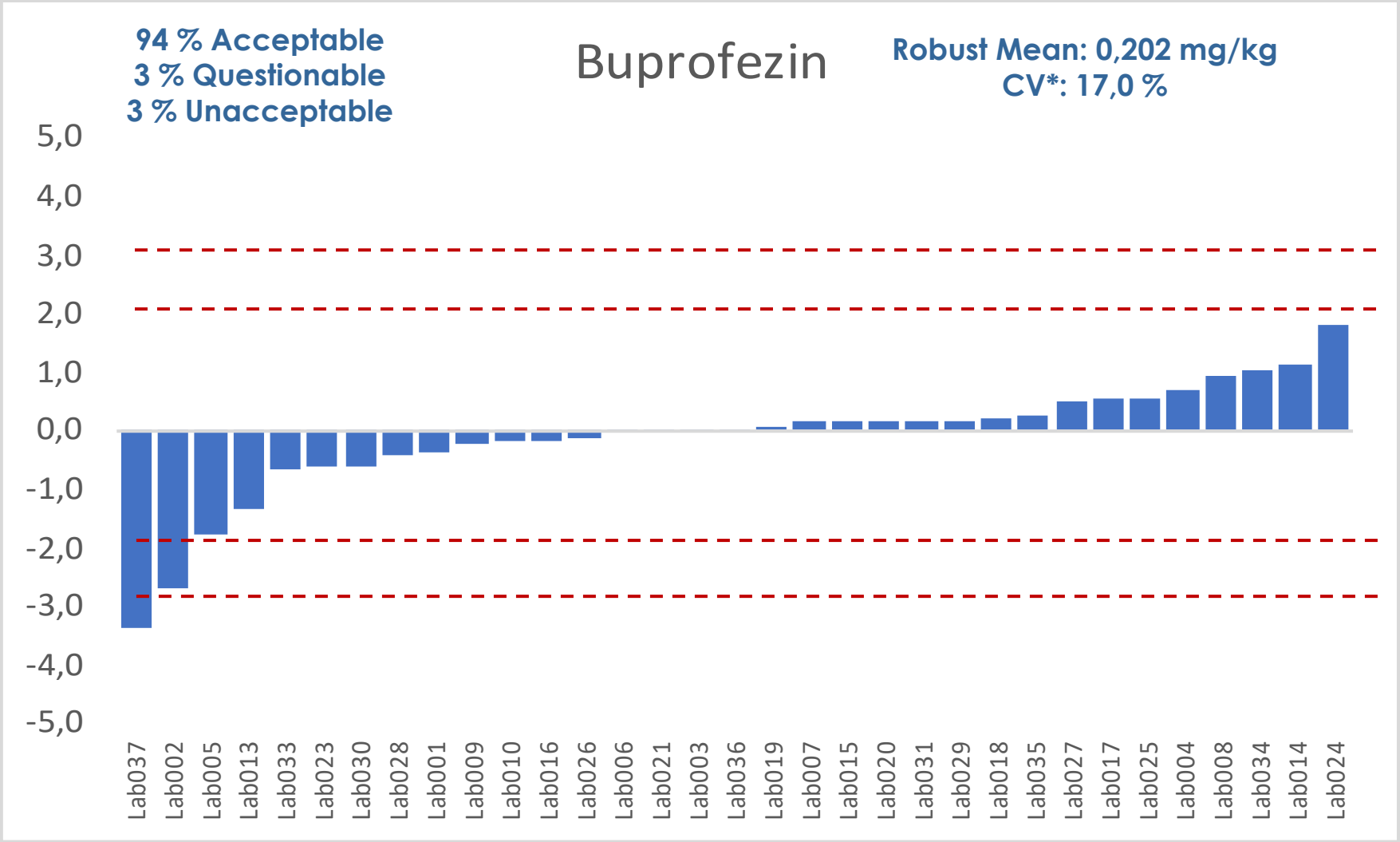


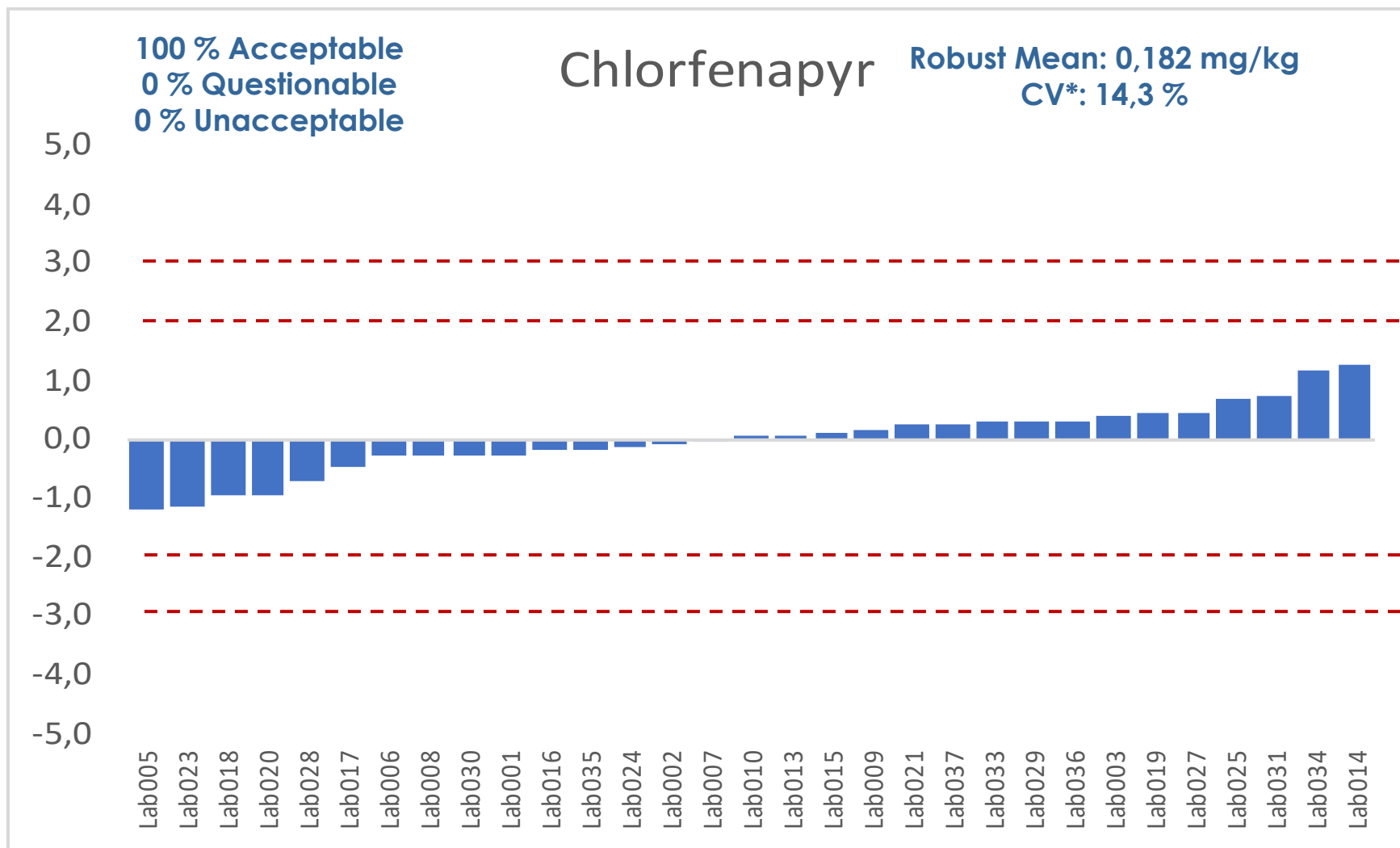
Acceptable

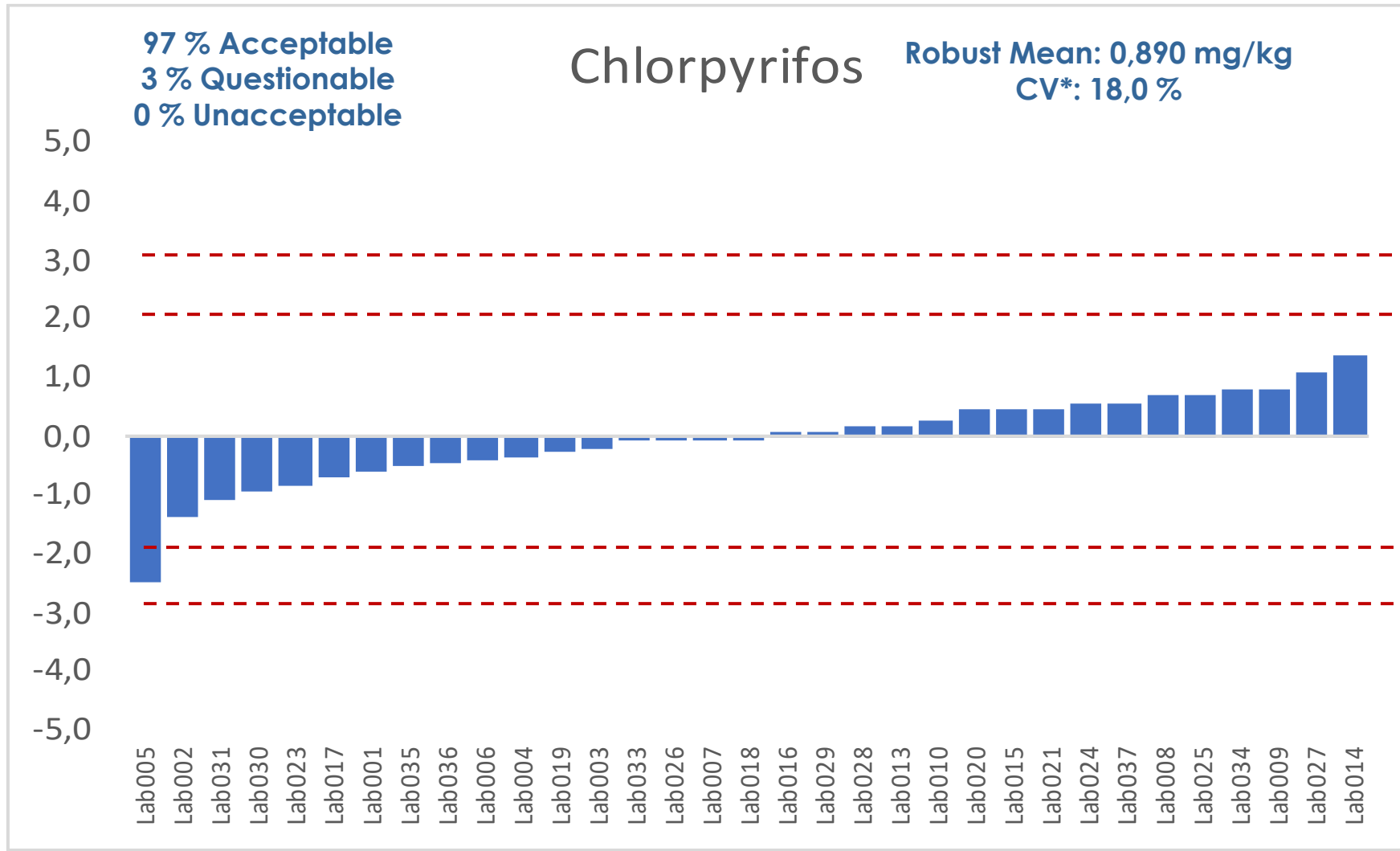
Questionable

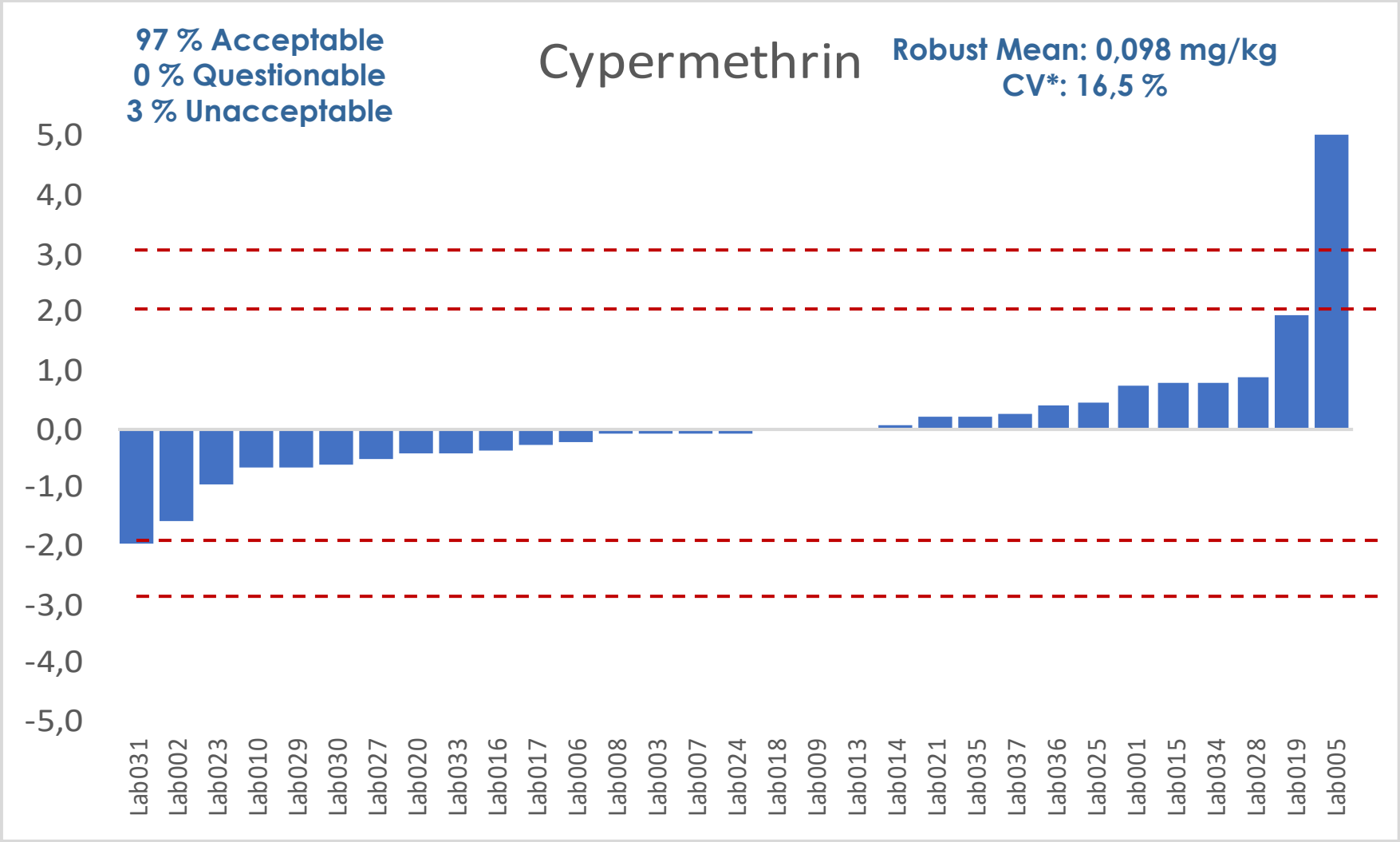
Unacceptable

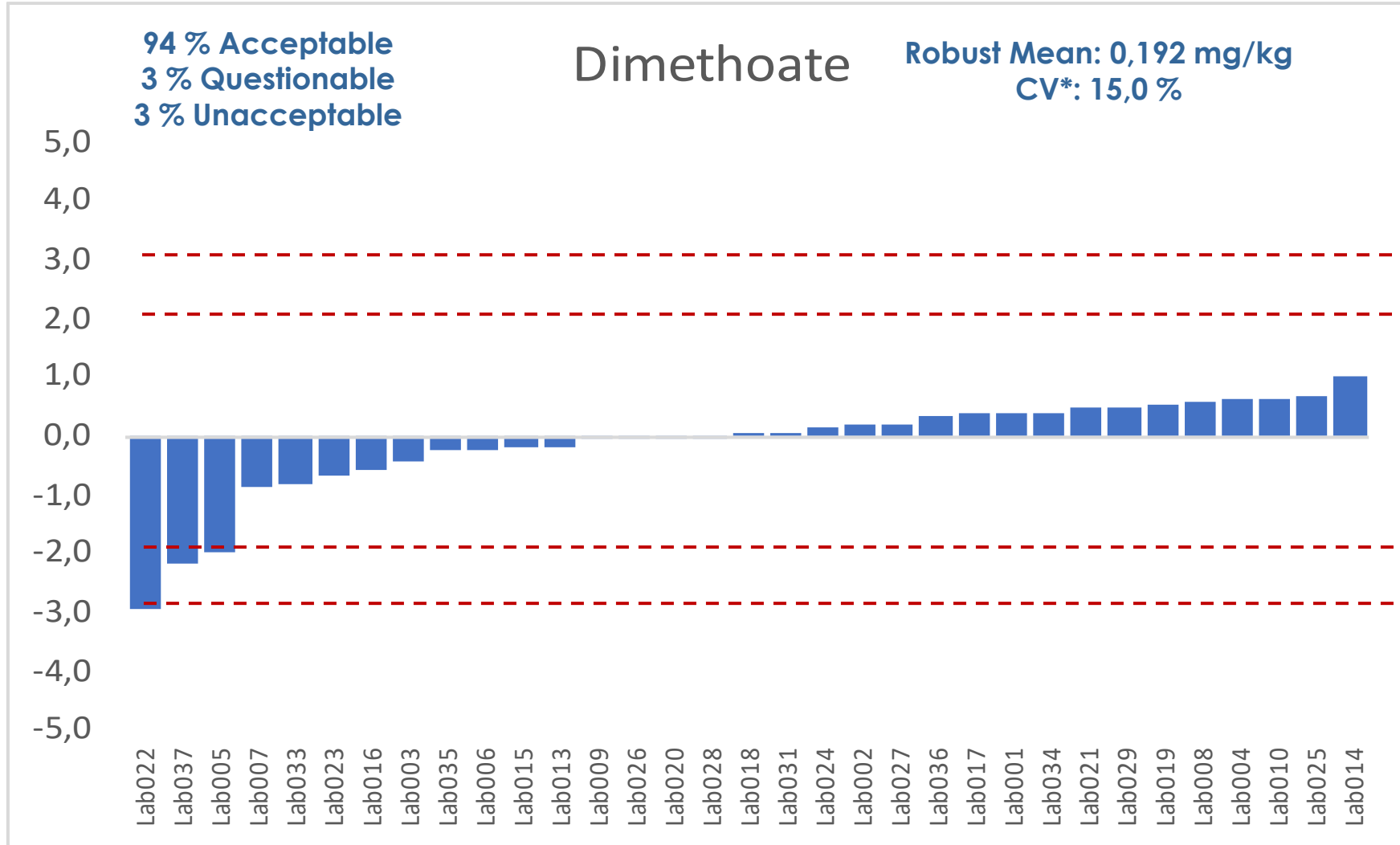


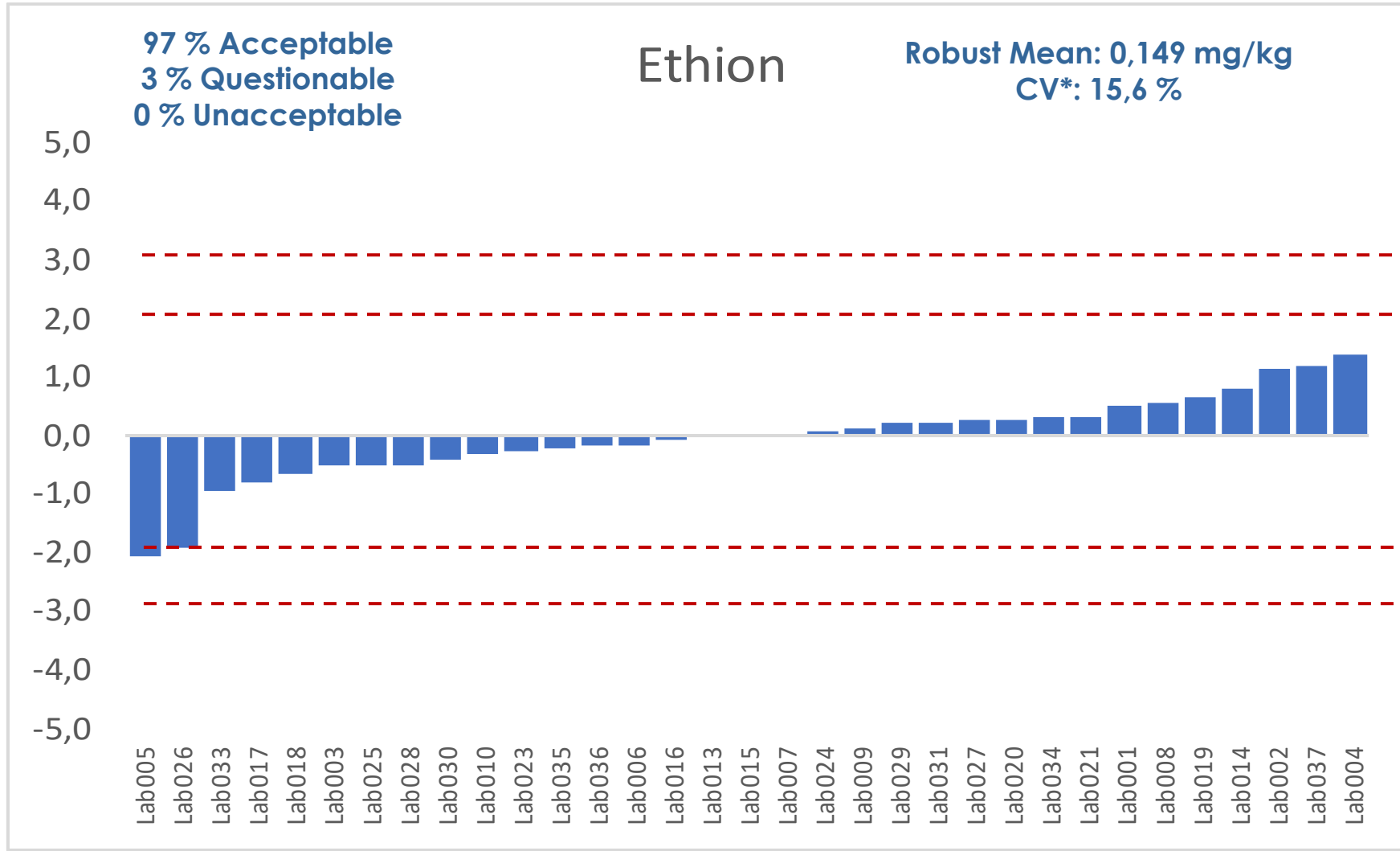


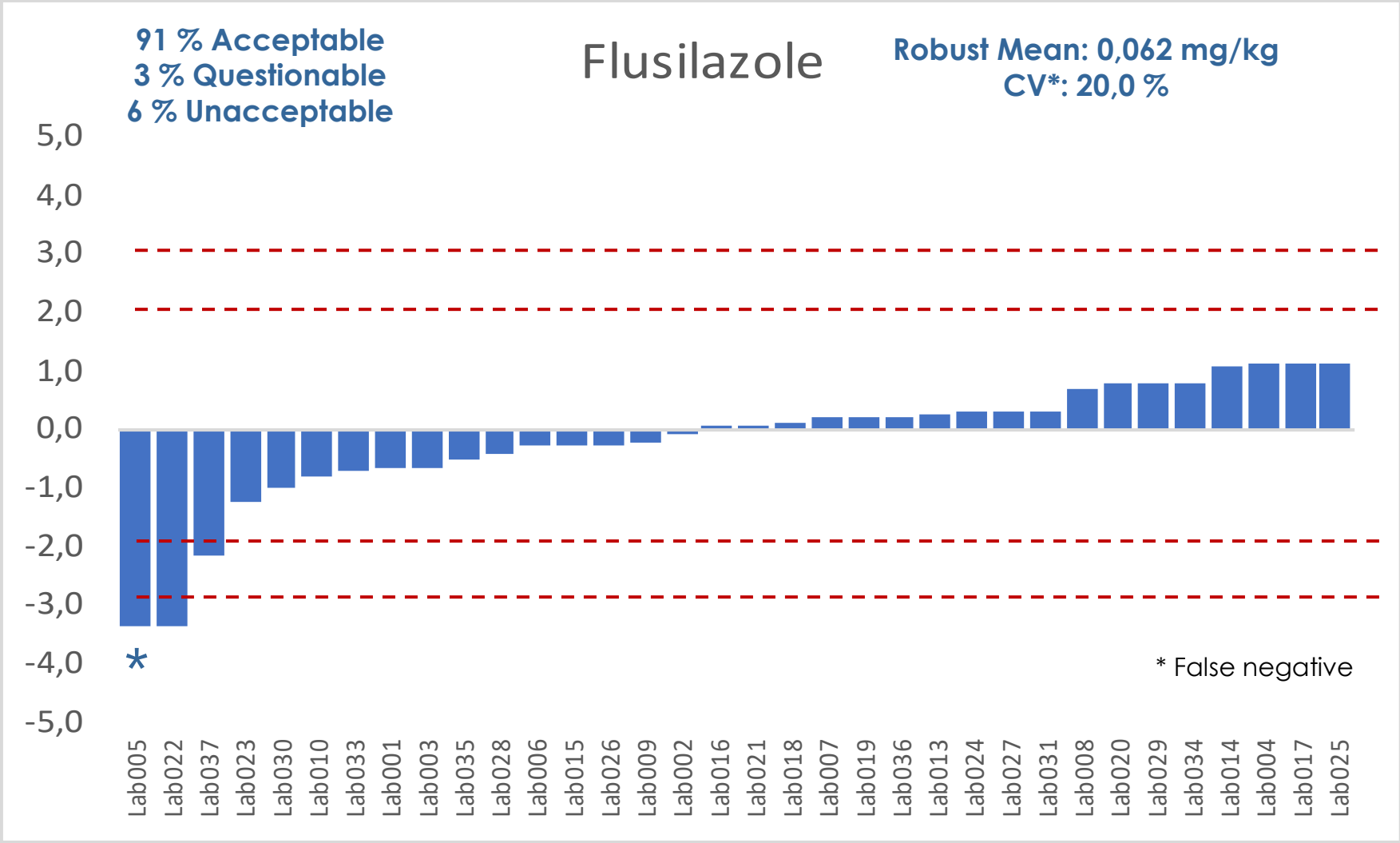


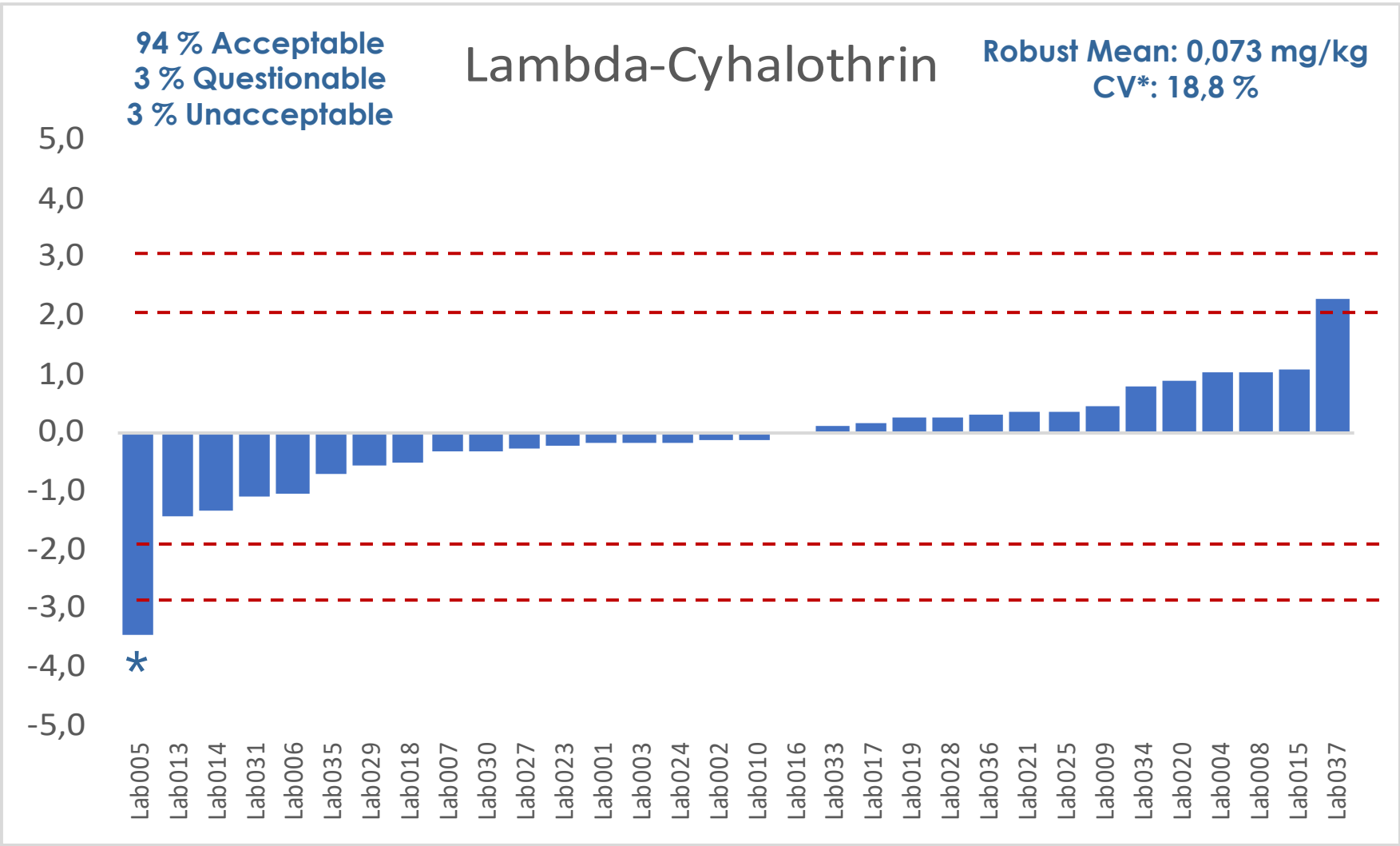


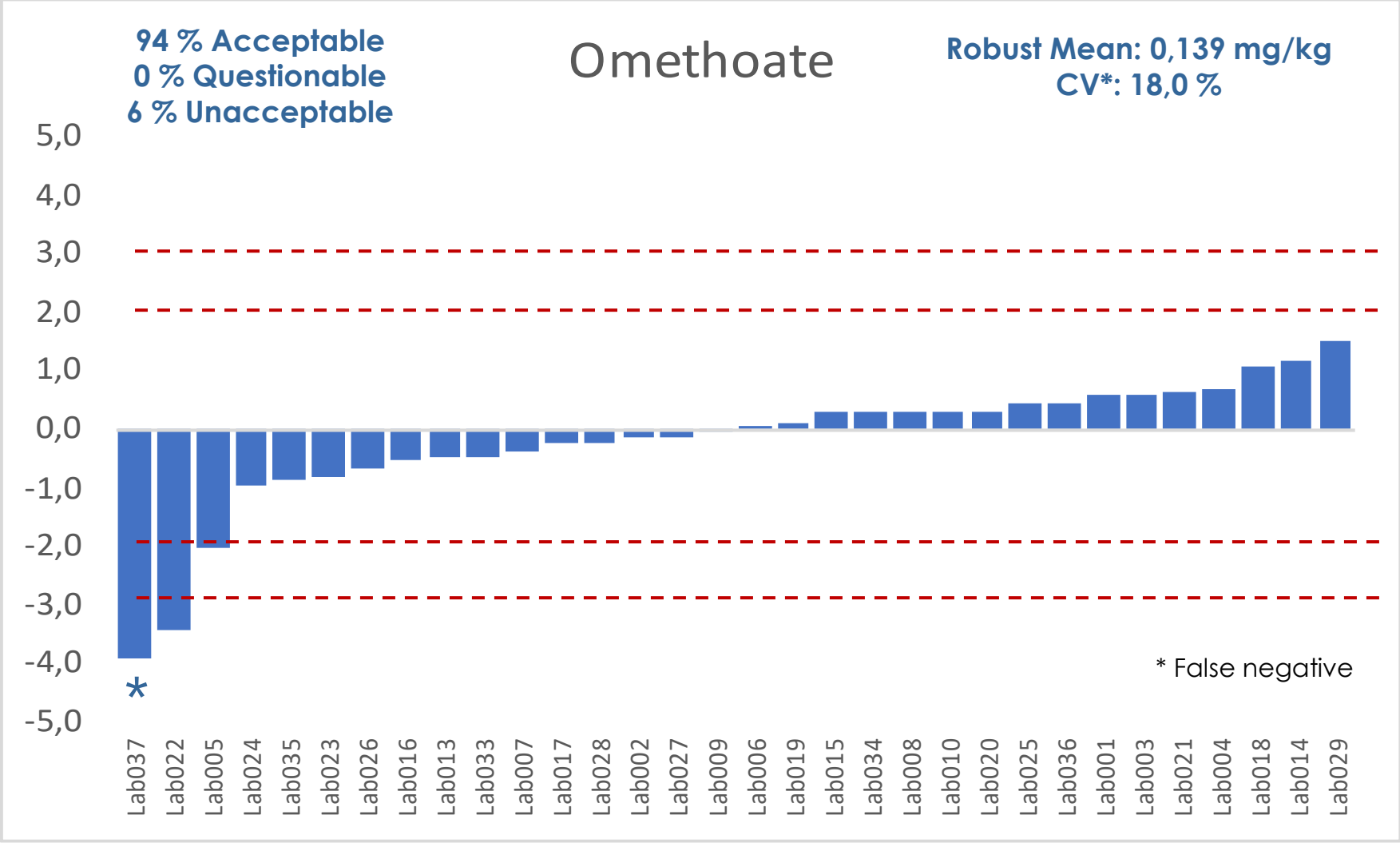


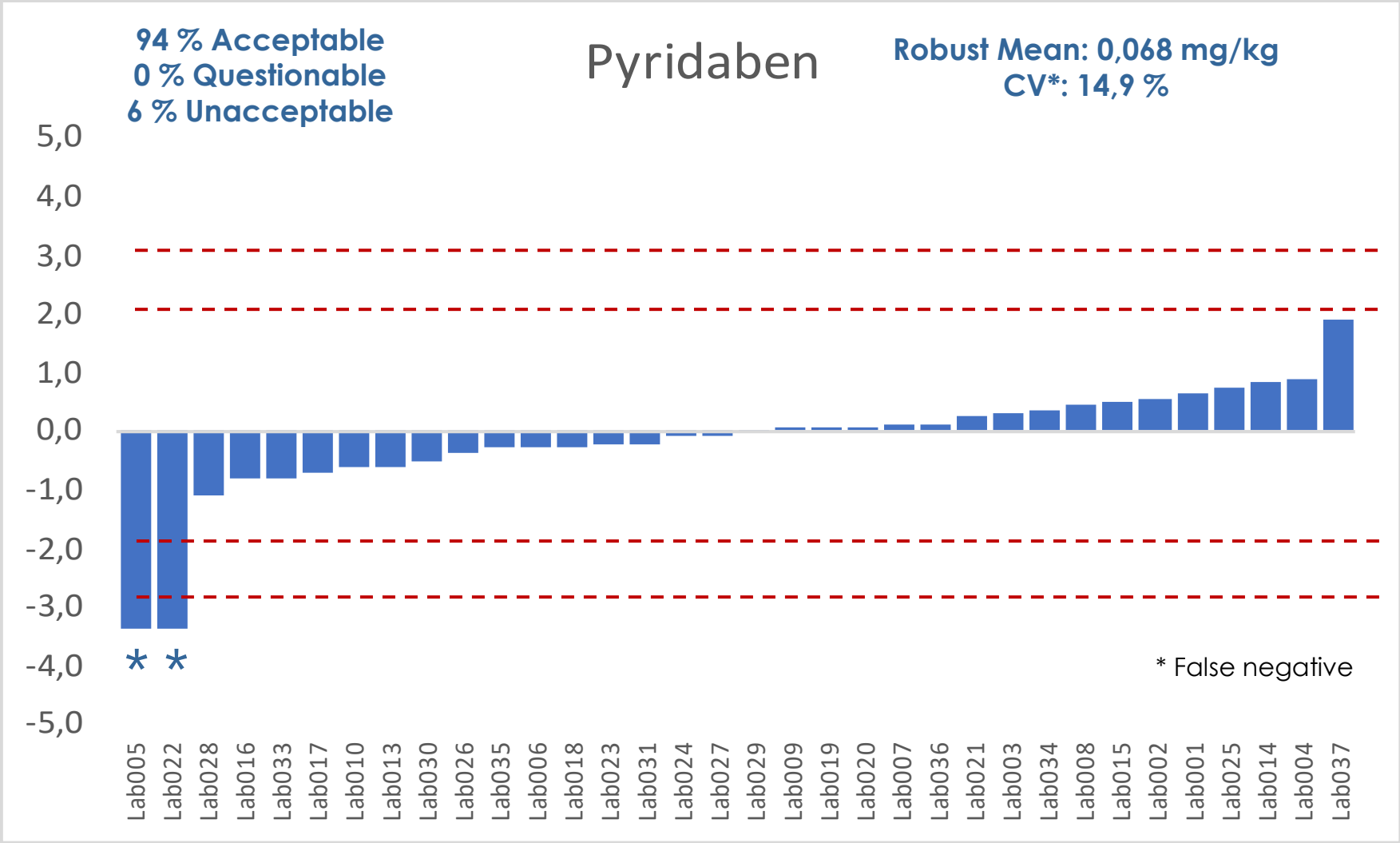


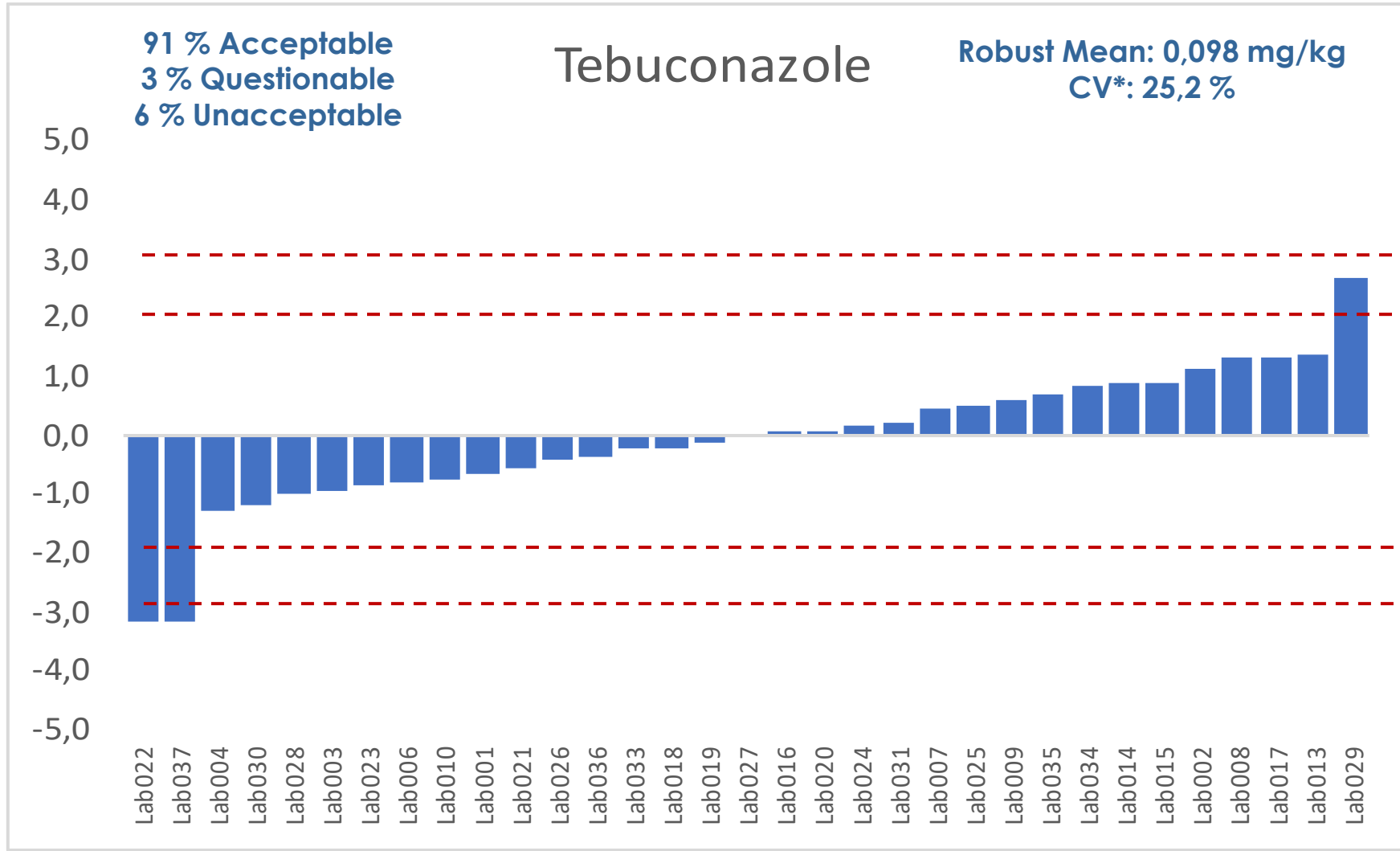


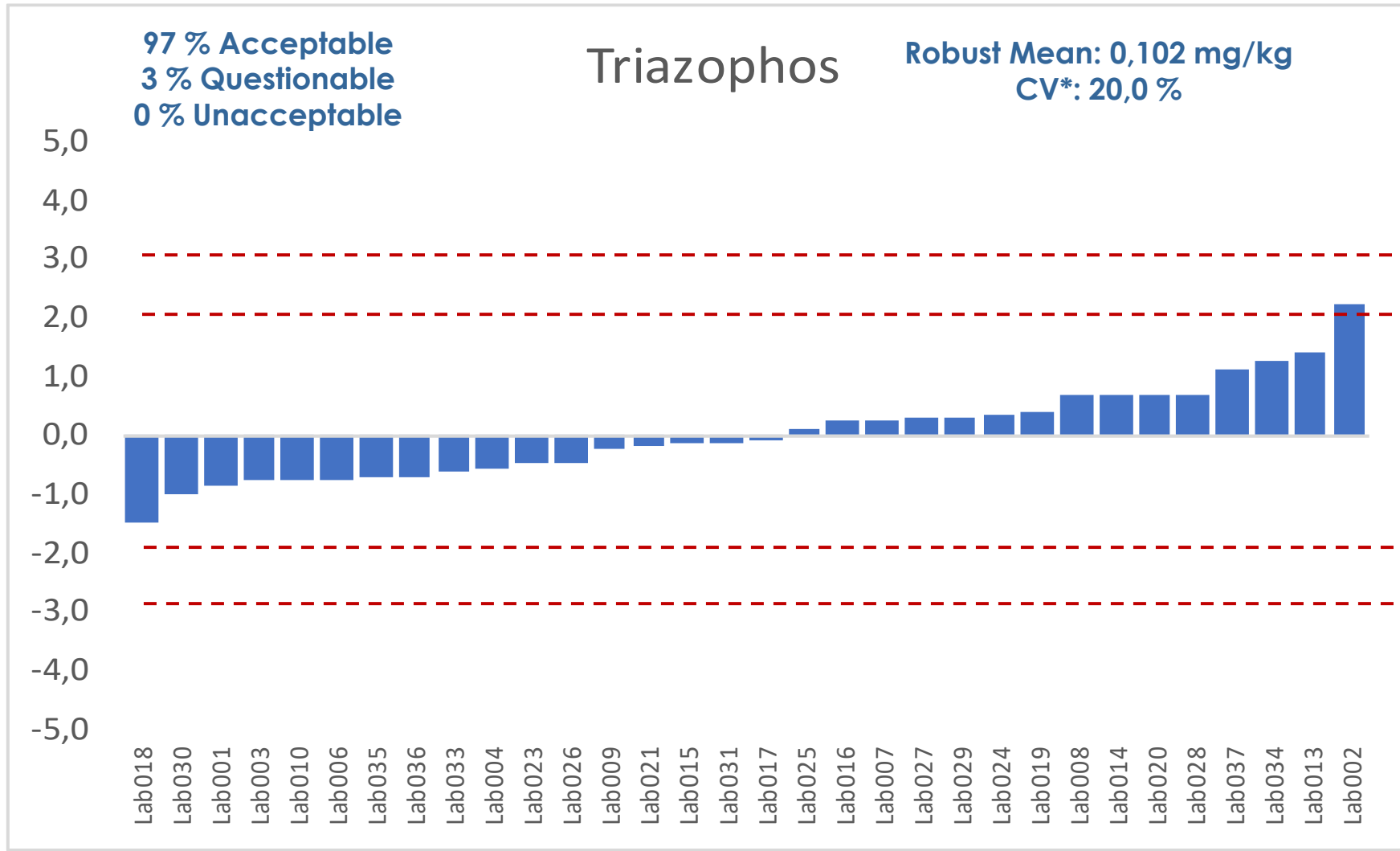












Combined z scores

Average of squared z scores

Category A

190

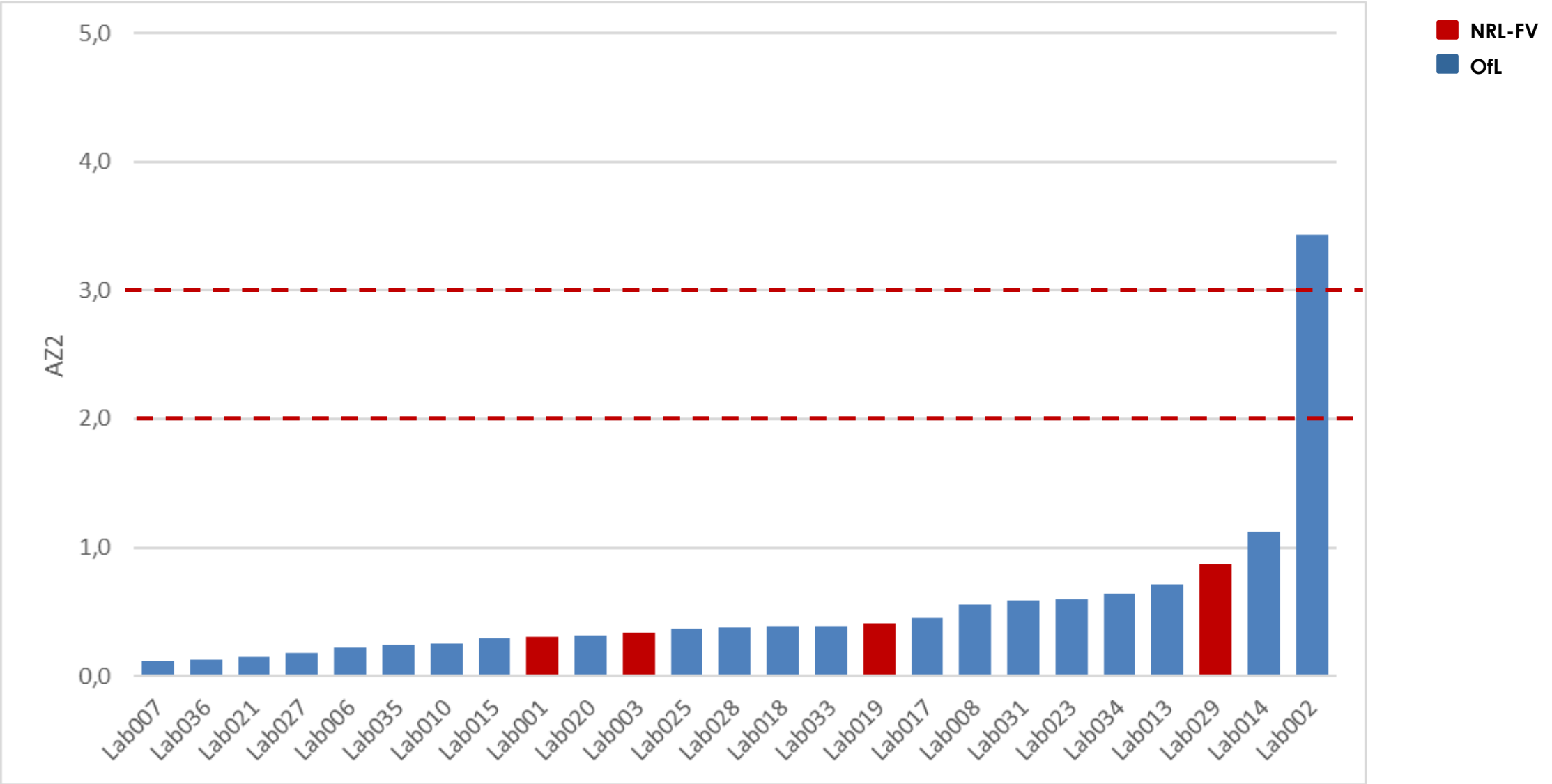
Laboratories that were able to analyse at least **90% of the pesticides in the target pesticides list**, that detected and quantified at least **90 % of the pesticides present in the Test Item** and reported **no false positives**.

12

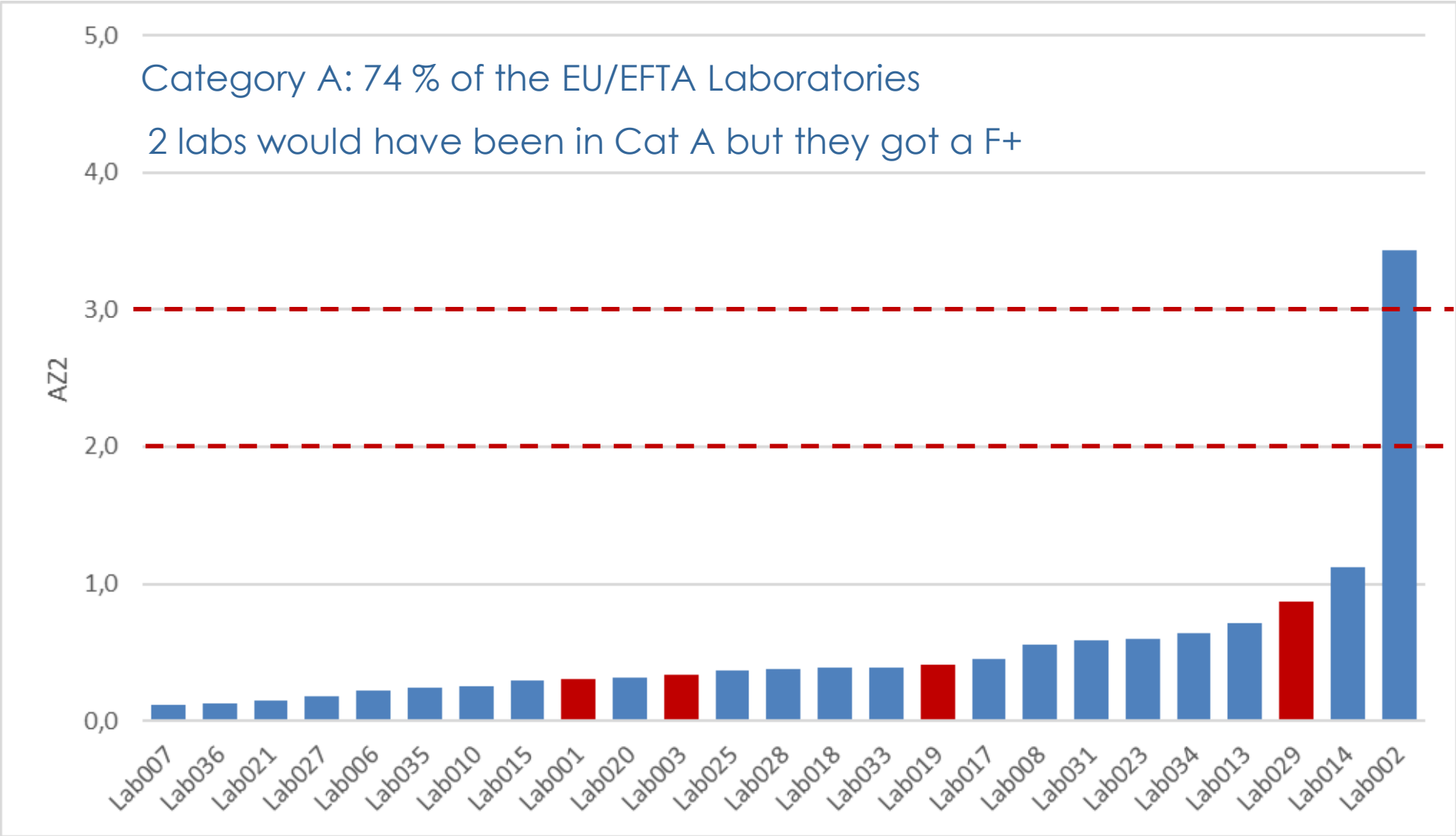


Chlorantraniliprole was not included for the evaluation of Category A

EU/EFTA Laboratories



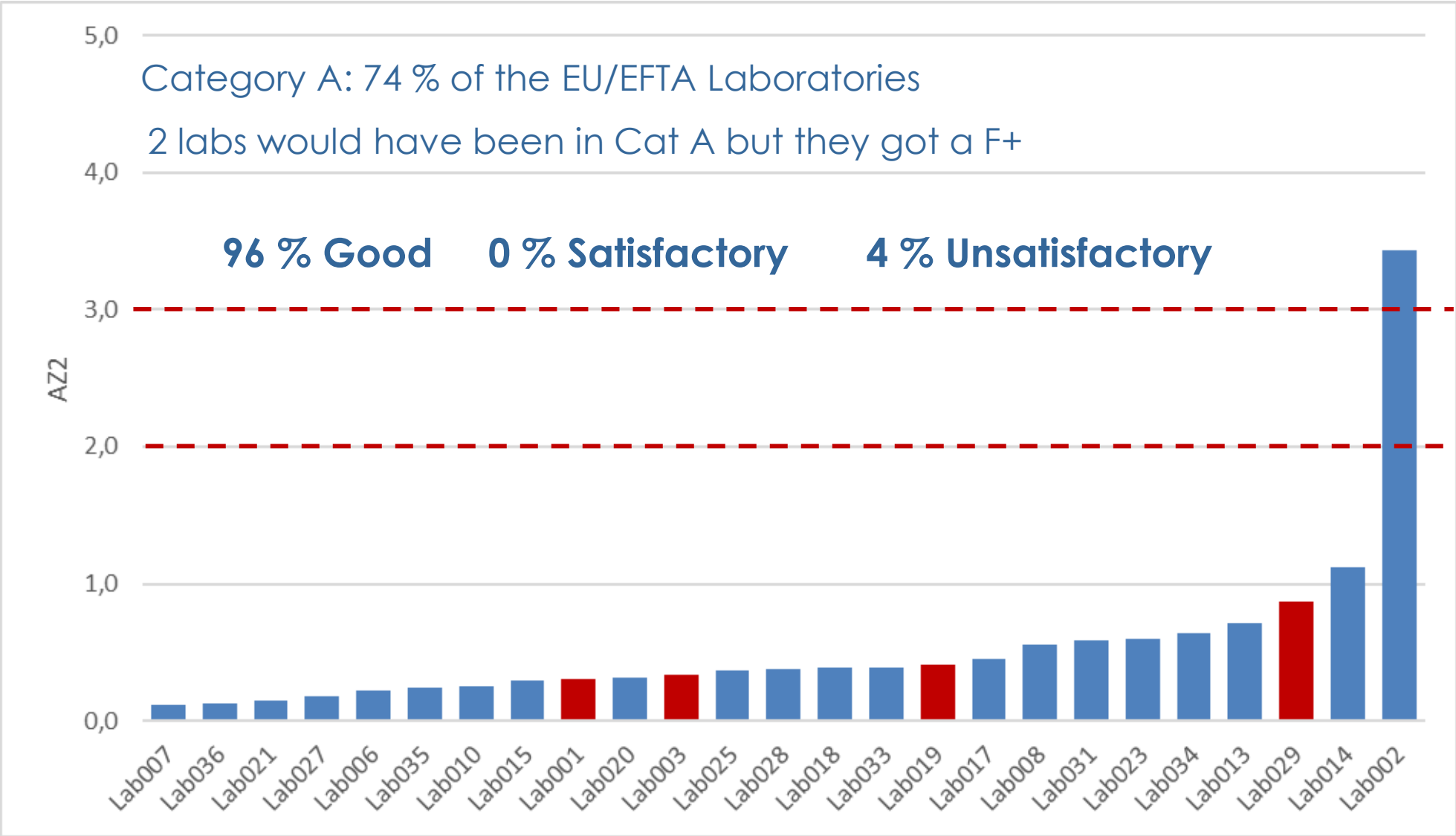
EU/EFTA Laboratories



■ NRL-FV

■ OfL

EU/EFTA Laboratories



NRL-FV

OfL

4 laboratories reported **4** pesticides as false positives

Lab Code	Pesticide	Reporting level (mg/kg)	Concentration (mg/kg)	Determination technique
Lab016	Acrinathrin	0.01	0,073	GC-MS/MS (QQQ)
Lab009	Cyantraniliprole	0,01	0,022	GC-MS/MS and LC-MS/MS
Lab022	Dimethomorph (sum of isomers)	0,01	0,05	LC-MS (Orbitrap)
Lab004	Fenarimol	0,005	0,031	LC-MS/MS (QQQ)

**Thank You
for Your Attention**

