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Cereals & Feedingstuff

Report on Proficiency Test on incurred and spiked pesticides in wheat

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Final report
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Pesticide Residues in Cereals

Final Report

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FOREWORD

The Council Directives 86/362/EEC [1] and 90/642/EEC [2] provide for the organisation and financial support for regular proficiency testing (PT) of those laboratories that perform analyses for their official national monitoring programmes. These proficiency tests are performed in order to ensure the quality, accuracy and comparability of the residue data sent by EU Member States to the European Commission, as well as to the other Member States. With the recent establishment of Community Reference Laboratories (CRLs) for food, feed and animal health, EU proficiency testing has been given a new broader framework. According to Regulation (EC) No 882/2004 [3], which specifies the general responsibilities of the CRLs, the organisation of comparative tests is on of the CRL's main tasks.

In 2007 the first proficiency test on incurred and spiked pesticide in cereals (EUPT-C1) was organised. The present proficiency test EUPT-C2 is the second test on cereals and required the use of mainly multi residue methods. However, two single residue method pesticides were included in the test, glyphosate and chlormequat, because they are intensively used in cereal production. The test was organised by the CRL for pesticides in cereals and feedingstuff (CRL-CF). Participation was open to all official analytical laboratories involved in the determination of pesticide residues in cereals or feedingstuff within the EU.

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INTRODUCTION

On 26 November 2007, 444 official laboratories as well as the contact points of the EU Member States were sent an invitation to participate in this 2nd European Commission's Proficiency Test on cereals. A list of 52 possible pesticides (ANNEX I), which potentially were present in the test material along with their corresponding minimum required performance levels (MRRLs), was also included in the invitation. Following this call, 74 laboratories from 27 countries agreed to participate in this PT.

This proficiency test was performed using wheat flour of Danish origin, which had been partly treated in the field and partly spiked post-harvest with pesticides. The Faculty of Agricultural Sciences, University of Aarhus performed the field spraying, based on application rates and application times decided by the CRL-CF. Participating laboratories were provided with 250 g portions of treated whole wheat flour test material and 250 g of blank whole wheat flour. The test materials were shipped to participants on 18 February 2008 and the deadline for submission of results to the Organiser was 16 March 2008. The participants were asked to analyse the treated test material as well as the ‘blank‘ material and report the concentrations of any pesticide residues they found which were included in the list (ANNEX I). Additionally, the ‘blank’ material could be used for recovery experiments for the pesticides found in the test material, and if necessary, for the preparation of matrix-matched calibration standards. Submission of the results was performed online via a website developed by the CRL-CF.

The median values of the analytical data submitted were used to obtain the assigned (true) values for each of the pesticide residues present. A fit-for-purpose target relative standard deviation (FFP RSD) of 25%, based on the experience of the Advisory Group, was chosen to calculate the target standard deviations (σ) as well as the z-scores of the compounds present. For informative purposes, the robust (Qn) standard deviations were additionally used to calculate the target standard deviations.

1. TEST MATERIALS

1.1 Analytical methods

The following analytical methods, described briefly below, were used by the Organisers to test the homogeneity and stability of the sample material:

- For GC amenable MRM pesticides: Ethyl acetate extraction with GPC clean-up and determination on GC/MS, GC/MS/MS, GC-ECD and GC- NPD [4]
- For LC amenable MRM pesticides: Methanol extraction followed by filtration and determination on LC/MS/MS [5]
- For chlormequat: Methanol–water–acetic acid extraction involving addition of an isotopically labeled internal standard, followed by centrifugation, filtration and determined by LC–MS/MS.[6]
- For glyphosate: Extraction with water by ultrasonication, with clean up and separation by LC–MS/MS a polystyrene-based reverse-phase column (clean-up) in series with an ion chromatography column (separation) using NaHCO3 as eluent. A micro-membrane suppressor is inserted after the separator column to remove the Na+ ions before detection. [7]

1.2 Preparation of the treated test material

Before preparing the test material, the pesticides and suitable residue levels for the study were selected. The application rate and application time for 14 pesticides from the possible pesticide list was assessed based on data from supervised residue trials. The Faculty of Agricultural Sciences, University of Aarhus, performed the field spraying. One hundred kilos of wheat were delivered for preparation of the test material. Following a preliminary analysis of the material it was decided to additionally spike it in the laboratory with four pesticides where the incurred residues were too low (difenconazole, malathion and prochloraz) as well as with one additional pesticide (azoxystrobin) (see **Table 1**). Pesticide formulations were used for spiking. One kilo of wheat was spiked with one of the pesticide formulations and a second kilo of wheat was spiked with another pesticide formulation, etc. The resulting 4 kilos were mixed with the remaining 56 kg and homogenised thoroughly. The 60 kg mixed wheat where milled, 4 kilo portions at a time. The portions were stirred thoroughly individually and additionally two by two to ensure a well-homogenised bulk with respect to both incurred and spiked pesticide residues. Portions of 250 g were weighed out into screw-capped polyethylene plastic bottles, sealed, numbered, and stored in a freezer at about - 20 °C prior to homogeneity test and distribution to the participants.

1.3 Preparation of the ‘blank’ test material

The wheat flour, used for blank test material, was produced by the Faculty of Agricultural Sciences, University of Aarhus under similar growing conditions as the treated crop but without any

pesticide treatment in the field. Portions of 250 g were weighed out into screw-capped polyethylene plastic bottles, sealed, and stored in a freezer at about - 20 °C prior to distribution to participants.

Table 1. Pesticides used for application in the field and/or spiked in the laboratory

Pesticide	Application in the field	Spiked in laboratory
Alpha-cypermethrin	x	
Azoxystrobin		x
Bifentrin	x	
Carbendazim	x	
Chlormequat	x	
Chlorpyrifos-methyl	x	
Difenconazole	x	x
Epoxiconazole	x	
Glyphosate	x	
Iprodione	x	
Malathion	x	x
Pirimicarb	x	
Prochloraz	x	x
Spiroxamin	x	
Trifloxystrobin	x	

1.4 Homogeneity test

Ten bottles were randomly chosen and analyses were performed on duplicate portions taken from each bottle. The sequence of analyses was determined using a table of randomly generated numbers. The injection sequence of the 20 extracts was also randomly chosen. The quantification was performed using a 5-point calibration curve constructed from matrix-matched standards.

The statistical evaluation was performed according to the International Harmonized Protocol published by IUPAC, ISO and AOAC [8]. The individual residue data from the homogeneity tests are given in Appendix 1. The results of the statistical analyses are given in **Table 2** and **Table 3**. The acceptance criteria for the test material to be sufficiently homogenous for the proficiency test was that $S_s/\sigma < 0.3$, with S_s being the between sampling standard deviation and σ = RSD (25%) x the mean concentration of each pesticide.

All the pesticides passed the homogeneity test and the test material was considered to be homogeneous and suitable for use in the PT-C2.

Table 2. Statistical evaluation of the homogeneity test data (n = 20 analyses)

	Azoxystrobin	Alfa-cypermethrin	Bifenthrin	Carbendazim	Chlorpyrifos-methyl	Chlormequat	Difenconazole	Epoxiconazole
Mean (mg/kg)	0.240	0.089	0.114	0.703	0.132	0.192	0.177	0.175
S_s/σ	0.084	0.203	0.254	0.062	0.238	0.102	0.144	0.267
Pass/Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

S_s: Between Sampling Standard Deviation

Table 3. Statistical evaluation of the homogeneity test data (n = 20 analyses)

	Glyphosate	Iprodione	Malathion	Pirimicarb	Prochloraz	Spiroxamine	Trifloxystrobin
Mean (mg/kg)	2.17	0.313	0.167	0.042	0.233	0.049	0.484
Ss/σ	0.018	0.251	0.120	0.235	0.077	0.227	0.234
Pass/Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass

S_s: Between Sampling Standard Deviation

1.5 Stability tests

The analytical methods described briefly above (in section 1.1) were also used for the stability tests.

The tests were performed on two occasions, one before the start of the PT-exercise and one after the completion date. The test material was kept frozen prior to the initial analysis. Two different storage conditions were compared room temperature and -18 °C. In all cases the analyses were performed on 5 randomly chosen samples.

The two occasions were:

- Day 1: shortly after the first sample shipment, on 22 January 2008
- Day 2: after a period of approximately one month, on 20 February 2008.

The individual results are given in **Table 4** and **Table 5**.

Table 4. Statistical test to demonstrate stability at two different storage temperatures, room temperature and -18 ºC.

	Azoxystrobin (mg/kg)	**Alfa-cypermethrin** (mg/kg)	**Bifenthrin** (mg/kg)	**Carbendazim** (mg/kg)	**Chlorpyrifos-methyl** (mg/kg)	**Chlormequat** (mg/kg)	**Difenconazole** (mg/kg)	**Epoxiconazole** (mg/kg)
Day 1 (mean)	0.261	0.094	0.114	0.703	0.134	0.191	0.173	0.185
Room temperature								
Day 2 mean)	0.265	0.085	0.103	0.714	0.125	0.205	0.171	0.179
%	2%	-9%	-10%	2%	-7%	7%	-1%	-3%
- 18 ºC								
Day 2 (mean)	0.264	0.097	0.117	0.712	0.139	0.206	0.173	0.186
%	1%	4%	3%	1%	3%	8%	0%	1%

Both at room temperature and at -18°C storage temperature the tests did not show any significant decrease in the pesticide levels, which indicated that at these storage conditions the pesticides present in the test material remained stable for the entire duration of the Proficiency Test. However -18 ºC is recommended as storage temperature for the test material. Anyhow, the laboratories were asked to store the samples in the freezer until analysis is performed.

Table 5. Statistical test to demonstrate stability at two different storage temperatures, room temperature and -18 ºC.

	Glyphosate (mg/kg)	Iprodione (mg/kg)	Malathion (mg/kg)	Pirimicarb (mg/kg)	Prochloraz (mg/kg)	Spiroxamine	Trifloxystrobin
Day 1 (mean)	2.17	0.327	0.139	0.040	0.247	0.050	0.511
Room Temperature							
Day 2 (mean)	2.18	0.365	0.125	0.041	0.189	0.051	0.481
%	0%	12%	-10%	3%	-23%	2%	-6%
- 18 ºC							
Day 2 (mean)	2.26	0.351	0.144	0.041	0.252	0.056	0.520
%	4%	7%	3%	3%	2%	3%	2%

1.6 Organizational details

1.6.1 Access of documents and confidentiality

After the participants registered for the PT, they received a laboratory code, a password and the link for the online result submission website. Additionally, the participants received username and password to access all the relevant documents that were placed at the CRL web-page. This ensured that confidentiality was maintained throughout the entire duration of the PT.

1.6.2 Submission of results

An online submission tool was developed that allowed participants to submit their results via the Internet. All participants had access to the webpage, http://thor.dfvf.dk/ptc, from the day of sample shipment until the deadline for the submission of results. Participants were asked to give information, not only of their results, but also regarding accreditation, reporting limits and details about the analytical methods used for analysing the test material.

1.6.3 Distribution of the test material

One bottle of treated test material (250g) and one bottle of 'blank' material (250g) were shipped on the 16 February 2008 to each participant in boxes containing a freezing unit. The laboratories were asked to enter the webpage (see above) and accept/not accept the test material when received.

2. STATISTICAL METHODS

2.1 False positives and negatives

2.1.1 False positives

In principle, results indicating the presence of pesticides that were included in the pesticide list, and which were (i) not used in the preparation of the test material, (ii) and not detected by the organiser, even following a repeat analysis, were treated as false positives, if they were reported at concentrations at or above the Minimum Required Performance Level (MRRL) stipulated by the Organisers. Results reported that were lower than 0.01mg/kg were ignored by the Organisers and not considered as false positives. No z-score value was calculated for these results.

2.1.2 False negatives

Pesticides that were analyzed but not reported by the laboratories, although they were used by the Organiser to treat the test material and were subsequently detected at, or above, the MRRL by the Organiser (and the majority of participating laboratories) were considered to be false negatives. z-Scores were not only calculated for all pesticides detected at levels exceeding the MRRL but also for the false negatives, in the latter case using the MRRL for calculation.

2.2 Estimation of the assigned values

To establish the assigned values, the median levels of all the reported results, excluding the outliers, are normally used. However, for many of the pesticides there were significantly differences between the results from laboratories that have added water and those that didn't (see **Table 7**). It was therefore decided in agreement with the Scientific Group to include only the results from laboratories adding water (see 3.1.3) in the estimation of the assigned values.

2.3 Fixed target standard deviation

Based on previous experience from EU proficiency test on fruit and vegetables a fixed fit-for-purpose relative standard deviation (FFP RSD) of 25 % was used. The target standard deviation (σ) for each individual pesticide was calculated by multiplying this FFP RSD by the assigned value. In addition, the concentration dependent Horwitz standard deviation was also calculated for informative purposes. In addition, the robust Qn standard deviations were also calculated for informative purposes.

2.4 z-Scores

A z-score for each laboratory/pesticide combination is calculated according to the following equation:

$$z = (x-X) / \sigma$$

Where:

- x is the result reported by the participant or the specific reporting limit of the lab for those labs not having detected the pesticide present in the test material
- X is the assigned value or true concentration
- σ is the target standard deviation obtained by multiplying the median by the FFP RSD of 25%

The z-Score classification was as follows:

$\|z\| \leq 2$	Acceptable
$2 < \|z\| \leq 3$	Questionable
$\|z\| > 3$	Unacceptable

- Any z-score values of $|z| > 5$ have been reported as '+5', or '-5'.
- In case of false negative pesticide residues, the reporting limit (RL) of the corresponding lab was taken into account. For MRM pesticide residues, z-scores were calculated using the MRRL values as the value for x.
- No calculation of z-score was performed for any false positive result.

2.5 Weighted Sum of z-Scores

In order to evaluate each laboratory's overall performance, and taking into account all the MRM pesticides analysed the Weighted Sum of z-scores (WSZ) has been calculated. This function was only applied to laboratories with sufficient scope, i.e. those labs that have reported at least 90% of the total number of MRM pesticides present in the sample and no false positives. The weighting factor ω is defined as follows:

$$\omega|Z_i| = \begin{cases} 1 & \text{if} \quad |Z| \le 2 \\ 3 & \text{if} \quad 2 < |Z| \le 3 \\ 5 & \text{if} \quad |Z| > 3 \end{cases}$$

Therefore, the 'Weighted Sum of z-Scores' |z| formula is:

$$\text{'Weighted sum of z-scores '} |z| = \frac{\sum_{i=1}^{n} |Z_i| \omega(Z_i)}{n}$$

So for each lab:

- The first term is the sum of absolute values of z-scores between zero and two, multiplied by one.
- The second term is the sum of absolute values of z-scores greater than two, but less than or equal to three, multiplied by three.
- The third factor is the sum of absolute values of z-scores greater than three, multiplied by five.

The sum is then divided by the number of reported results (n) from each lab.

3. RESULTS

Seventy-four laboratories representing 27 countries agreed to participate in this proficiency test, and only two laboratories did not submit results. One Member States did not participate, Malta. The participating laboratories are listed in ANNEX II .

All data reported by the participants is shown in the appendices. An overview of the results is reported in **Table 6**. All analytical results reported can be seen in **Table 10**; the methods used are shown in **3.4**.

3.1 Results

An overview of the results can be seen in **Table 6**. Only for chlorpyrifos-methyl and malathion more than 90% of the laboratories reported results. Results for azoxystrobin, bifenthrin, cypermethrin, iprodione and trifloxystrobin were reported by 80-90 % of the laboratories, while result for carbendazim, difenconazole, epoxiconazole, pirimicarb, prochloraz and spiroxamine were only reported by 60-80% of the laboratories. Results for two intensively used SRM pesticides chlormequat and glyphosate were only reported by 36% and 7%, respectively.

3.1.1 False positives

Two laboratories reported false positive results above 0.01 mg/kg. Both laboratories reported findings of fenhexamid, which were not sprayed with in the field or spiked in the laboratory and neither the organiser nor other laboratories detected residues of fenhexamid.

3.1.2 False negatives

Pesticides actually present in the test material but reported as not detected (ND), were considered to be false negatives. **Table 6** summarizes how many laboratories reported false negatives for each pesticide. In total eighteen false negative results were reported. The assigned value for pirimicarb and spiroxamine were close to the MRRL and consequently the ND for these compounds were not treated as false negatives.

Table 6. Overview of results for MRM pesticides

Pesticides	No. of results	No. of NA [1)]	No. of ND [2)]	% results [3)]
Azoxystrobin	64	8	0	89
Alpha-cypermethrin	43	21	8	60
Cypermethrin	29	12	31	40
Cypermethrin all [5)]	58	12	3	81
Bifentrin	64	7	1	89
Carbendazim	47	23	2	65
Chlormequat	26	46		36
Chlorpyrifos-methyl	69	2	1	96
Difenconazole	48	23	1	67
Epoxiconazole	45	24	3	63
Glyphosate	5	67		7
Iprodione	58	13	1	81
Malathion	65	5	2	90
Pirimicarb	43	7	22[4)]	60
Prochloraz	54	15	3	75
Spiroxamin	51	19	2[4)]	71
Trifloxystrobin	61	11	0	85

1) NA = Not analysed
2) ND = Not detected, possibly false negatives
3) The % of labs that reported results has been calculated using the number of laboratories that reported results from the total number of laboratories submitting results (n=72).
4) NDs for pirimicarb and spiroxamine were not treated as false negatives, because the assigned values were close to the MRRL.
5) Results for both alpha-cypermethrin and cypermethrin (all isomers)

3.1.3 Distribution of data

The distributions of the concentration of the MRM pesticide residues reported by the laboratories have been plotted as histograms (see **Appendix 3**). For several of the pesticides (especially the phosphor pesticides, prochloraz and azoxystrobin) the distributions seemed not to be unimodal. By analysing the method information given by the participants it was seen that the laboratories adding water to sample prior to extraction, reported higher concentrations than the others (see **Table 7**). After consulting the Advisory Group it was decided to calculate all the assigned values based only on results from participant who had added water to the sample prior to extraction. This decision applied to all the pesticides, except chlormequat, but also e.g. the

pyrethroids cypermethrin and bifenthrin, where no significant differences were seen. However the median values for all results, with or without water addition was very close.

Table 7. Median values of all results, results with water addition, without water addition and the ratio between the median result with and without water addition. Only pesticides where more than ten laboratories reported results have been included in the table.

	Median of all results	Median of results with water addition	Median of results without water addition	Ratio of with and without water addition
Alpha-cypermethrin 1)	0.076	0.079	0.072	1.1
Bifentrin 1)	0.088	0.087	0.090	1.0
Chlorpyrifos-methyl 1)	0.110	0.130	0.056	2.3
Iprodione 1)	0.265	0.289	0.100	2.9
Malathion 2)	0.130	0.168	0.102	1.6
Prochloraz 2)	0.227	0.239	0.160	1.5
Azoxystrobin 2)	0.217	0.239	0.133	1.8

1) Pesticides sprayed in the field
2) Pesticides spiked in the laboratory

3.2 Assigned values and target standard deviations

To establish the assigned values, the median levels of all the 'accepted' reported results, excluding the outliers, were used. The 'accepted' results were results from laboratories adding water to the samples prior to extraction as explain above. No assigned value was calculated for glyphosate, because only five laboratories submitted results.
One result were regarded as outlier; cypermethrin one result (0.514 mg/kg). All median values for the MRM pesticides can be seen in **Table 8**. The target standard deviation was obtained using a fixed FFP RSD value of 25%. In parallel, a robust standard deviation (Qn) were calculated for all the reported results and the subset of result obtain by laboratories adding water to the sample prior the extraction. These robust standard deviation were calculated only for informative purposes.
It was not possible to perform a reliable statistical evaluation of the results for pirimicarb and spiroxamine because the median values were to close to the MRRL. The z-scores calculated for pirimicarb and spiroxamine are only for informative purposes.

Table 8. Median values and RSDs for all MRM pesticides present in the test material.

Pesticides	MRRL	Assigned value (mg/kg)	FFP RSD (%)	Qn RSD all [2] (%)	Qn RSD water [3] (%)
Azoxystrobin	0.02	0.239	25	35	29
Alpha-cypermethrin	0.02	0.079	25	23	25
Cypermethrin	0.02	0.098	25	38	32
Bifentrin	0.02	0.087	25	23	23
Carbendazim	0.02	0.570	25	33	25
Chlormequat	0.05	0.217	25	17	
Chlorpyrifos-methyl	0.02	0.130	25	38	29
Difenconazole	0.05	0.169	25	26	22
Epoxiconazole	0.05	0.176	25	29	26
Iprodione	0.02	0.289	25	46	34
Malathion	0.05	0.168	25	41	32
Pirimicarb	*0.02*	*0.038 1)*	*25*	*24*	*24*
Prochloraz	0.05	0.239	25	32	29
Spiroxamin	*0.05*	*0.075 1)*	*25*	*43*	*41*
Trifloxystrobin	0.05	0.439	25	22	20

1) Median of the reported values

3.3 Assessment of laboratory performance

3.3.1 z-sores

The z-Scores have been calculated for the quantified pesticides by using the FFP RSD of 25%. As described above, the z-scores for pirimicarb and spiroxamine were only calculated for informative purposes.

Table 9 shows an overview of the results and **Table 10** shows the individual z-scores for each laboratory and pesticide together with the assigned value. The corresponding graphs are shown in **Appendix 3.**

Table 9. Acceptable, questionable and unacceptable z-scores for MRM pesticides

Pesticides	Acceptable z-scores	Questionable z-scores	Unacceptable z-scores	False negatives
Azoxystrobin	57	7		0
Alpha-cypermethrin	40	3		8
Cypermethrin	21	5	3	31
Cypermethrin all	58			3
Bifentrin	59	5		1
Carbendazim	38	8	1	2
Chlormequat	24	2		
Chlorpyrifos-methyl	46	23		1
Difenconazole	42	4	2	1
Epoxiconazole	40	2	3	3
Glyphosate	5			
Iprodione	36	18	4	1
Malathion	53	9	3	2
Pirimicarb	*41*	*1*	*1*	*22*
Prochloraz	48	5	1	3
Spiroxamin	*36*	*8*	*7*	*2*
Trifloxystrobin	59	2		

For bifenthrin, chlormequat, alpha-cypermethrin, trifloxystrobin acceptable results were obtained by 92-97% of the laboratories. For carbendazim, malathion, difenconazole, epoxiconazole, prochloraz and azoxystrobin acceptable results were obtained by 81-89% of the laboratories. However, for iprodione, chlorpyrifos-methyl and cypermethrin, acceptable z-scores were obtained by only 56-59% of the laboratories. The low percentage of acceptable results for iprodione and chlorpyrifos-methyl resulted from the large effect on extraction efficiency from adding water to the sample before extraction.

Table 10 Results for azoxystrobin, bifenthrin, alpha-cypermethrin and cypermethrin reported by the laboratories (mg/kg) and their calculated *z*-scores using FFP RSD 25%

Laboratory code	Azoxystrobin	Z-scores (FFP RSD (25%)	Bifentrin	Z-scores (FFP RSD (25%)	Alpha-cypermethrin	Z-scores (FFP RSD (25%)	Cypermethrin	Z-scores (FFP RSD (25%)
MRRL	0.02		0.02		0.02		0.02	
Assigned value	**0.239**		**0.087**		**0.079**		**0.098**	
202	0.246	0.1	0.089	0.1	NA		0.091	-0.3
203	0.2	-0.7	0.140	2.4	0.086	0.4		
204	0.28	0.6	0.098	0.5	0.088	0.5		
205	0.326	1.4	0.106	0.9	0.095	0.8		
206	0.16	-1.4	0.120	1.5	0.12	2.1		
207	0.272	0.5	0.089	0.1	0.088	0.5		
209	0.143	-1.7	0.148	2.8	0.125	2.3		
210	NA		NA		0.027	-2.6	0.016	-3.3
211	0.217	-0.4	0.086	0.0			0.043	-2.2
212	0.285	0.7	0.068	-0.9	0.048	-1.6	0.069	-1.2
213	0.186	-1.0	NA	-3.1	ND	-3.0	ND	-3.2
214	0.139	-1.7	0.115	1.3	0.066	-0.7		
215	0.138	-1.8	0.087	0.0			0.166	2.8
216	0.251	0.1	0.096	0.4	0.061	-0.9	0.034	-2.6
217	0.217	-0.4	0.113	1.2	0.107	1.4	0.107	0.4
218	0.13	-1.9	0.090	0.1	NA		NA	
219	0.293	0.8	0.085	-0.1	0.078	-0.1		
221	0.241	0.0	0.094	0.3	0.072	-0.4	0.072	-1.1
223	0.125	-2.0	0.111	1.1	0.079	0.0		
224	NA		NA		NA		NA	
225	0.231	-0.2	0.045	-1.9	0.068	-0.6		
226	NA		0.023	-2.9	NA		0.071	-1.1
227	0.284	0.7	0.087	0.0	0.069	-0.5		
228	0.116	-2.1	0.107	0.9	0.067	-0.6	NA	
229	0.078	-2.8	0.119	1.5	0.043	-1.8	0.098	0.0
230	0.261	0.3	0.117	1.4	0.092	0.7		
232	0.23	-0.2	NA		NA		NA	
233	0.316	1.2	0.099	0.6	0.063	-0.8		
234	0.233	-0.2	0.045	-1.9	NA		0.097	0.0
235	0.153	-1.5	0.089	0.1	NA		0.09	-0.3
236	0.267	0.4	0.078	-0.4	0.084	0.3		
237	0.288	0.8	0.106	0.9	0.064	-0.8		
238	0.266	0.4	0.102	0.7	0.079	0.0		
239	0.283	0.7	0.078	-0.4	0.102	1.2		
240	0.415	2.9	0.086	0.0			0.09	-0.3
241	0.133	-1.8	0.082	-0.2	0.071	-0.4	0.111	0.5
242	0.152	-1.5	0.088	0.0	0.074	-0.3		
243	0.118	-2.1	0.090	0.1	0.105	1.3		

Laboratory code	Azoxystrobin	Z-scores (FFP RSD (25%)	Bifentrin	Z-scores (FFP RSD (25%)	Alpha-cypermethrin	Z-scores (FFP RSD (25%)	Cypermethrin	Z-scores (FFP RSD (25%)
MRRL	0.02		0.02		0.02		0.02	
Assigned value	**0.239**		**0.087**		**0.079**		**0.098**	
244	0.2	-0.7	0.090	0.1	0.07	-0.5		
245	0.318	1.3	0.065	-1.0	0.105	1.3		
246	0.301	1.0	0.090	0.1	0.09	0.6	0.106	0.3
247	0.253	0.2	0.109	1.0	0.081	0.1		
248	0.063	-3.0	0.055	-1.5	NA		0.191	3.8
249	0.188	-0.9	0.084	-0.1	NA			
250	0.112	-2.2	0.087	0.0	0.081	0.1	0.099	0.0
251	NA		NA		NA			
252	NA		NA		NA			
253	0.282	0.7	0.087	0.0	0.06	-1.0	0.087	-0.4
254	0.327	1.4	0.084	-0.1	0.084	0.3		
255	0.129	-1.9	0.098	0.5	0.086	0.4		
256	0.25	0.1	0.075	-0.6	ND	-3.0	ND	-3.2
257	0.125	-2.0	0.088	0.0	0.07	-0.5		
258	0.125	-2.0	0.073	-0.6	0.07	-0.5		
259	NA		0.037	-2.3	NA		ND	-3.2
260	0.207	-0.6	0.086	0.0	0.071	-0.4		
261	NA		NA		NA		NA	
262	0.244	0.0	0.066	-1.0	NA		0.104	0.2
263	0.211	-0.5	0.077	-0.5			0.094	-0.2
264	0.219	-0.4	0.104	0.8	0.067	-0.6	NA	
265	0.244	0.0	0.108	1.0	0.085	0.3	0.148	2.0
266	0.243	0.0	0.088	0.0	NA		NA	
267	0.185	-1.0	0.065	-1.0	0.065	-0.7	0.11	0.5
268	NA		0.067	-0.9	NA		0.074	-1.0
269	0.2	-0.7	0.076	-0.5	0.065	-0.7	0.117	0.8
270	0.342	1.7	0.080	-0.3	NA		0.514	17.0
271	0.15	-1.6	NA		NA		NA	
272	0.156	-1.5	0.073	-0.6	NA		0.09	-0.3
273	0.085	-2.6	0.034	-2.4			0.04	-2.4
274	0.219	-0.4	0.094	0.3	0.096	0.9	0.124	1.1
275	0.154	-1.5	0.086	0.0	NA		NA	
276	0.121	-2.0	0.062	-1.1	ND	-3.0	ND	-3.2
277	0.234	-0.2	0.094	0.3	NA		0.076	-0.9

Table 11 Results for carbendazim, chlorpyrifos-methyl, difenoconazole and expoxiconzole reported by the laboratories (mg/kg) and their calculated z-scores using FFP RSD 25%

Laboratory code	Carbendazim	Z-scores (FFP RSD 25%)	Chlorpyrifos-methyl	Z-scores (FFP RSD 25%)	Difenoconazole	Z-scores (FFP RSD 25%)	Epoxyconazole	Z-scores (FFP RSD 25%)
MRRL	0.02		0.02		0.05		0.05	
Assigned value	**0.57**		**0.033**		**0.169**		**0.176**	
202	0.541	-0.2	0.134	0.1	0.178	0.2	0.176	0.0
203	NA		0.13	0.0	0.17	0.0	0.11	-1.5
204	0.61	0.3	0.15	0.6	0.2	0.7	0.24	1.5
205	0.731	1.1	0.134	0.1	0.169	0.0	0.2	0.5
206	0.335	-1.6	0.11	-0.6	0.073	-2.3	0.13	-1.0
207	0.585	0.1	0.102	-0.9	0.185	0.4	0.186	0.2
209	0.405	-1.2	0.063	-2.1	NA		NA	
210	NA		0.038	-2.8	NA		NA	
211	0.47	-0.7	0.115	-0.5	0.153	-0.4	0.121	-1.3
212	0.672	0.7	0.123	-0.2	0.169	0.0	0.18	0.1
213	0.359	-1.5	0.087	-1.3	0.167	0.0	0.176	0.0
214	0.589	0.1	0.063	-2.1	0.113	-1.3	NA	
215	NA		0.116	-0.4	0.1	-1.6	0.097	-1.8
216	0.475	-0.7	0.145	0.5	0.192	0.5	0.174	0.0
217	0.244	-2.3	0.138	0.2	0.161	-0.2	0.151	-0.6
218	0.22	-2.5	0.049	-2.5	NA		NA	
219	0.513	-0.4	0.165	1.1	0.159	-0.2	0.178	0.0
221	0.245	-2.3	0.049	-2.5	0.115	-1.3	ND	-2.9
223	0.285	-2.0	0.066	-2.0	0.1	-1.6	0.038	-3.1
224	NA		NA		NA		NA	
225	0.605	0.2	0.141	0.3	0.145	-0.6	0.201	0.6
226	ND	-3.9	0.04	-2.8	NA		NA	
227	NA		0.143	0.4	0.191	0.5	0.169	-0.2
228	NA		0.06	-2.2	NA		NA	
229	NA		0.057	-2.2	0.088	-1.9	0.035	-3.2
230	0.604	0.2	0.16	0.9	0.165	-0.1	0.179	0.1
232	0.71	1.0	0.13	0.0	NA		NA	
233	0.745	1.2	0.04	-2.8	0.214	1.1	0.151	-0.6
234	0.642	0.5	0.133	0.1	0.152	-0.4	0.185	0.2
235	0.68	0.8	0.042	-2.7	NA		0.144	-0.7
236	0.24	-2.3	0.141	0.3	0.091	-1.8	ND	-2.9
237	0.557	-0.1	0.159	0.9	0.342	4.1	0.217	0.9
238	0.575	0.0	0.169	1.2	0.308	3.3	0.245	1.6
239	0.574	0.0	0.193	1.9	0.176	0.2	0.183	0.2
240	0.11	-3.2	0.185	1.7	0.278	2.6	0.228	1.2
241	NA		0.071	-1.8	NA		NA	
242	NA		0.145	0.5	0.129	-0.9	0.146	-0.7
243	0.317	-1.8	0.05	-2.5	0.107	-1.5	0.037	-3.2

Laboratory code	Carbendazim	Z-scores (FFP RSD 25%)	Chlorpyrifos-methyl	Z-scores (FFP RSD 25%)	Difenoconazole	Z-scores (FFP RSD 25%)	Epoxyconazole	Z-scores (FFP RSD 25%)
MRRL	0.02		0.02		0.05		0.05	
Assigned value	**0.57**		**0.033**		**0.169**		**0.176**	
244	0.49	-0.6	0.11	-0.6	NA		NA	
245	0.53	-0.3	0.099	-1.0	0.204	0.8	0.107	-1.6
246	NA		0.122	-0.2	0.152	-0.4	0.3	2.8
247	0.527	-0.3	0.136	0.2	0.176	0.2	0.174	0.0
248	0.26	-2.2	0.078	-1.6	NA		NA	
249	0.38	-1.3	0.15	0.6	0.19	0.5	NA	
250	0.238	-2.3	0.057	-2.2	0.088	-1.9	0.078	-2.2
251	NA		NA		NA		NA	
252	NA		0.211	2.5	NA		NA	
253	ND	-3.9	0.132	0.1	ND	-2.8	0.153	-0.5
254	0.604	0.2	0.175	1.4	0.18	0.3	0.207	0.7
255	0.356	-1.5	0.115	-0.5	0.094	-1.8	0.157	-0.4
256	0.57	0.0	0.083	-1.4	0.27	2.4	ND	-2.9
257	NA		0.057	-2.2	0.105	-1.5	NA	
258	NA		0.06	-2.2	NA		NA	
259	NA		0.056	-2.3	NA		NA	
260	0.422	-1.0	0.089	-1.3	0.141	-0.7	0.117	-1.3
261	NA		0.037	-2.9	NA		NA	
262	0.64	0.5	0.128	-0.1	0.175	0.1	0.175	0.0
263	0.73	1.1	0.088	-1.3	NA		NA	
264	NA		ND	-3.4	0.147	-0.5	0.179	0.1
265	0.666	0.7	0.13	0.0	0.17	0.0	0.153	-0.5
266	0.541	-0.2	0.056	-2.3	0.142	-0.6	0.167	-0.2
267	NA		0.11	-0.6	0.095	-1.8	0.18	0.1
268	NA		0.066	-2.0	NA		NA	
269	0.893	2.3	0.204	2.3	0.165	-0.1	0.207	0.7
270	NA		0.158	0.9	NA		NA	
271	NA		0.052	-2.4	0.083	-2.0	0.1	-1.7
272	NA		0.064	-2.0	NA		NA	
273	NA		0.108	-0.7	0.193	0.6	0.224	1.1
274	0.672	0.7	0.126	-0.1	NA		0.151	-0.6
275	0.378	-1.3	0.051	-2.4	NA		NA	
276	0.23	-2.4	0.051	-2.4	NA		NA	
277	0.709	1.0	0.141	0.3	0.171	0.0	0.187	0.3

Table 12 Results for iprodione, malathion, prochloraz and trifloxystrobin given by the laboratories (mg/kg) and their calculated *z*-scores using FFP RSD 25%

Laboratory code	Iprodione	Z-scores (FFP RSD 25%)	Malathion	Z-scores (FFP RSD 25%)	Procloraz	Z-scores (FFP RSD 25%)	Trifloxystrobin	Z-scores (FFP RSD 25%)
MRRL	0.02		0.05		0.05		0.05	
Assigned value	**0.289**		**0.162**		**0.239**		**0.439**	
202	0.257	-0.4	0.068	-2.4	0.27	0.5	0.43	-0.1
203	0.19	-1.4	0.16	-0.2	0.23	-0.2	0.43	-0.1
204	0.32	0.4	0.18	0.3	0.29	0.9	0.6	1.5
205	0.436	2.0	0.206	0.9	0.407	2.8	0.657	2.0
206	0.25	-0.5	0.13	-0.9	0.2	-0.7	0.39	-0.4
207	0.288	0.0	0.028	-3.3	0.273	0.6	0.468	0.3
209	0.097	-2.7	0.113	-1.3	NA		0.315	-1.1
210	NA		0.067	-2.4	NA		NA	
211	0.209	-1.1	0.075	-2.2	ND	-3.2	0.367	-0.7
212	0.286	0.0	0.169	0.0	0.321	1.4	0.484	0.4
213	0.41	1.7	0.095	-1.7	ND	-3.2	0.246	-1.8
214	0.142	-2.0	0.102	-1.6	0.2	-0.7	0.435	0.0
215	0.337	0.7	0.162	-0.1	0.188	-0.9	0.369	-0.6
216	0.399	1.5	0.189	0.5	0.232	-0.1	0.458	0.2
217	0.311	0.3	0.199	0.7	0.178	-1.0	0.537	0.9
218	NA		ND	-2.8	NA		NA	
219	0.449	2.2	0.171	0.1	0.236	-0.1	0.378	-0.6
221	0.098	-2.6	0.064	-2.5	0.167	-1.2	0.396	-0.4
223	0.062	-3.1	0.097	-1.7	0.148	-1.5	0.265	-1.6
224	NA		NA		NA		NA	
225	0.312	0.3	0.21	1.0	0.191	-0.8	0.439	0.0
226	ND	-3.7	0.041	-3.0	NA		NA	
227	NA		0.161	-0.2	0.303	1.1	0.528	0.8
228	0.102	-2.6	0.09	-1.9	0.132	-1.8	0.441	0.0
229	0.085	-2.8	0.095	-1.7	0.126	-1.9	0.26	-1.6
230	0.356	0.9	0.194	0.6	0.266	0.5	0.472	0.3
232	NA		NA		0.24	0.0	0.41	-0.3
233	0.075	-3.0	0.072	-2.3	0.288	0.8	0.57	1.2
234	0.13	-2.2	NA		0.274	0.6	0.461	0.2
235	0.084	-2.8	0.086	-2.0	NA		0.302	-1.2
236	0.332	0.6	0.215	1.1	0.126	-1.9	0.452	0.1
237	0.416	1.8	0.237	1.6	0.362	2.1	0.506	0.6
238	0.403	1.6	0.231	1.5	0.358	2.0	0.516	0.7
239	0.346	0.8	0.113	-1.3	0.272	0.6	0.555	1.1
240	0.42	1.8	0.197	0.7	0.412	2.9	0.468	0.3
241	0.111	-2.5	0.135	-0.8	0.128	-1.9	0.371	-0.6
242	0.251	-0.5	0.185	0.4	0.174	-1.1	0.402	-0.3
243	0.09	-2.8	0.146	-0.5	0.189	-0.8	0.339	-0.9

Laboratory code	Iprodione	Z-scores (FFP RSD 25%)	Malathion	Z-scores (FFP RSD 25%)	Procloraz	Z-scores (FFP RSD 25%)	Trifloxystrobin	Z-scores (FFP RSD 25%)
MRRL	0.02		0.05		0.05		0.05	
Assigned value	**0.289**		**0.162**		**0.239**		**0.439**	
244	0.24	-0.7	0.14	-0.7	NA		0.5	0.6
245	0.306	0.2	0.122	-1.1	0.226	-0.2	0.497	0.5
246	0.368	1.1	0.168	0.0	0.245	0.1	0.515	0.7
247	0.326	0.5	0.098	-1.7	0.229	-0.2	0.418	-0.2
248	0.33	0.6	0.21	1.0	0.091	-2.5	0.17	-2.4
249	0.18	-1.5	0.18	0.3	NA		0.229	-1.9
250	0.091	-2.7	0.077	-2.2	0.116	-2.1	0.368	-0.6
251	NA		NA		NA		NA	
252	NA		0.234	1.6	NA		NA	
253	0.354	0.9	0.171	0.1	0.268	0.5	0.426	-0.1
254	0.511	3.1	0.165	-0.1	0.251	0.2	0.503	0.6
255	0.269	-0.3	0.182	0.3	0.151	-1.5	0.5	0.6
256	NA		0.105	-1.5	0.21	-0.5	0.47	0.3
257	NA		0.106	-1.5	0.166	-1.2	0.378	-0.6
258	NA		NA		NA		0.381	-0.5
259	0.055	-3.2	0.062	-2.5	ND	-3.2	NA	
260	0.281	-0.1	0.15	-0.4	0.177	-1.0	0.374	-0.6
261	NA		0.021	-3.5	NA		NA	
262	0.283	-0.1	0.183	0.4	0.241	0.0	0.438	0.0
263	0.178	-1.5	0.114	-1.3	0.17	-1.2	0.28	-1.4
264	0.26	-0.4	0.098	-1.7	0.238	0.0	0.367	-0.7
265	0.317	0.4	0.029	-3.3	0.227	-0.2	0.433	-0.1
266	NA		0.096	-1.7	0.153	-1.4	0.287	-1.4
267	0.105	-2.5	0.145	-0.5	0.205	-0.6	0.421	-0.2
268	NA		0.104	-1.5	NA		NA	
269	0.184	-1.5	0.178	0.2	0.283	0.7	0.443	0.0
270	0.481	2.7	0.189	0.5	NA		NA	
271	0.047	-3.3	0.12	-1.1	0.16	-1.3	0.21	-2.1
272	0.129	-2.2	0.095	-1.7	0.148	-1.5	0.316	-1.1
273	0.146	-2.0	0.049	-2.8	0.177	-1.0	0.417	-0.2
274	0.289	0.0	0.177	0.2	0.271	0.5	0.455	0.2
275	0.1	-2.6	0.109	-1.4	0.152	-1.5	0.383	-0.5
276	0.096	-2.7	0.102	-1.6	NA		NA	
277	0.355	0.9	ND	-2.8	0.267	0.5	0.432	-0.1

Table 13 Results for the SRM pesticides chlormequat, glyphosate, spiroxamine and pirimicarb given by the laboratories (mg/kg) and their calculated z-scores using FFP RSD 25%. The z-scores for spiroxamine and pirimicarb are only calculated for informative purposes.

Laboratory code	Chlormequat	Z-scores (FFP RSD 25%)	Glyphosate	Pirimicarb	Z-scores (FFP RSD 25%) informative only	Spiroxamin	Z-scores (FFP RSD 25%)informative only
MRRL	0.05		0.05	0.02		0.05	
Assigned value	**0.214**			**(0.038)**		**(0.075)**	
202	0.212	0.0	NA	0.038	0.1	0.122	2.5
203	0.25	0.7	NA	0.025	-1.3	NA	
204	NA		NA	0.047	1.0	0.089	0.7
205	0.25	0.7	NA	0.037	-0.1	0.061	-0.7
206	NA		NA	0.034	-0.4	ND	-1.3
207	0.196	-0.3	NA	0.04	0.3	0.084	0.5
209	NA		NA	ND	-1.9	NA	
210	NA		NA	NA		NA	
211	NA		NA	ND	-1.9	0.064	-0.6
212	0.226	0.2	1.05	0.036	-0.2	0.075	0.0
213	NA		NA	0.047	1.0	0.068	-0.4
214	0.203	-0.2	NA	ND	-1.9	0.058	-0.9
215	NA		NA	0.042	0.5	0.058	-0.9
216	NA		NA	0.04	0.3	0.065	-0.5
217	0.245	0.6	NA	0.088	5.4	0.074	-0.1
218	NA		NA	ND	-1.9	NA	
219	0.209	-0.1	2.46	0.043	0.6	0.077	0.1
221	NA		NA	ND	-1.9	ND	-1.3
223	NA		NA	ND	-1.9	0.026	-2.6
224	0.243	0.5	NA	NA		NA	
225	0.222	0.1	NA	0.033	-0.5	0.07	-0.3
226	NA		NA	ND	-1.9	NA	
227	NA		NA	0.042	0.5	0.169	5.0
228	NA		NA	ND	-1.9	0.077	0.1
229	NA		NA	ND	-1.9	0.061	-0.7
230	0.217	0.1	NA	0.042	0.5	0.081	0.3
232	NA		NA	NA		NA	
233	0.208	-0.1	NA	0.046	0.9	0.1	1.3
234	0.204	-0.2	NA	0.039	0.2	0.066	-0.5
235	0.161	-1.0	NA	0.028	-1.0	0.029	-2.5
236	0.173	-0.8	1.9	ND	-1.9	0.027	-2.6
237	0.158	-1.0	NA	0.052	1.5	0.142	3.6
238	0.177	-0.7	NA	0.037	-0.1	0.195	6.4
239	0.294	1.5	NA	0.04	0.3	0.067	-0.4
240	NA		NA	0.057	2.1	0.087	0.6
241	NA		NA	ND	-1.9	NA	
242	NA		NA	ND	-1.9	NA	

Laboratory code	Chlormequat	Z-scores (FFP RSD 25%)	Glyphosate		Pirimicarb	Z-scores (FFP RSD 25%) informative only	Spiroxamin	Z-scores (FFP RSD 25%)informative only
MRRL	0.05		0.05		0.02		0.05	
Assigned value	**0.217**				**(0.038)**		**(0.075)**	
243	0.232	0.3	1.96		ND	-1.9	0.024	-2.7
244	NA		NA		0.03	-0.8	0.07	-0.3
245	0.225	0.2	NA		0.036	-0.2	0.247	9.2
246	NA		NA		0.047	1.0	0.05	-1.3
247	0.235	0.4	NA		0.038	0.1	0.075	0.0
248	NA		NA		ND	-1.9	NA	
249	NA		NA		0.03	-0.8	0.084	0.5
250	0.069	-2.7	NA		ND	-1.9	0.03	-2.4
251	NA		NA		NA		NA	
252	NA		NA		NA		NA	
253	NA		NA		0.033	-0.5	0.091	0.9
254	NA		NA		0.049	1.2	0.055	-1.1
255	NA		NA		0.022	-1.7	0.043	-1.7
256	NA		NA		0.025	-1.3	0.14	3.5
257	NA		NA		ND	-1.9	NA	
258	NA		NA		ND	-1.9	NA	
259	NA		NA		ND	-1.9	NA	
260	NA		NA		0.029	-0.9	0.052	-1.2
261	NA		NA		NA		NA	
262	0.192	-0.4	NA		0.034	-0.4	0.072	-0.2
263	NA		NA		0.028	-1.0	0.05	-1.3
264	NA		NA		ND	-1.9	0.195	6.4
265	0.095	-2.2	NA		0.039	0.2	0.072	-0.2
266	NA		NA		0.032	-0.6	0.058	-0.9
267	NA		NA		0.034	-0.4	0.083	0.4
268	NA		NA		NA		NA	
269	0.217	0.1	NA		0.039	0.2	0.123	2.6
270	NA		NA		ND	-1.9	NA	
271	NA		1.5		0.026	-1.2	0.029	-2.5
272	NA		NA		0.025	-1.3	0.107	1.7
273	NA		NA		0.03	-0.8	0.096	1.1
274	0.216	0.0	NA		0.034	-0.4	0.084	0.5
275	NA		NA		ND	-1.9	0.239	8.7
276	NA		NA		ND	-1.9	NA	
277	NA		NA		0.039	0.2	0.054	-1.1

3.3.2 Weighted Sum of z-sores – Catagory A

The MRM results were additionally evaluated by calculating the Weighted Sum of z-Scores (WSZ). The WSZ values were calculated only for the 43 laboratories that reported 11 or 10 results for MRM pesticides (including false negative results). Pirimicarb and spiroxamine result were not included in the calculation. Two laboratories with false positive results were also excluded. The z-scores can be seen in **Table 14** and the corresponding graph **Appendix 3** and are the laboratories in Category A In totally, 30 participants obtained WSZ values at or below 2 (70%) and 4 participants obtained WSZ above 2 but below or at 3 (9%). Nine participants obtained WSZ values above 3 (21%). No significant differences in the overall performance were seen between National Reference laboratories (NRL) and official laboratories.

Table 14. Weighted Sum of z-scores for laboratories in Category A which reported 11 or 10 MRM results, no. of pesticide analysed, false negatives reported and status as NRL

Lab code	WSZ	No. of pesticide analysed	False negative	NRL	Lab code	WSZ	No. of pesticide analysed	False negative	NRL
262	11	0.2			**253**	11	2.8	x	x
247	11	0.4			**233**	11	2.9		
216	11	0.5		x	**211**	11	3.1	x	x
212	11	0.5		x	**221**	11	3.8	x	x
230	11	0.5			**243**	11	4.1		x
225	11	0.6		x	**223**	11	4.1		
260	11	0.7		x	**240**	11	4.3		
204	11	0.7		x	**250**	11	4.6		
239	11	0.8			**274**	10	0.4		x
202	11	0.8			**242**	10	0.6		x
245	11	0.8		x	**234**	10	1.1		x
255	11	0.9		x	**203**	10	1.2		
219	11	0.9		x	**246**	10	1.2		
217	11	1.2		x	**267**	10	1.4		
277	11	1.2	x	x	**215**	10	1.6		
269	11	1.7			**214**	10	2.0		x
265	11	1.8		x	**264**	10	2.2	x	
207	11	1.8			**256**	10	2.9	x	
254	11	1.9			**273**	10	3.6		
206	11	2.0		x	**229**	10	4.8		x
205	11	2.0		x	**213**	10	4.9	x	
236	11	2.0	x						

3.4 Analytical methods used for MRM pesticides

Detailed information regarding the methods used by the participants is presented in the following four tables. An overview of the reference methods used is given in **Table 15** *Overview of the method used.*. The table shows the methods used by 3 or more laboratories. All methods used by less than 3 laboratories are categorised in the group 'other'. The QuEChERS method was used by 8-16 participants and was the most used method, although different versions were applied. A few participants used the Dutch method, The CEN method EN 12393, Luke, the German official method and very few used the Italian method. However, the participants used a broad variety of methods and a summery is therefore given below.

Table 15 Overview of the method used.

Pesticide	QuEChERS 1)	Dutch 2)	EN 12393	Luke	German 3)	Italian 4)	Other 5)	Total
Azoxystrobin	13	2	4	4	7	1	33	64
Bifenthrin	11	3	5	5	6	1	33	64
Alpha-cypermethrin	8	3	3	3	4	0	22	43
Cypermethrin	6	1	2	2	4	1	13	29
Carbendazim	12	0	2	1	2	0	30	47
Chlormequat			7		2		17	26
Chlorpyrifos-methyl	14	3	7	5	6	1	33	69
Difenconazole	13	1	2	2	6		24	48
Epoxiconazole	13	1	1	1	6		23	45
Iprodione	10	3	5	1	7	1	31	58
Malathion	13	1	6	2	6	1	36	65
Pirimicarb	13	1	2		8	1	19	44
Prochloraz	15	2		2	5	1	29	54
Spiroxamin	16		1	1	7	1	25	51
Trifloxystrobin	14	2	3	3	6	1	32	61

1) QuEChERS: different versions are used.
2) Dutch: Anal.Meth.f.Pest.Res.in Foodst.NL 6th Ed. 1996
3) German: The German official governmental method L 00.00-34 for the determination of pesticides
4) Italian: Rapporto ISTISAN 97/23, 1997. Metodo multiresiduo per l'analisi di residui di antiparassitari in prodotti vegetalil
5) Other: other reference method used or a reference method was not used or reported.

An overview over the detection system used is shown in **Table 16**. The LC systems used were mainly LC/MS/MS. Only a few results were generally based on LC detectors like DAD, Fluorescence and UV. For carbendazim 11 participants used DAD or UV for detection. For several compounds about half of the results were obtained with GC-systems with selective detectors like NPD, FPD or ECD. The rest were obtained by MS and only 1-6 results were obtained by GC-MS/MS. The results for carbendazim (96%) and chlormequat (100%) were primarily and solely obtained by LC-methods, respectively. Results for alpha-cypermethrin (100%) and bifenthrin (100%), chlorpyrifos-methyl (97%), iprodione (96%) and malathion (88%) were primarily or solely obtained by GC-methods. For difenoconazole, Epoxiconazole, iprodione, pirimicarb, prochloraz, spiroxamine and trifloxystrobin about half of the results were obtained by LC-methods and the other half by GC-methods.

Table 16. Overview on the detection systems used by the participants. Number of participant, which used GC or LC systems and the respective detectors

Pesticide	GC-Total	GC-NPD	GC-FPD	GC-ECD	GCMS	GC-MS/MS	GC-other	LC- Total	LC-det. [a)]	LC/MS/MS	LC- Other	Both GC and LC	Not reported
Azoxystrobin	42			21	19	1	1	19	1	18		3	0
Bifenthrin	63	1		27	27	6	2	0				1	1
Alpha-cypermethrin	43			23	14	5	1	0					8
Cypermethrin	27	1		9	15	1	1	1		1		1	0
Carbendazim	2			2				45	11	34			2
Chlormequat	0							26		23	3		0
Chlorpyrifos-methyl	66	11	8	14	27	4	2	2		2		1	1
Difenconazole	24			11	11	2		21		21		3	1
Epoxiconazole	26			11	11	3	1	16		16		3	3
Iprodione	54	2		22	23	5	2	2		2		1	2
Malathion	46	8	7	9	17	4	1	6		6		4	11
Pirimicarb	26	8		1	16	1	0	18		18		3	18
Prochloraz	26	3		11	10	2	0	26		26		3	2
Spiroxamin	24	2		2	17	2	1	24		24		2	3
Trifloxystrobin	39			18	18	2	1	18		18		4	0

a) DAD, Fluorescence or UV

Between 52-77% of the participants were accredited for the individual pesticides present in the test material (see **Table 17**). Only 57 and 52% of the participants were accredited for the two triazole pesticides difenoconazole and epoxiconazole, respectively. 56% of the participants were accredited for prochloraz and trifloxystrobin. Most participants (77%) were accredited for chlormequat.

Table 17 Accredited laboratories, LODs and Sub-Sample Weights (SW) listed for MRM pesticides. The numbers in brackets are the number of participating laboratories that are not accredited. The LODs are given in mg/kg and SW in g.

Pesticide	ACCREDITED	LOD ≤ 0.01	0.01 ≤ LOD ≤ 0.05	0.05 < LOD < 0.1	LOD ≥ 0.1	SW ≤5 g	5<SW ≤10 g	10<SW ≤15 g	15<SW ≤20 g	20<SW ≤25 g	SW ≤75 g
Azoxystrobin	39 (25)	20	44			25	13	6	7	7	3
Bifenthrin	40 (25)	22	43			22	14	6	8	7	5
Alpha-cypermethrin	32 (19)	15	36			15	11	4	7	2	3
Cypermethrin	38 (34)	17	42		1	10	5	4	3	4	4
Carbendazim	33 (16)	25	21	3		22	10	5	3	2	3
Chlormequat	20 (6)	15	11		1	7	12	1	3	2	
Chlorpyrifos-methyl	47 (23)	26	44			23	14	6	8	7	9
Difenconazole	28 (21)	16	33			21	10	6	5	3	2
Epoxiconazole	25 (23)	18	29	1		23	8	5	4	2	2
Iprodione	39 (20)	13	45		1	20	14	5	6	7	4
Malathion	39 (22)	20	40	1		22	12	6	4	6	5
Pirimicarb	42 (23)	25	40			24	10	3	3	3	3
Prochloraz	32 (25)	21	34		2	27	11	5	5	1	5
Spiroxamin	32 (21)	20	33			28	9	5	2	4	2
Trifloxystrobin	34 (27)	19	41			26	11	5	8	6	4

More than half of the laboratories (55-74%) used 10 g or less of test material for the analysis of MRM pesticides. Between 28 and 56% of the laboratories used 5 g or less of test material for the analysis of MRM pesticides. Probably by mistake, one lab reported to have used a sample weight of 500 g. These data are not included in the **Table 18**.

Table 18. Method information; water addition prior to extraction, clean-up and calibration. The numbers in brackets are participants that have stated that they did not add water to the sample prior to extraction (see ANNEX III – list of abbreviations)

Pesticide	WATER ADDITION	GPC	DSPE	SPE	None	Freezing out	liq./liq part.	Other	MM-ML	MM-SL	PS-ML	PS-SL	Standard addition
Azoxystrobin	49 (14)	19	11	4	15	5	2	3	36	13	12	1	2
Bifenthrin	43 (19)	23	11	4	6	3	2	3	39	12	12	1	
Alpha-cypermethrin	27 (13)	14	9		11	2	2	3	29	9	4	1	
Cypermethrin	21(5)	13	4	3	5	1	2		17	5	7	1	
Carbendazim	36 (9)	6	9	4	11	4	6	1	25	5	14	1	2
Chlormequat	22 (2)			2	18		1	1	10	1	12		3
Chlorpyrifos-methyl	48 (16)	26	13	4	12	3	4	3	38	13	15	1	2
Difenconazole	41 (6)	11	12	3	11	4	1	2	28	11	8		1
Epoxiconazole	40 (3)	11	13	2	8	3	2	2	27	10	7		1
Iprodione	43 (13)	23	10	4	11	3	2	1	33	11	11	1	1
Malathion	39 (13)	19	11	2	13	4	1	1	32	10	12	1	1
Pirimicarb	45 (2)	13	11	3	6	5	2	2	27	11	8		1
Prochloraz	43 (10)	12	12	2	15	5	3	2	32	11	9	1	2
Spiroxamin	44 (5)	8	13	1	13	7	2	1	31	9	10		1
Trifloxystrobin	48 (12)	16	13	4	11	4	2	3	35	12	11	1	2

Between 68% and 96 % of the participants added water to the sample prior to extraction which is in accordance with the recommendations in SANCO/2007/3131 on Method Validation and Quality Control Procedures for Pesticide Residues Analysis in Food and Feed.

For seven of the compounds (alpha-cypermethrin, azoxystrobin, bifenthrin, chlorpyrifos-methyl, iprodione, malathion and trifloxystrobin) cleanup by GPC was most widely used. For carbendazim, chlormequat, prochloraz most often no cleanup had been applied. For the triazole compounds, difenoconazole and epoxiconazole DSPE, GPC and no cleanup had been used by about the same number of laboratories. For pirimicarb GPC and DSPE had been applied by

almost the same number of laboratories, whereas for spiroxamin DSPE and no cleanup had been applied by the same number of laboratories.

3.5 Conclusions

A homogenous test material of wheat, including both incurred and spiked samples, was successfully prepared. The wheat was sprayed in the field and spiked in the laboratory following harvest with commercially available pesticide formulations. The test material included the following pesticides: azoxystrobin, alpha-cypermethrin, cypermethrin, bifenthrin, carbendazim, chlormequat, chlorpyrifos-methyl, difenconazole, epoxiconazole, glyphosate, iprodione, malathion, pirimicarb, prochloraz, spiroxamine and trifloxystrobin. Seventy-four laboratories representing 27 countries agreed to participate in the proficiency test, but two one laboratories did not submit results. All Member States and NRL participated.

The z-Scores have been calculated for the quantified pesticides by using the FFP RSD of 25%. The assigned value for pirimicarb and spiroxamin were close to the MRRL at 0.02 and 0.05, respectively and consequently no z-scores were calculated. For several of the pesticides (especially the phosphor pesticides, prochloraz and azoxystrobin) the distributions seemed not to be unimodal. By analysing the method information given by the participants it was seen that the laboratories adding water to sample prior to extraction reported higher concentrations than the others. Consequently the assigned values were based only on results from participant who had added water to the sample prior to extraction. This decision applied to all the pesticides, except chlormequat, but also e.g. the pyrethroids cypermethrin and bifenthrin, where no significant differences were seen. For bifenthrin, chlormequat, alpha-cypermethrin, trifloxystrobin acceptable results were obtained by 92-97% of the laboratories. For carbendazim, malathion, difenconazole, epoxiconazole, prochloraz and azoxystrobin acceptable results were obtained by 81-89% of the laboratories. However, for iprodione, chlorpyrifos-methyl and cypermethrin acceptable z-scores were obtained by only 56-59% of the laboratories. The low percentage of acceptable results for iprodione and chlorpyrifos-methyl resulted from the large effect on extraction efficiency from adding water to the sample before extraction. Two false positive and eighteen false negative results were reported.

The participants used a broad variety of methods. The QuEChERS method was used by 8-16 participants and was the most frequently used method. The results for carbendazim and chlormequat were primarily and solely obtained by LC-methods, respectively. Results for alpha-cypermethrin, bifenthrin, chlorpyrifos-methyl, iprodione and malathion were primarily or solely obtained by GC-methods. For difenoconazole, Epoxiconazole, iprodione, pirimicarb, prochloraz, spiroxamine and trifloxystrobin about half of the results were obtained by LC-methods and the other half by GC-methods. Between 68 and 96 % of the participants added water to the sample prior to extraction in accordance with the recommendations in SANCO/2007/3131 on Method Validation and Quality Control Procedures for Pesticide Residues Analysis in Food and Feed.

3.6 Future proficiency test on cereals

Proficiency tests for pesticide residues in cereals will continue to be performed in the future for various important pesticides and commodities. In 2009 the test material will be oat. The list of possible pesticides is expanded with 9 pesticides; esfenvalerate, fenitrothion, Cyprodinil, fenbuconazole, fludioxonyl, flusilazole, metribuzin, pyrastrobin and pendimathalin. The pesticide residues will be incurred wherever practical. However, weather conditions may influence the levels of residues, so that additional laboratory spiking may be necessary.

The online web submission will be continued and expanded with an online registration website.

4. ACKNOWLEDGEMENTS

The Organisers wishes to thank the members of the Advisory Group for their valuable advice.

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6. APPENDICES

Appendix 1 Homogeneity data

Azoxystrobin (mg/kg)		
Sample	Portion 1	Portion 2
1	0.213	0.252
2	0.237	0.242
3	0.266	0.256
4	0.251	0.245
5	0.239	0.225
6	0.228	0.242
7	0.219	0.240
8	0.244	0.249
9	0.239	0.229
10	0.249	0.236
Alfa-cypermethrin (mg/kg)		
Sample	Portion 1	Portion 2
1	0.084	0.098
2	0.084	0.091
3	0.097	0.072
4	0.093	0.082
5	0.084	0.090
6	0.092	0.094
7	0.084	0.094
8	0.088	0.088
9	0.089	0.085
10	0.091	0.096
Bifenthrin (mg/kg)		
Sample	Portion 1	Portion 2
1	0.079	0.081
2	0.089	0.070
3	0.078	0.087
4	0.093	0.093
5	0.068	0.087
6	0.083	0.083
7	0.077	0.052
8	0.077	0.071
9	0.080	0.057
10	0.085	0.077

Carbendazim (mg/kg)		
Sample	Portion 1	Portion 2
1	0.677	0.743
2	0.729	0.704
3	0.768	0.650
4	0.835	0.689
5	0.852	0.617
6	0.835	0.735
7	0.566	0.727
8	0.654	0.684
9	0.669	0.423
10	0.733	0.764
Chlorpyriphos-methyl (mg/kg)		
Sample	Portion 1	Portion 2
1	0.127	0.137
2	0.139	0.137
3	0.154	0.106
4	0.142	0.089
5	0.135	0.137
6	0.141	0.135
7	0.130	0.140
8	0.142	0.139
9	0.086	0.132
10	0.147	0.141
Chlormequat (mg/kg)		
Sample	Portion 1	Portion 2
1	0.193	0.187
2	0.199	0.194
3	0.195	0.201
4	0.169	0.186
5	0.199	0.202
6	0.172	0.193
7	0.195	0.192
8	0.199	0.187
9	0.202	0.192
10	0.197	0.193

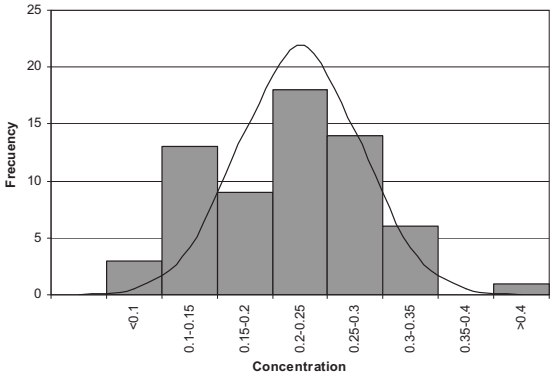
Difenconazole (mg/kg)		
Sample	Portion 1	Portion 2
1	0.165	0.186
2	0.177	0.180
3	0.196	0.187
4	0.186	0.130
5	0.186	0.170
6	0.177	0.181
7	0.168	0.179
8	0.179	0.178
9	0.176	0.173
10	0.188	0.172
Epoxyconazole (mg/kg)		
Sample	Portion 1	Portion 2
1	0.163	0.190
2	0.181	0.180
3	0.208	0.139
4	0.185	0.138
5	0.178	0.170
6	0.179	0.182
7	0.163	0.169
8	0.182	0.188
9	0.167	0.176
10	0.188	0.182
Glyphosate (mg/kg)		
Sample	Portion 1	Portion 2
1	2.133	2.251
2	2.202	2.108
3	2.272	2.162
4	2.147	2.167
5	2.114	2.143
6	2.108	2.154
7	2.245	2.218
8	2.247	2.151
9	2.134	2.124
10	2.281	2.162

Iprodion (mg/kg)		
Sample	Portion 1	Portion 2
1	0.287	0.328
2	0.341	0.335
3	0.356	0.236
4	0.325	0.220
5	0.329	0.315
6	0.316	0.334
7	0.309	0.332
8	0.307	0.318
9	0.313	0.315
10	0.341	0.313
Malathion (mg/kg)		
Sample	Portion 1	Portion 2
1	0.142	0.160
2	0.166	0.151
3	0.177	0.193
4	0.168	0.171
5	0.129	0.183
6	0.158	0.170
7	0.163	0.124
8	0.192	0.182
9	0.205	0.154
10	0.178	0.181
Pirimicarb (mg/kg)		
Sample	Portion 1	Portion 2
1	0.043	0.044
2	0.044	0.041
3	0.046	0.039
4	0.049	0.042
5	0.052	0.04
6	0.048	0.041
7	0.035	0.044
8	0.041	0.041
9	0.042	0.027
10	0.044	0.036

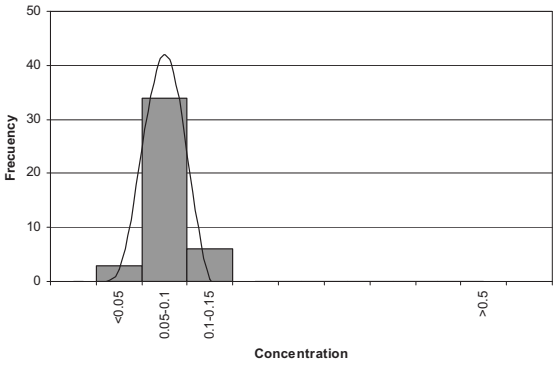
Prochloraz (mg/kg)		
Sample	Portion 1	Portion 2
1	0.233	0.248
2	0.234	0.231
3	0.249	0.231
4	0.247	0.231
5	0.242	0.213
6	0.213	0.221
7	0.225	0.221
8	0.232	0.244
9	0.239	0.222
10	0.256	0.237
Spiroxamine (mg/kg)		
Sample	Portion 1	Portion 2
1	0.053	0.051
2	0.054	0.049
3	0.051	0.045
4	0.054	0.048
5	0.064	0.049
6	0.052	0.049
7	0.042	0.054
8	0.047	0.049
9	0.051	0.035
10	0.051	0.038
Trifloxystrobin (mg/kg)		
Sample	Portion 1	Portion 2
1	0.469	0.499
2	0.498	0.513
3	0.537	0.350
4	0.508	0.329
5	0.508	0.485
6	0.468	0.474
7	0.502	0.514
8	0.496	0.492
9	0.504	0.504
10	0.522	0.500

Appendix 2 Histograms

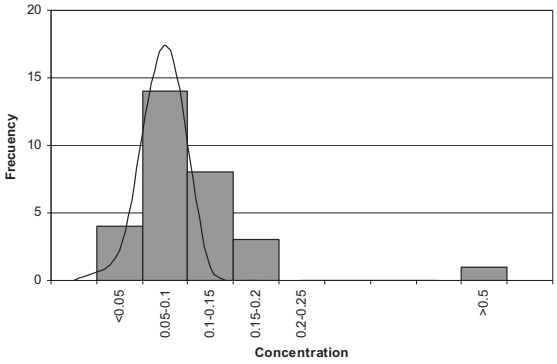
Azoxystrobin



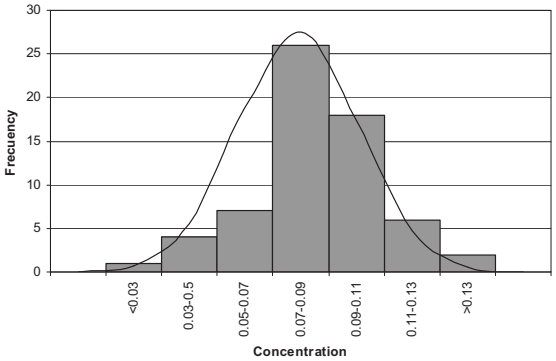
Alpha-cypermethrin



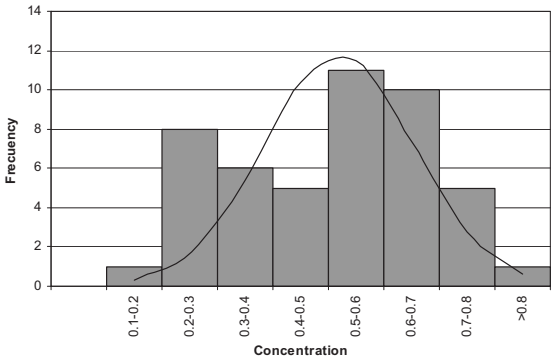
Cypermethrin



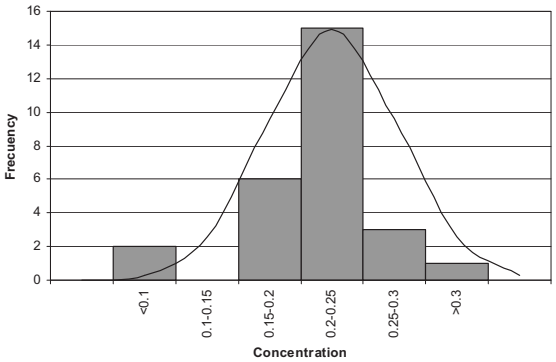
Bifenthrin



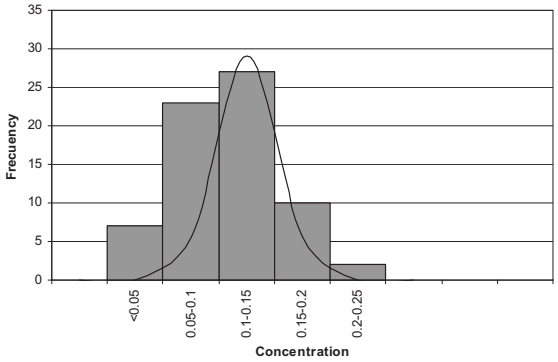
Carbendazim



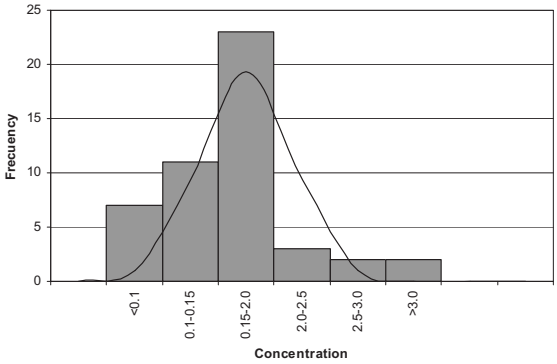
Chlormequat



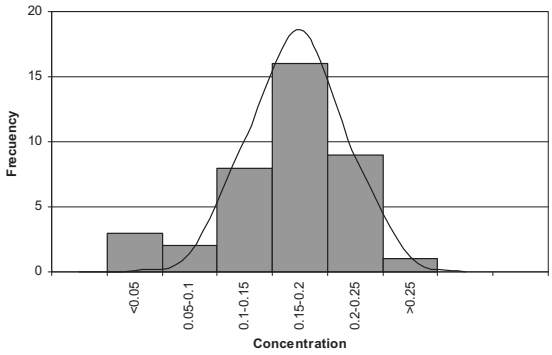
Chlorpyrifos-methyl



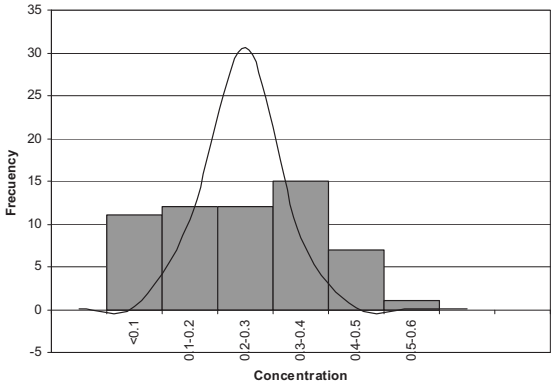
Difenoconazole



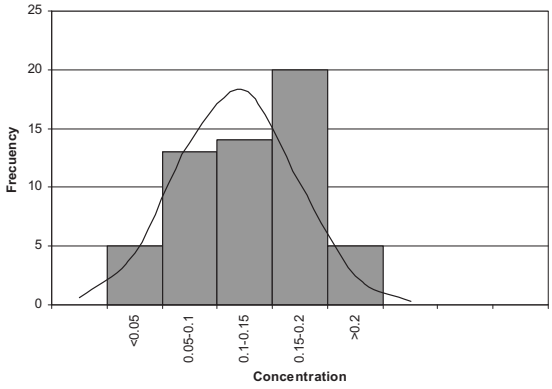
Epoxiconazole



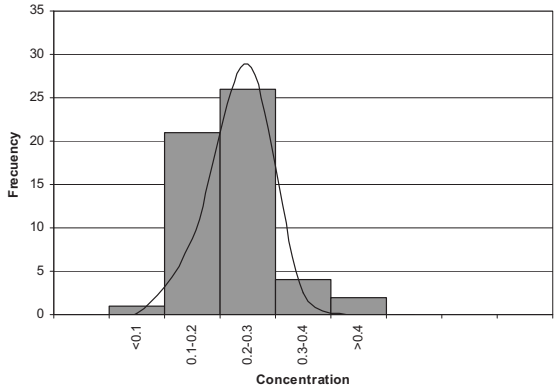
Iprodione



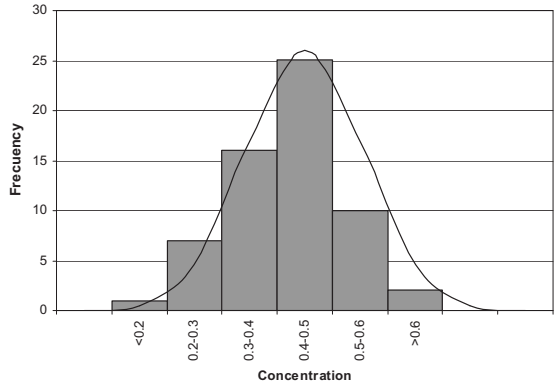
Malathion



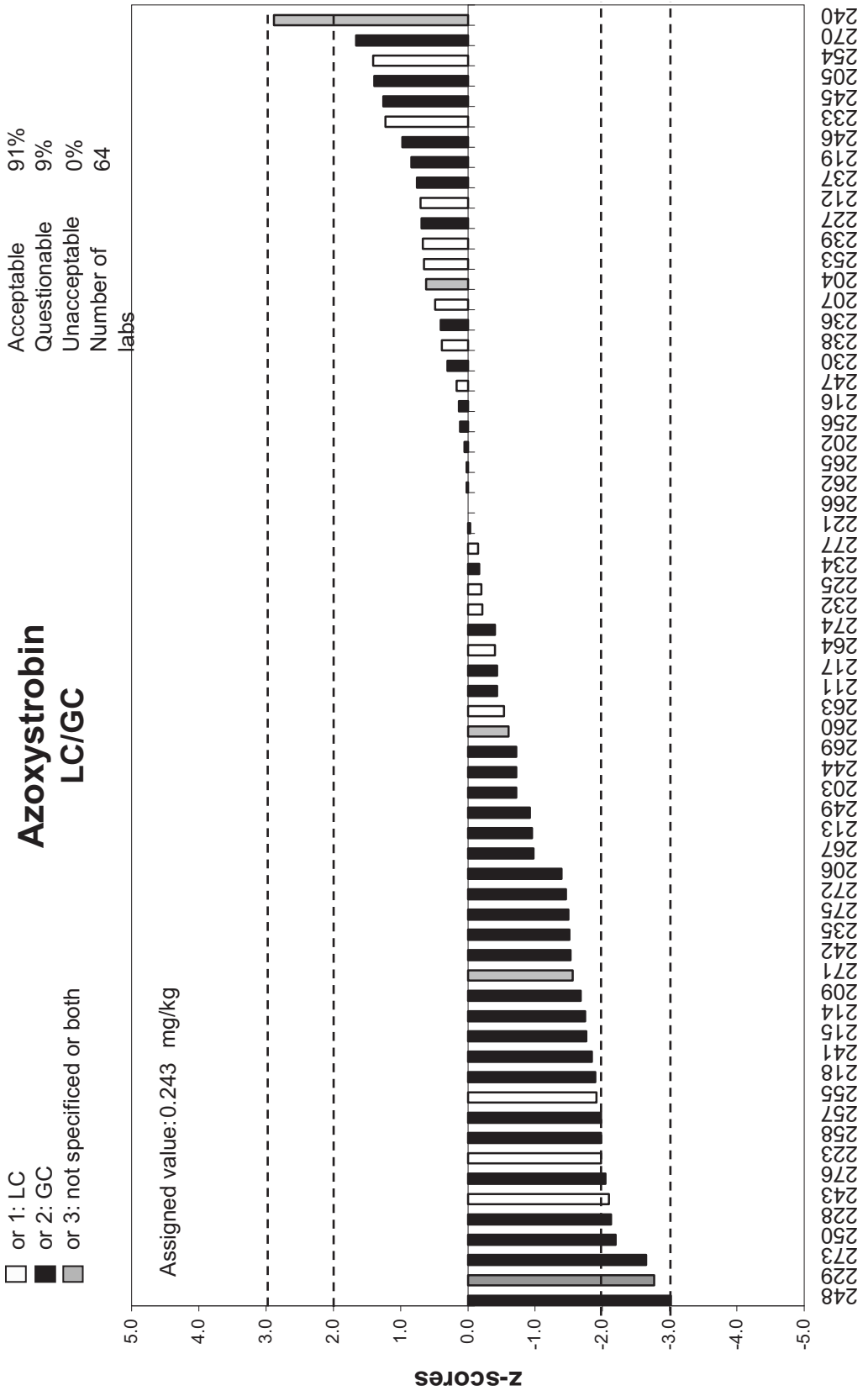
Prochloraz

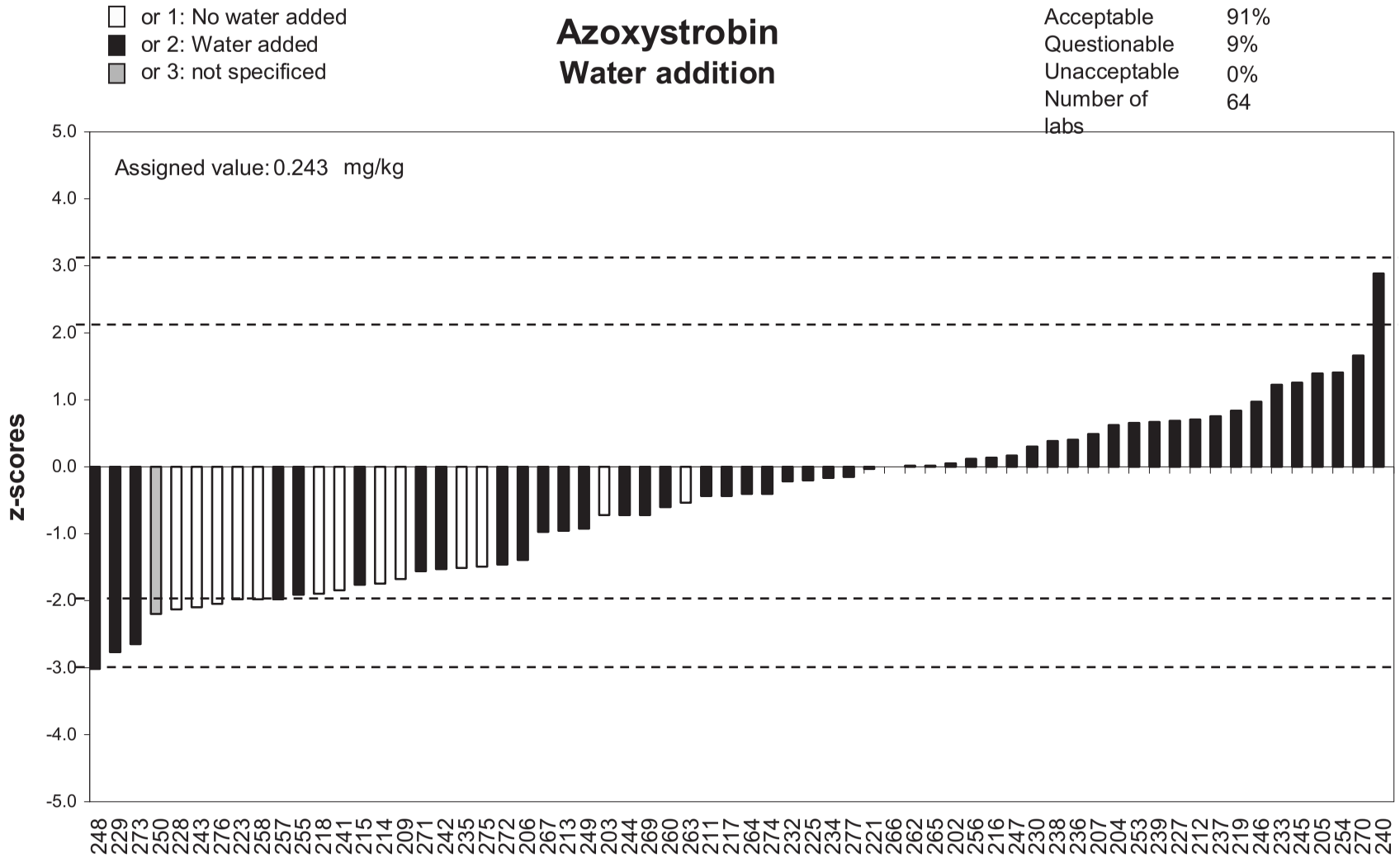


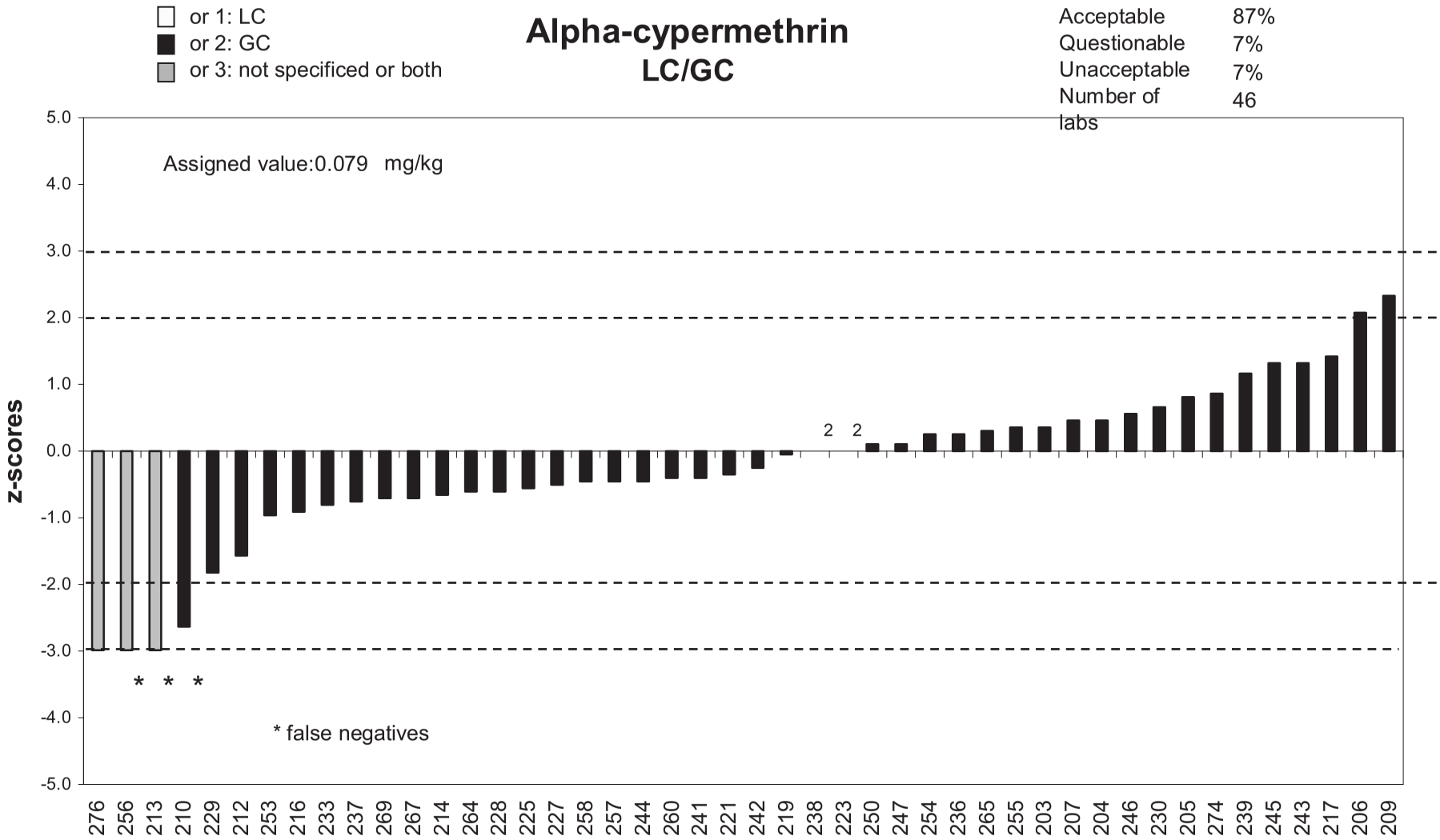
Trifloxostrobin

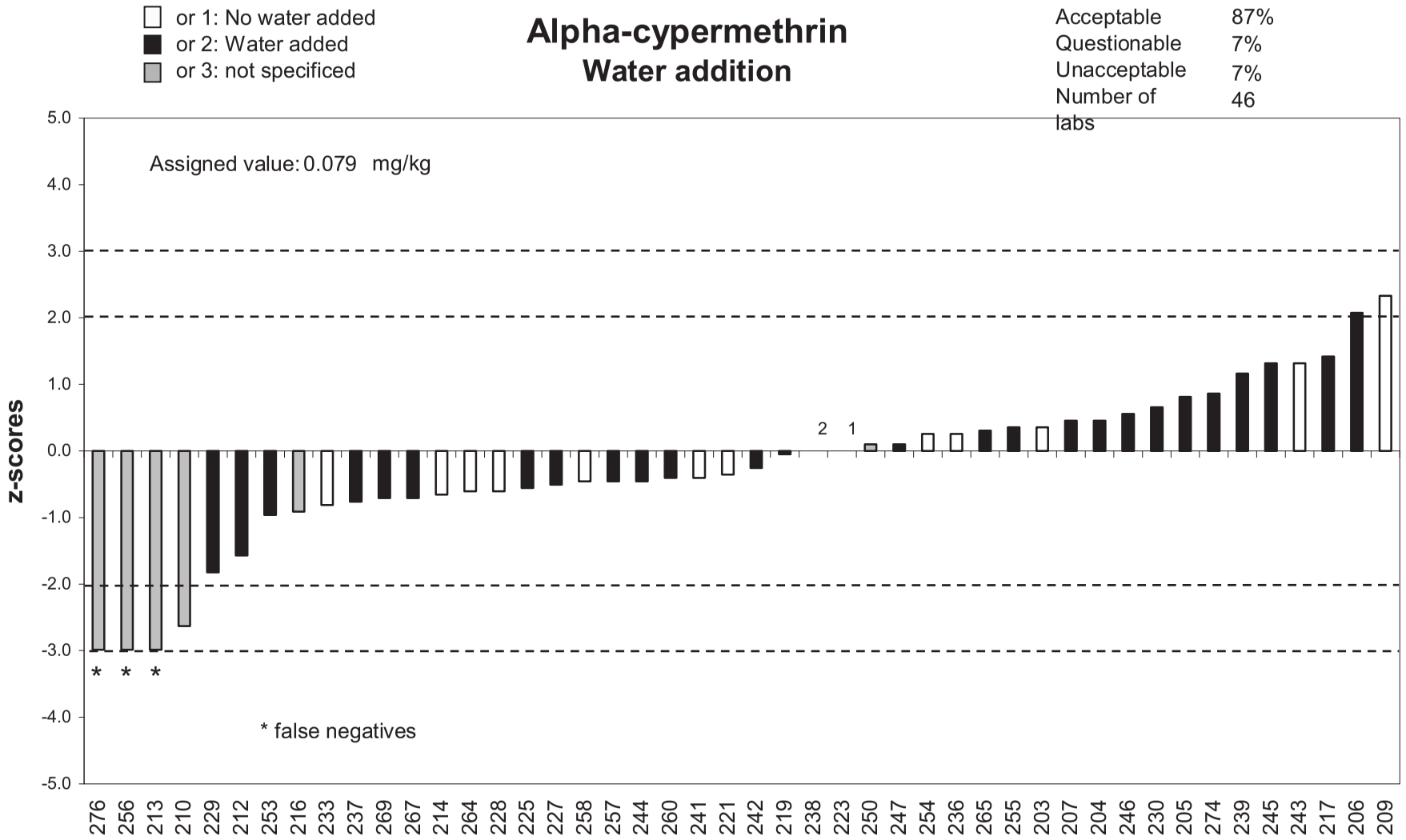


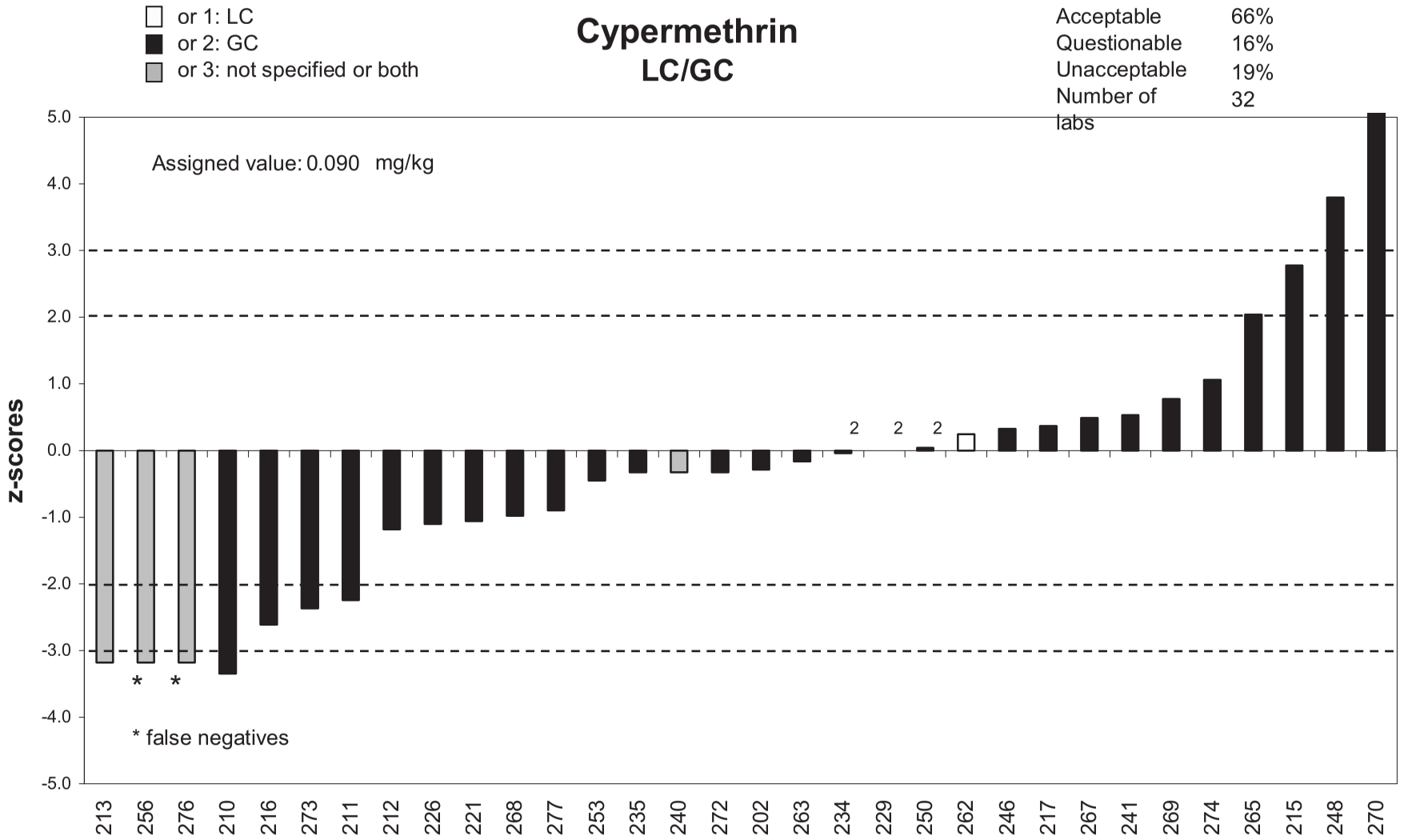
Appendix 3 Graphical presentation of z-scores for each pesticide

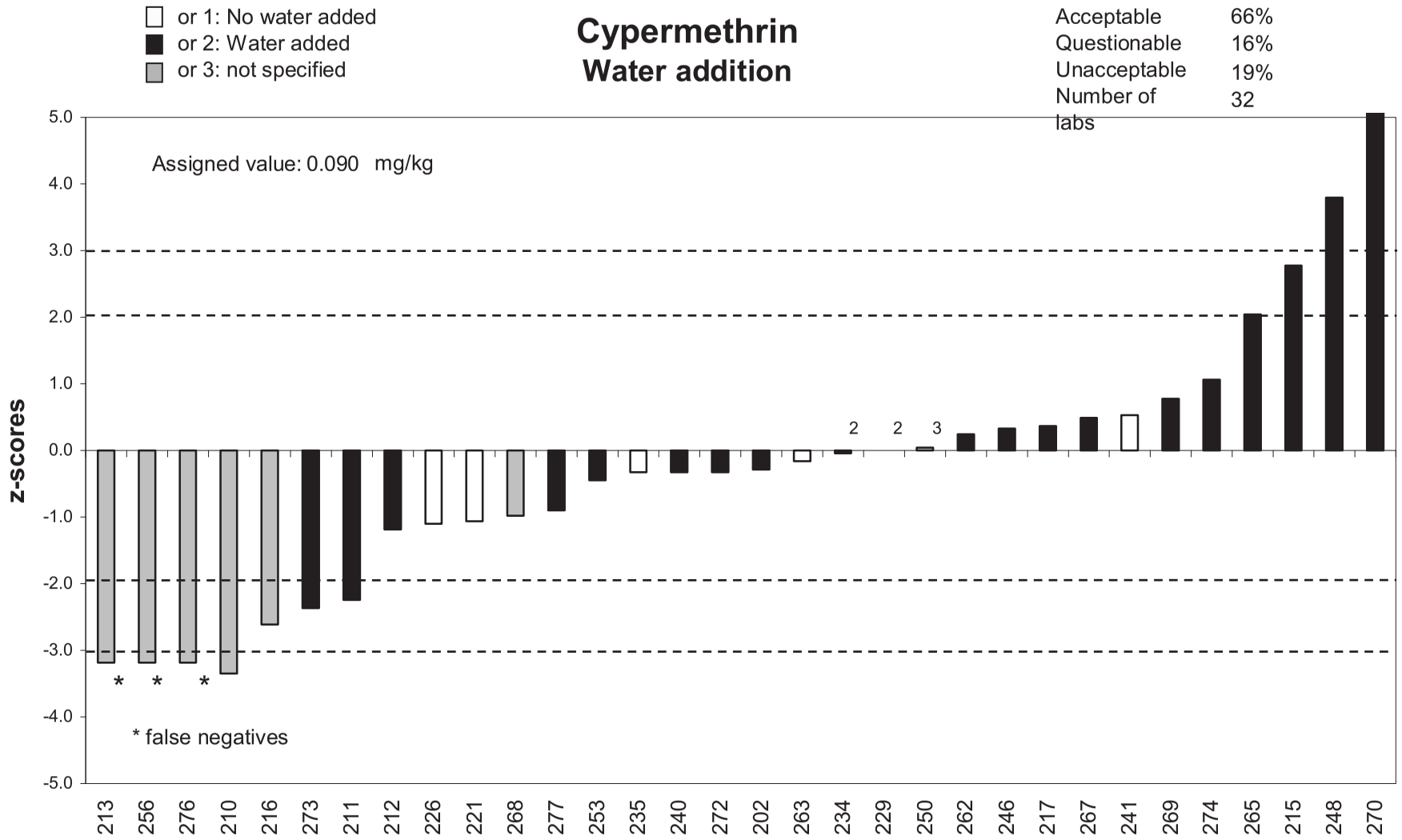


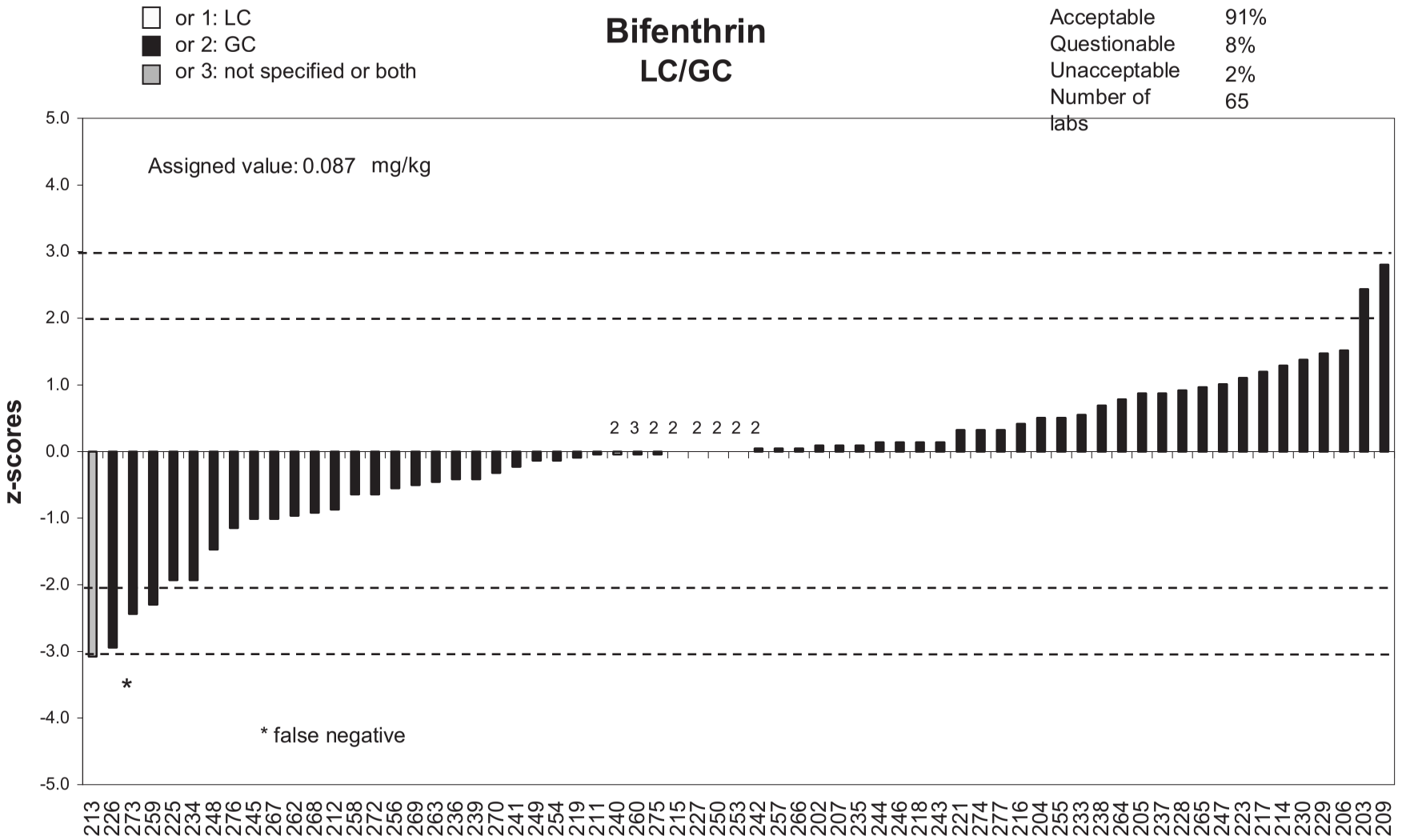

or 1: No water added
or 2: Water added
or 3: not specificed
Azoxystrobin
Water addition
Acceptable 91%
Questionable 9%
Unacceptable 0%
Number of labs 64
Assigned value: 0.243 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
248 229 273 250 228 243 276 223 258 257 255 218 241 215 214 209 271 242 235 275 272 206 267 213 249 203 244 269 260 263 211 217 264 274 232 225 234 277 221 266 262 265 202 256 216 247 230 238 236 207 204 253 239 227 212 237 219 246 233 245 205 254 270 240

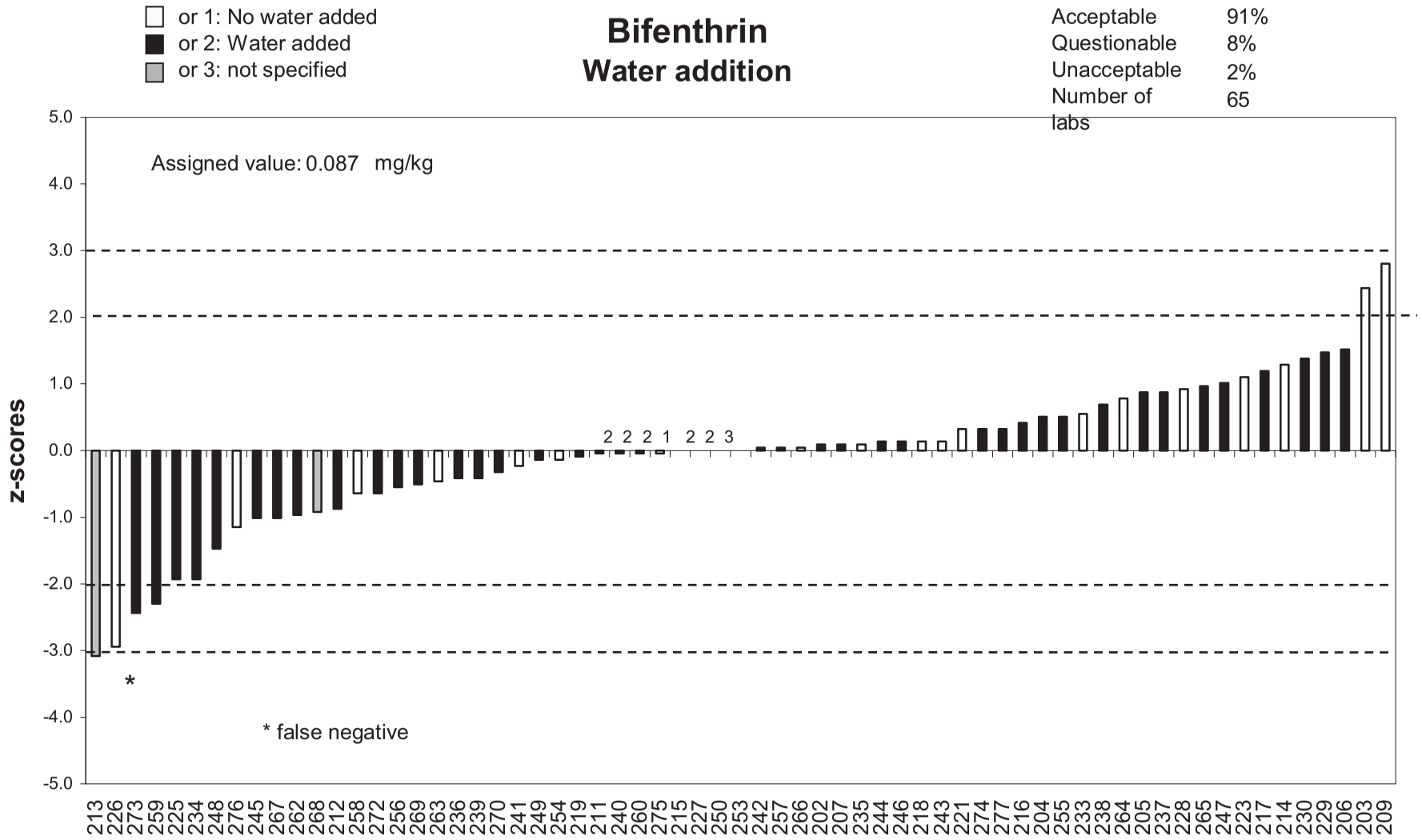

or 1: LC
or 2: GC
or 3: not specificed or both
Alpha-cypermethrin
LC/GC
Acceptable 87%
Questionable 7%
Unacceptable 7%
Number of labs 46
Assigned value:0.079 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 2
* * *
* false negatives
276 256 213 210 229 212 253 216 233 237 269 267 214 264 228 225 227 258 257 244 260 241 221 242 219 238 223 250 247 254 236 265 255 203 207 204 246 230 205 274 239 245 243 217 206 209

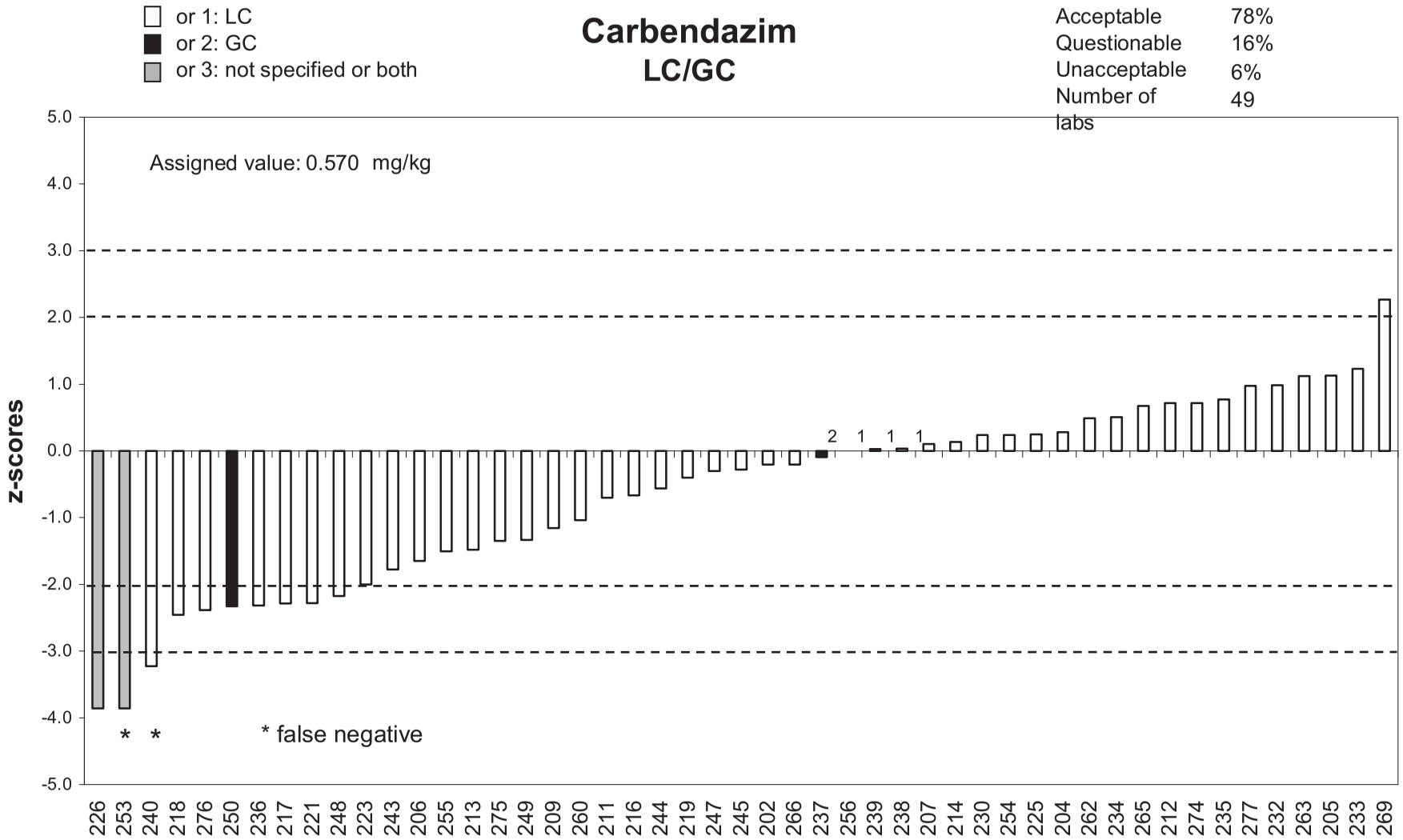

or 1: No water added
or 2: Water added
or 3: not specificed
Alpha-cypermethrin
Water addition
Acceptable 87%
Questionable 7%
Unacceptable 7%
Number of labs 46
Assigned value: 0.079 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
* * *
* false negatives
2 1
276 256 213 210 229 212 253 216 233 237 269 267 214 264 228 225 227 258 257 244 260 241 221 242 219 238 223 250 247 254 236 265 255 203 207 204 246 230 205 274 239 245 243 217 206 209

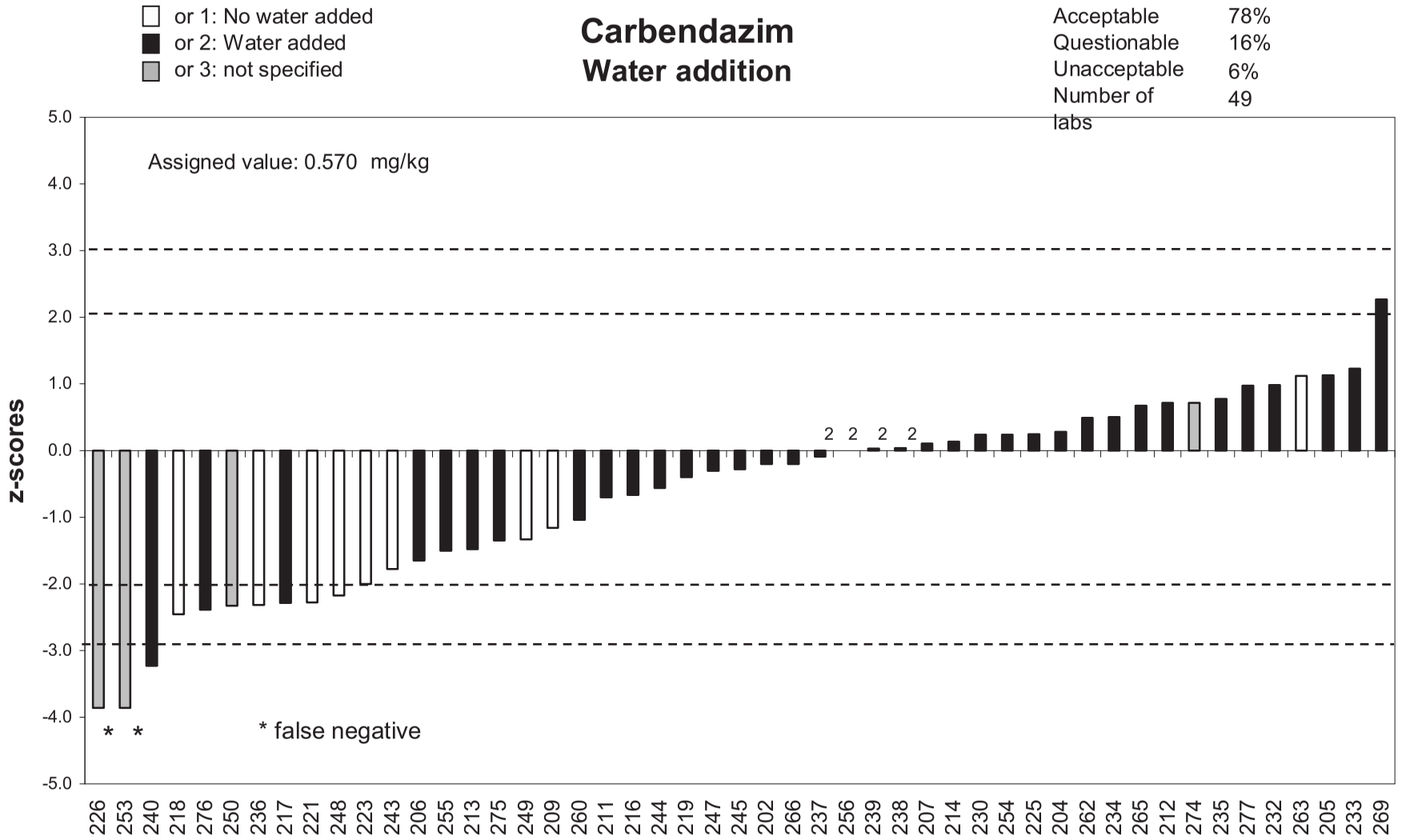

Cypermethrin
LC/GC
or 1: LC
or 2: GC
or 3: not specified or both
Acceptable 66%
Questionable 16%
Unacceptable 19%
Number of labs 32
Assigned value: 0.090 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 2 2
* *
* false negatives
213 256 276 210 216 273 211 212 226 221 268 277 253 235 240 272 202 263 234 229 250 262 246 217 267 241 269 274 265 215 248 270

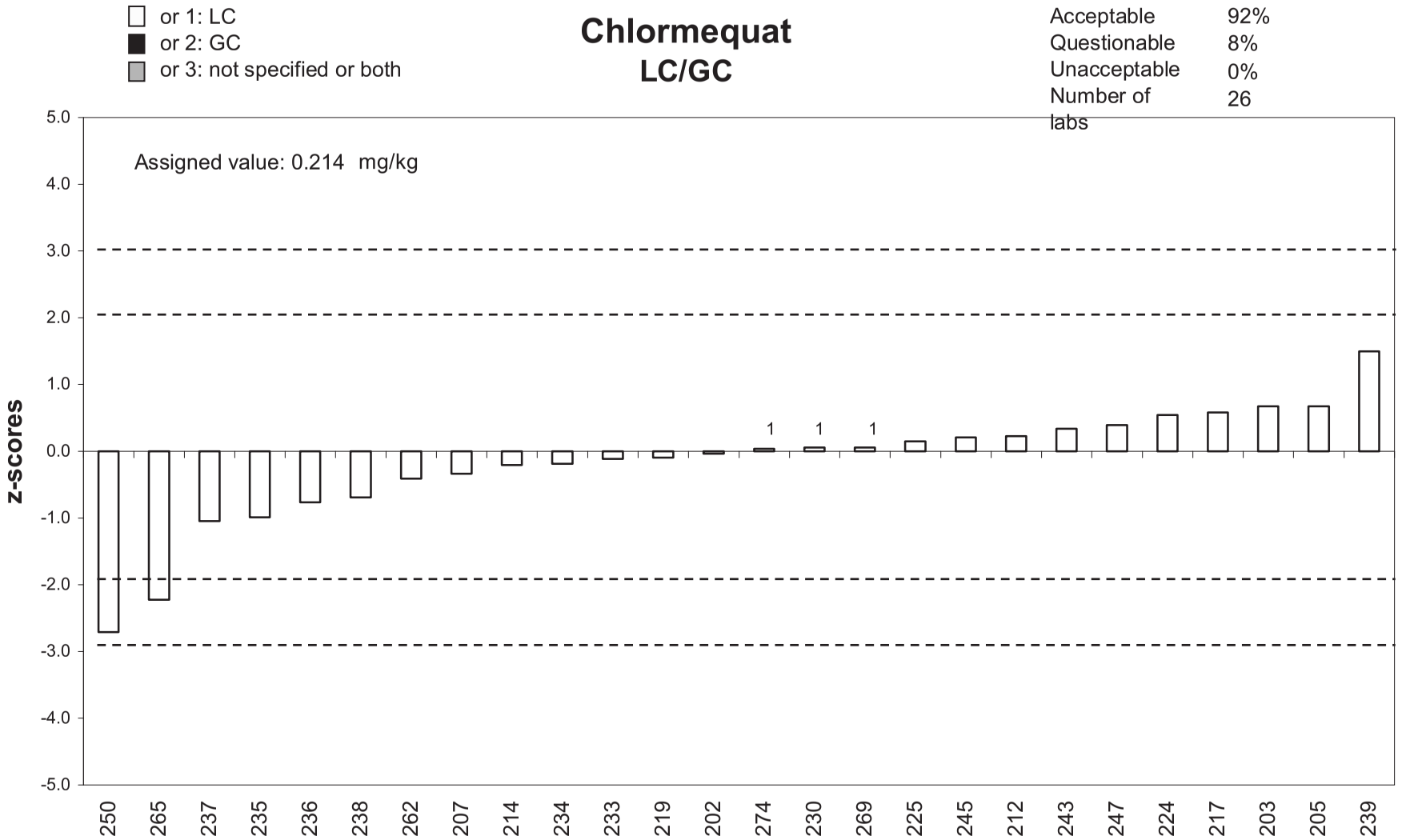

or 1: No water added
or 2: Water added
or 3: not specified
Cypermethrin
Water addition
Acceptable 66%
Questionable 16%
Unacceptable 19%
Number of labs 32
Assigned value: 0.090 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 2 3
* * *
* false negatives
213 256 276 210 216 273 211 212 226 221 268 277 253 235 240 272 202 263 234 229 250 262 246 217 267 241 269 274 265 215 248 270

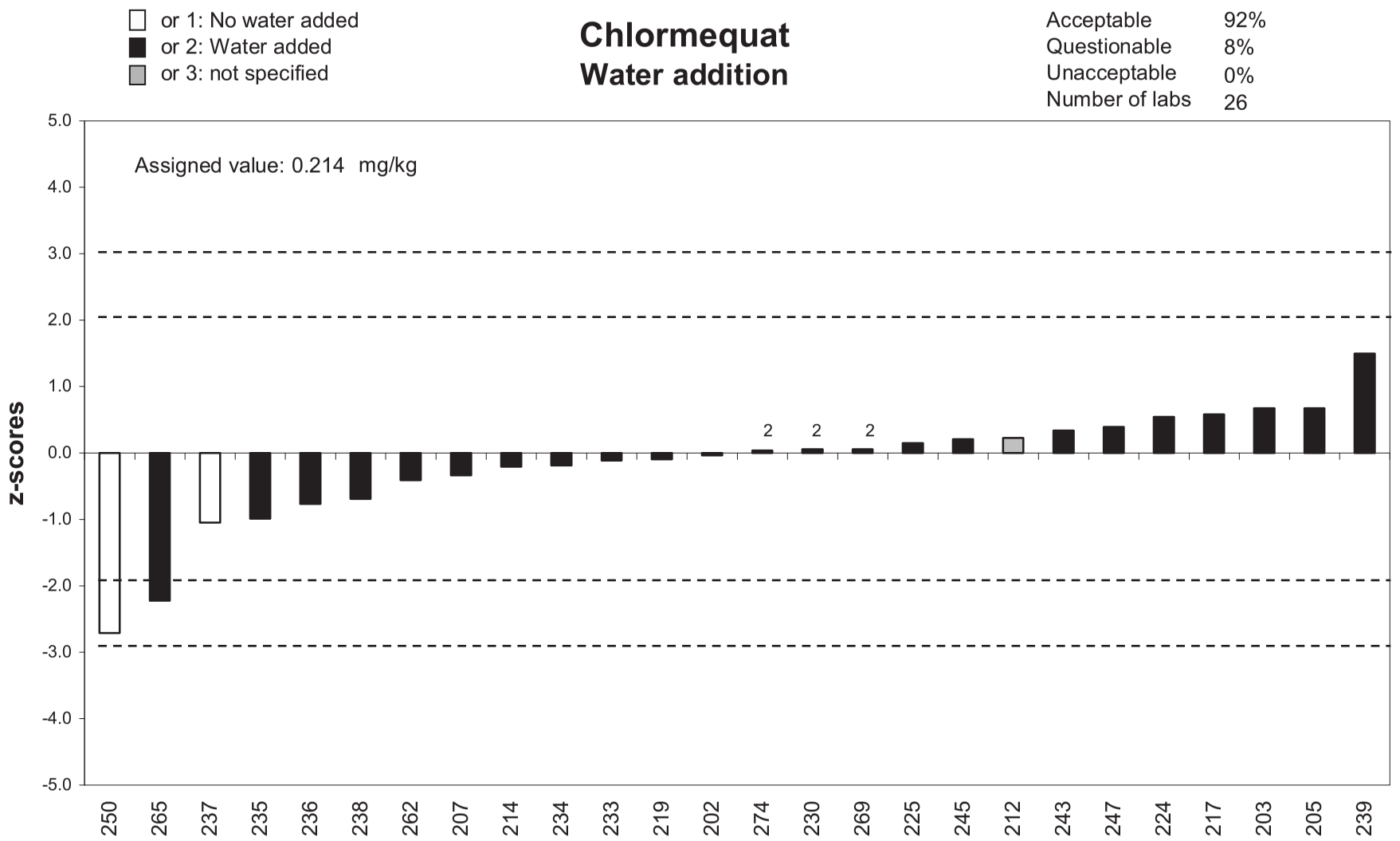

or 1: LC
or 2: GC
or 3: not specified or both
Bifenthrin
LC/GC
Acceptable 91%
Questionable 8%
Unacceptable 2%
Number of labs 65
Assigned value: 0.087 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 3 2 2 2 2 2 2
*
* false negative
213 226 273 259 225 234 248 276 245 267 262 268 212 258 272 256 269 263 236 239 270 241 249 254 219 211 240 260 275 215 227 250 253 242 257 266 202 207 235 244 246 218 243 221 274 277 216 204 255 233 238 264 205 237 228 265 247 223 217 214 230 229 206 203 209

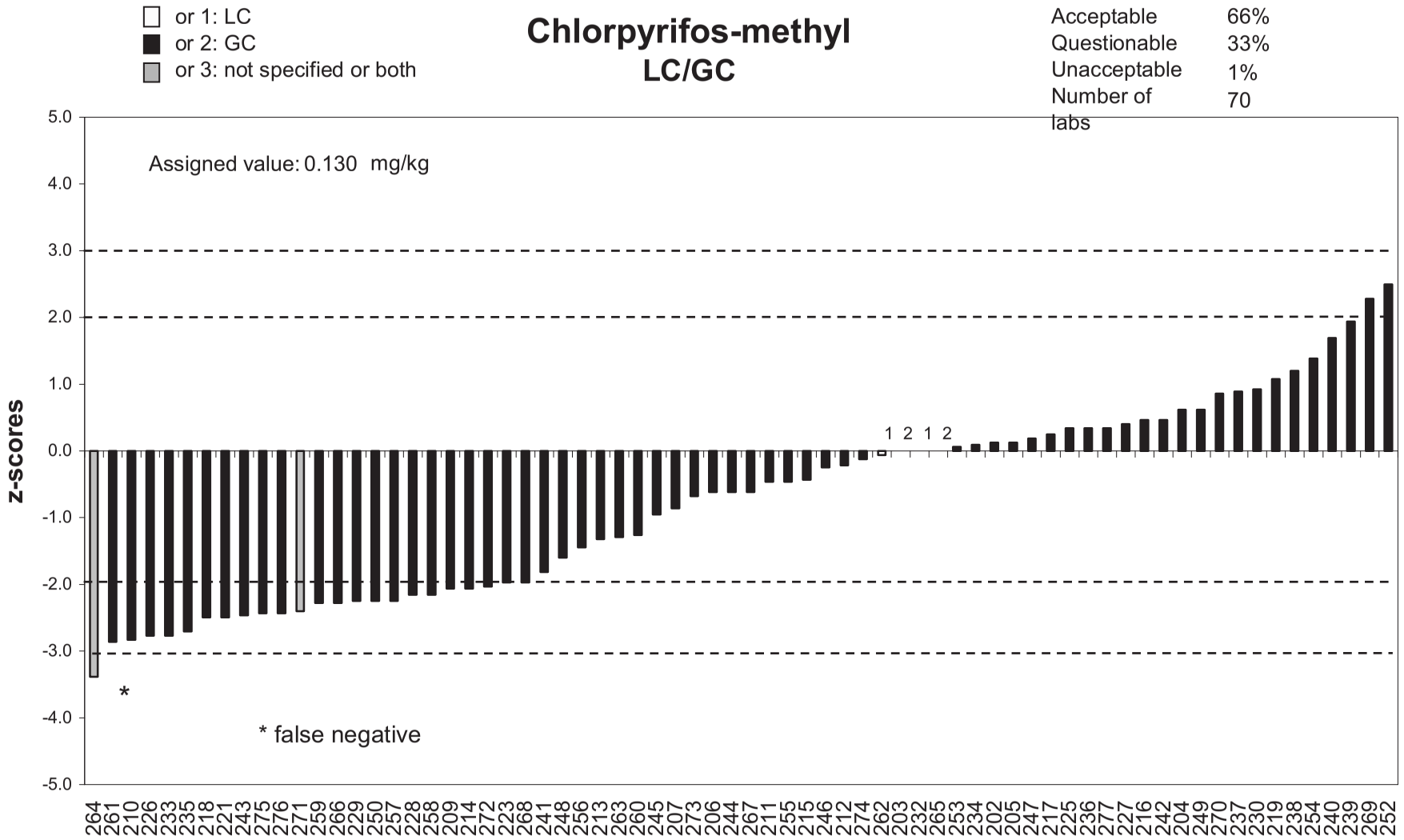

or 1: No water added
or 2: Water added
or 3: not specified
Bifenthrin
Water addition
Acceptable 91%
Questionable 8%
Unacceptable 2%
Number of labs 65
Assigned value: 0.087 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 2 2 1 2 2 3
*
* false negative
213 226 273 259 225 234 248 276 245 267 262 268 212 258 272 256 269 263 236 239 270 241 249 254 219 211 240 260 275 215 227 250 253 242 257 266 202 207 235 244 246 218 243 221 274 277 216 204 255 233 238 264 205 237 228 265 247 223 217 214 230 229 206 203 209

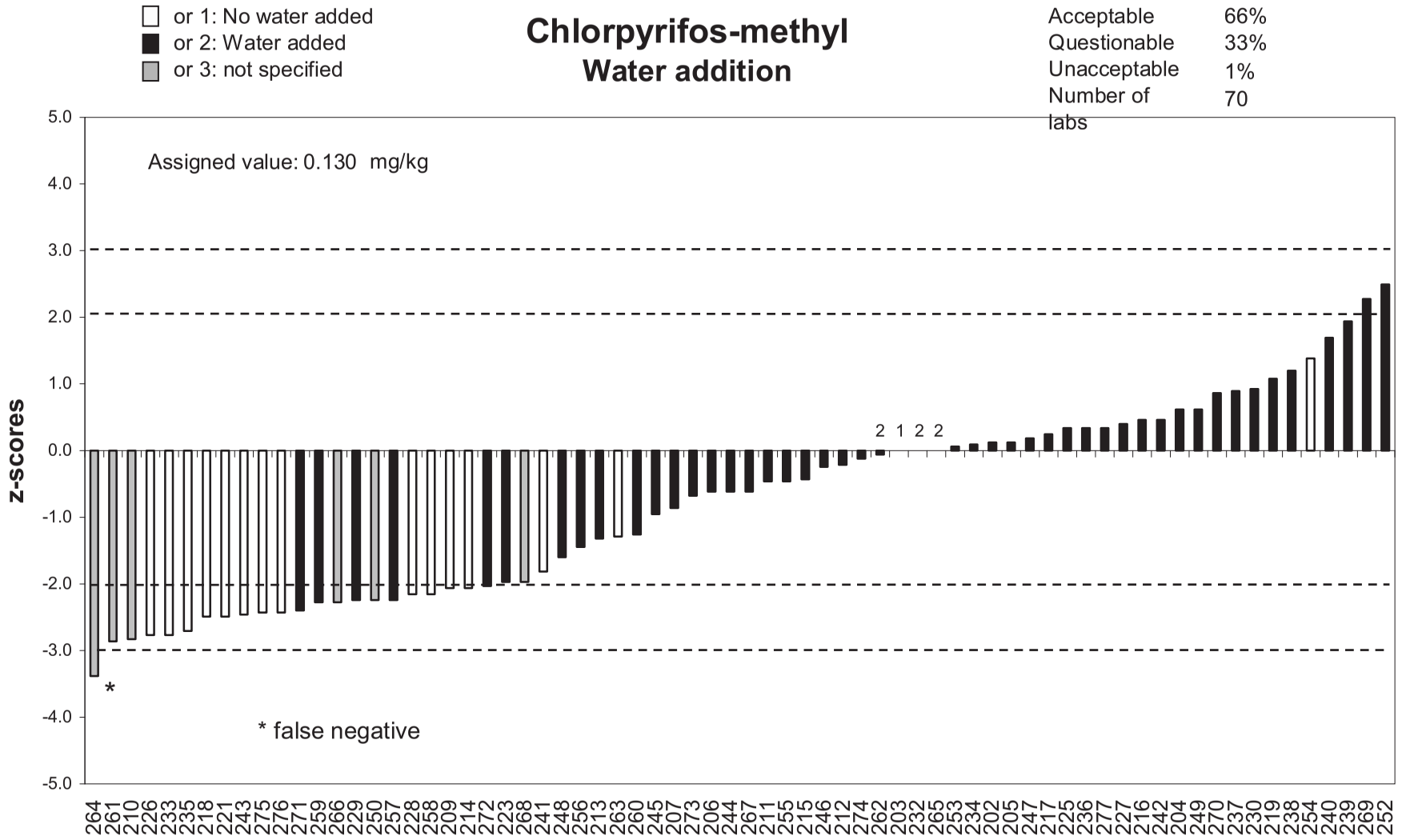

or 1: LC
or 2: GC
or 3: not specified or both
Carbendazim
LC/GC
Acceptable 78%
Questionable 16%
Unacceptable 6%
Number of labs 49
Assigned value: 0.570 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 1 1 1
* *
* false negative
226 253 240 218 276 250 236 217 221 248 223 243 206 255 213 275 249 209 260 211 216 244 219 247 245 202 266 237 256 239 238 207 214 230 254 225 204 262 234 265 212 274 235 277 232 263 205 233 269

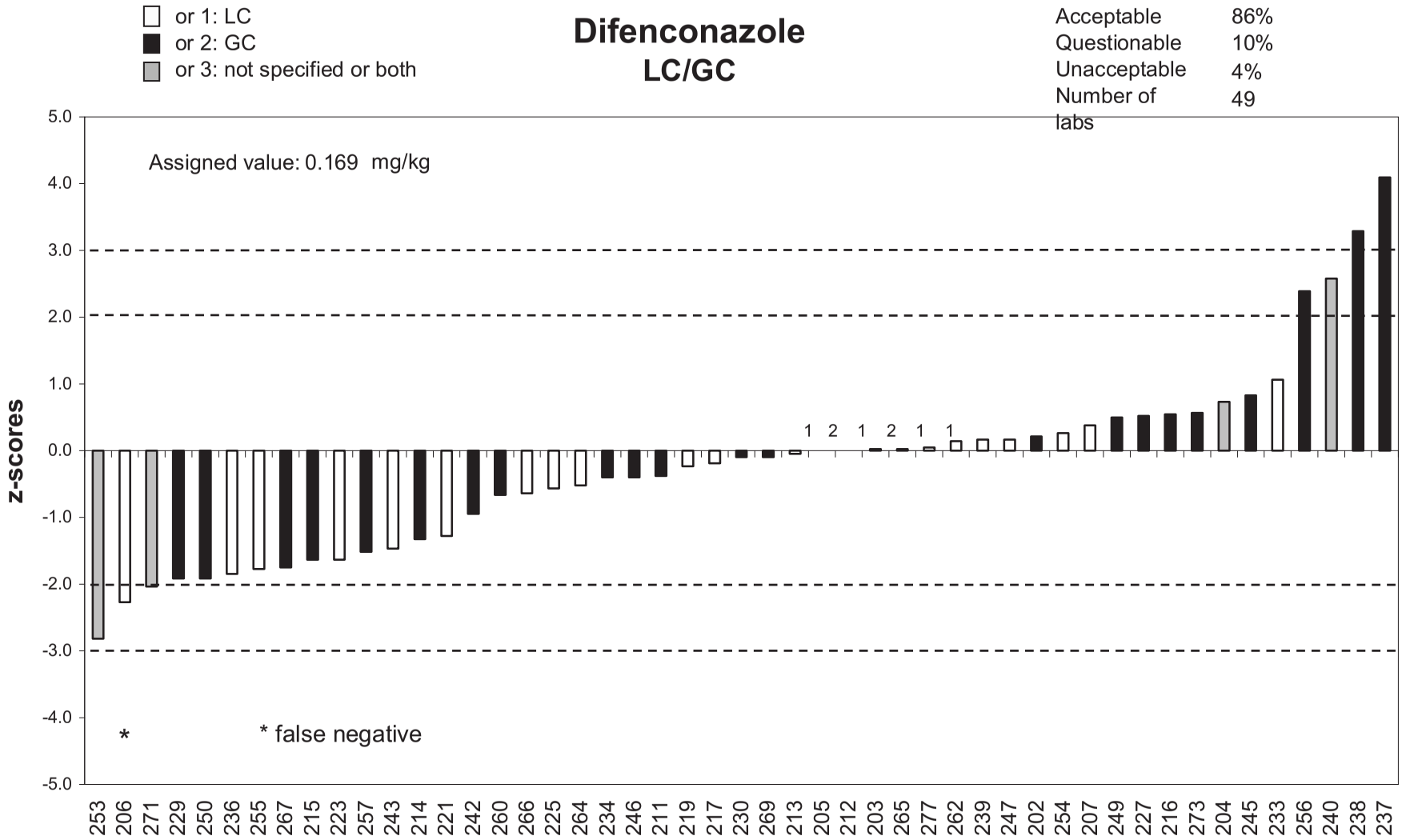

or 1: No water added
or 2: Water added
or 3: not specified
Carbendazim
Water addition
Acceptable 78%
Questionable 16%
Unacceptable 6%
Number of labs 49
Assigned value: 0.570 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 2 2 2
* *
* false negative
226 253 240 218 276 250 236 217 221 248 223 243 206 255 213 275 249 209 260 211 216 244 219 247 245 202 266 237 256 239 238 207 214 230 254 225 204 262 234 265 212 274 235 277 232 263 205 233 269

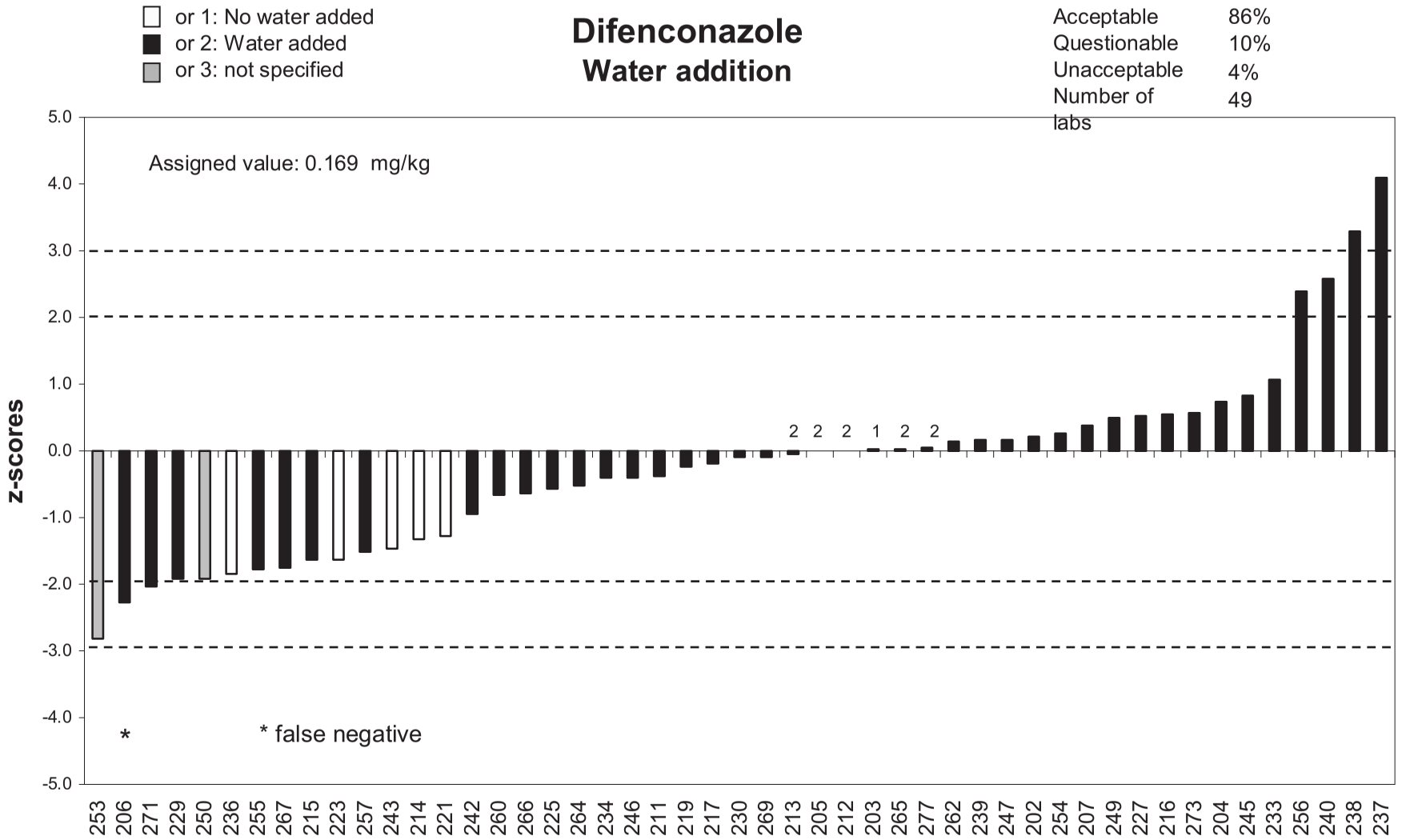

or 1: LC
or 2: GC
or 3: not specified or both
Chlormequat
LC/GC
Acceptable 92%
Questionable 8%
Unacceptable 0%
Number of labs 26
Assigned value: 0.214 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
1
1
1
250
265
237
235
236
238
262
207
214
234
233
219
202
274
230
269
225
245
212
243
247
224
217
203
205
239

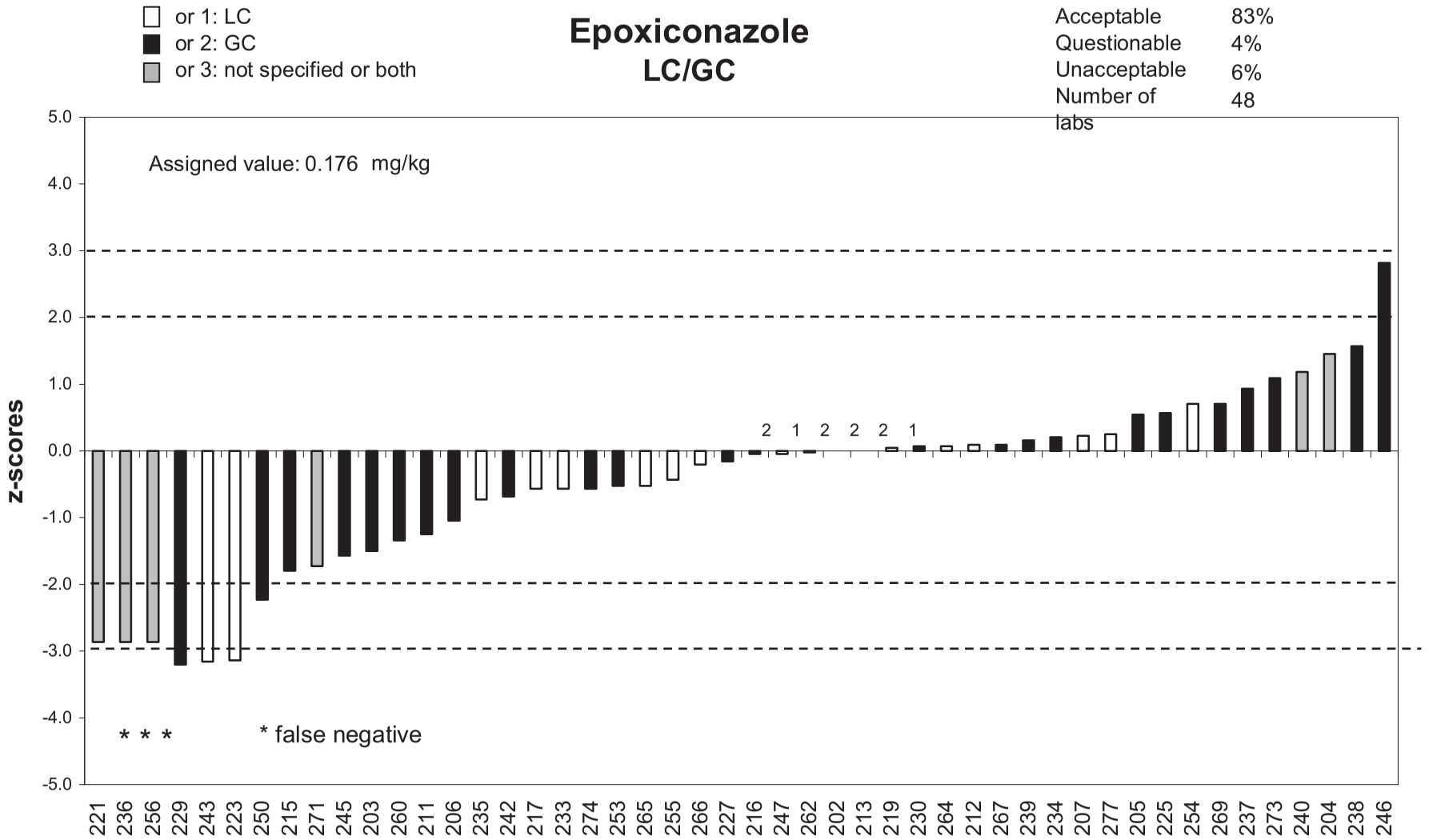

or 1: No water added
or 2: Water added
or 3: not specified
Chlormequat
Water addition
Acceptable 92%
Questionable 8%
Unacceptable 0%
Number of labs 26
Assigned value: 0.214 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2
2
2
250
265
237
235
236
238
262
207
214
234
233
219
202
274
230
269
225
245
212
243
247
224
217
203
205
239

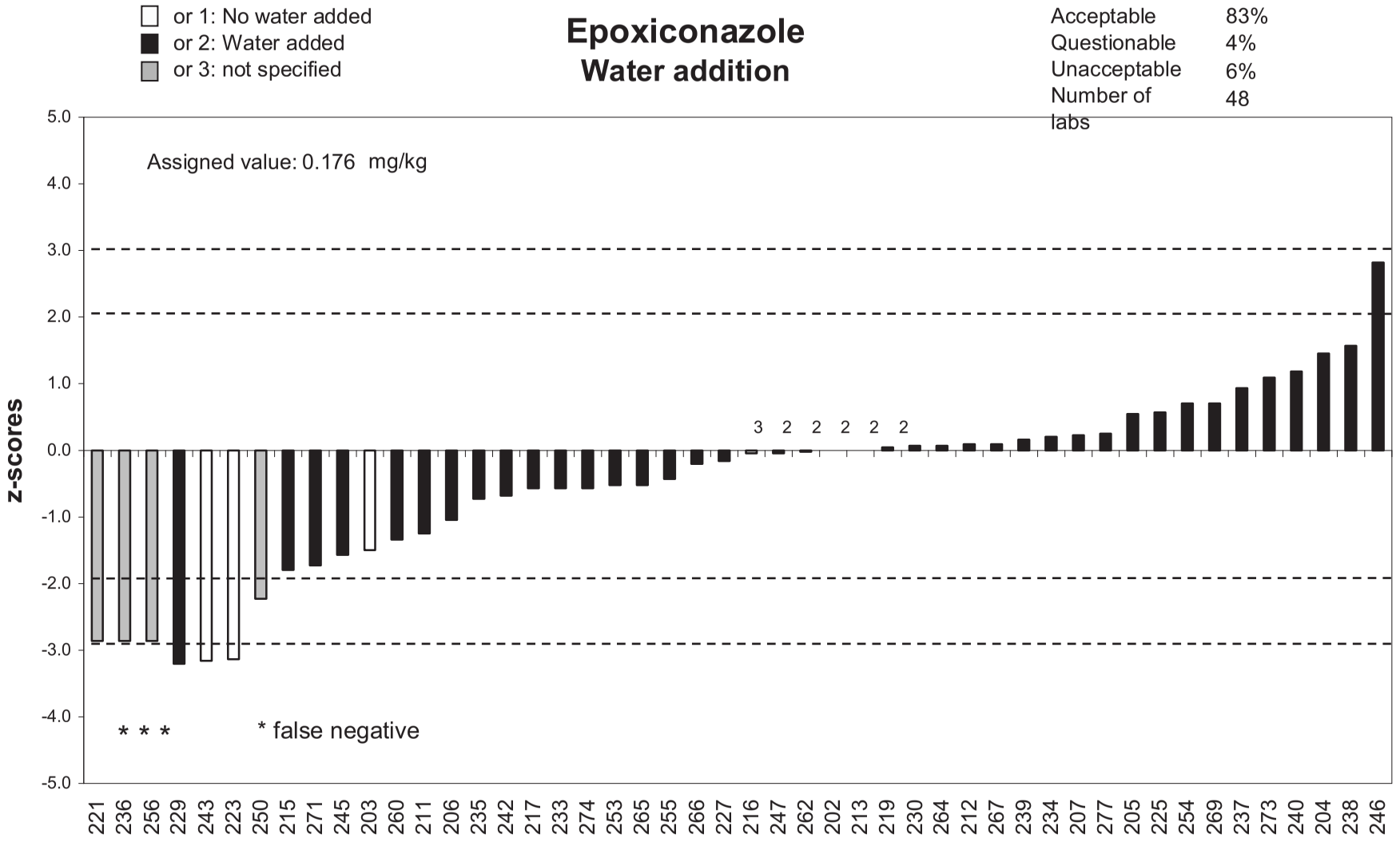

or 1: LC
or 2: GC
or 3: not specified or both
Chlorpyrifos-methyl
LC/GC
Acceptable 66%
Questionable 33%
Unacceptable 1%
Number of labs 70
Assigned value: 0.130 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
1 2 1 2
*
* false negative
264 261 210 226 233 235 218 221 243 275 276 271 259 266 229 250 257 228 258 209 214 272 223 268 241 248 256 213 263 260 245 207 273 206 244 267 211 255 215 246 212 274 262 203 232 265 253 234 202 205 247 217 225 236 277 227 216 242 204 249 270 237 230 219 238 254 240 239 269 252

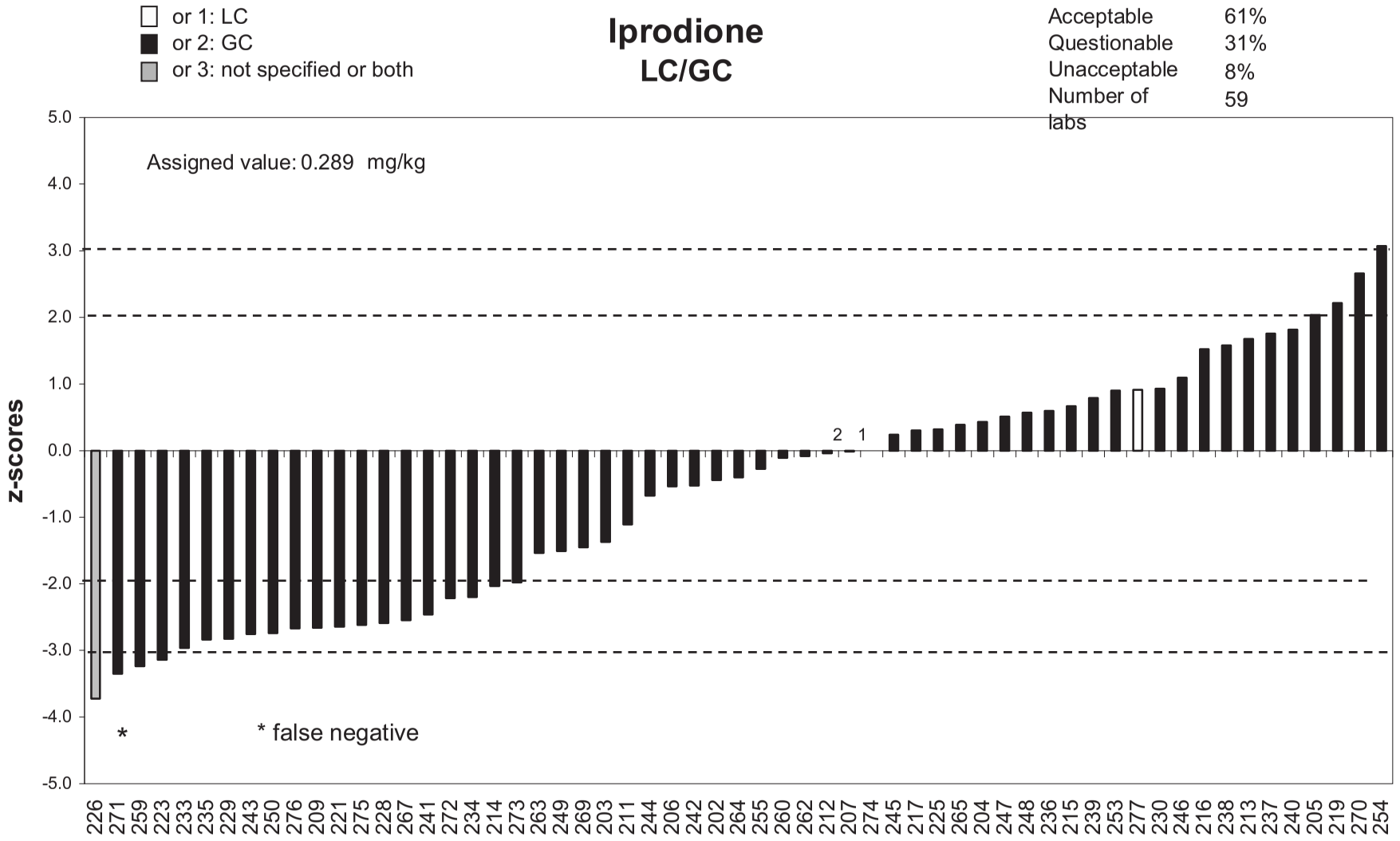

or 1: No water added
or 2: Water added
or 3: not specified
Chlorpyrifos-methyl
Water addition
Acceptable 66%
Questionable 33%
Unacceptable 1%
Number of labs 70
Assigned value: 0.130 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 1 2 2
*
* false negative
264 261 210 226 233 235 218 221 243 275 276 271 259 266 229 250 257 228 258 209 214 272 223 268 241 248 256 213 263 260 245 207 273 206 244 267 211 255 215 246 212 274 262 203 232 265 253 234 202 205 247 217 225 236 277 227 216 242 204 249 270 237 230 219 238 254 240 239 269 252

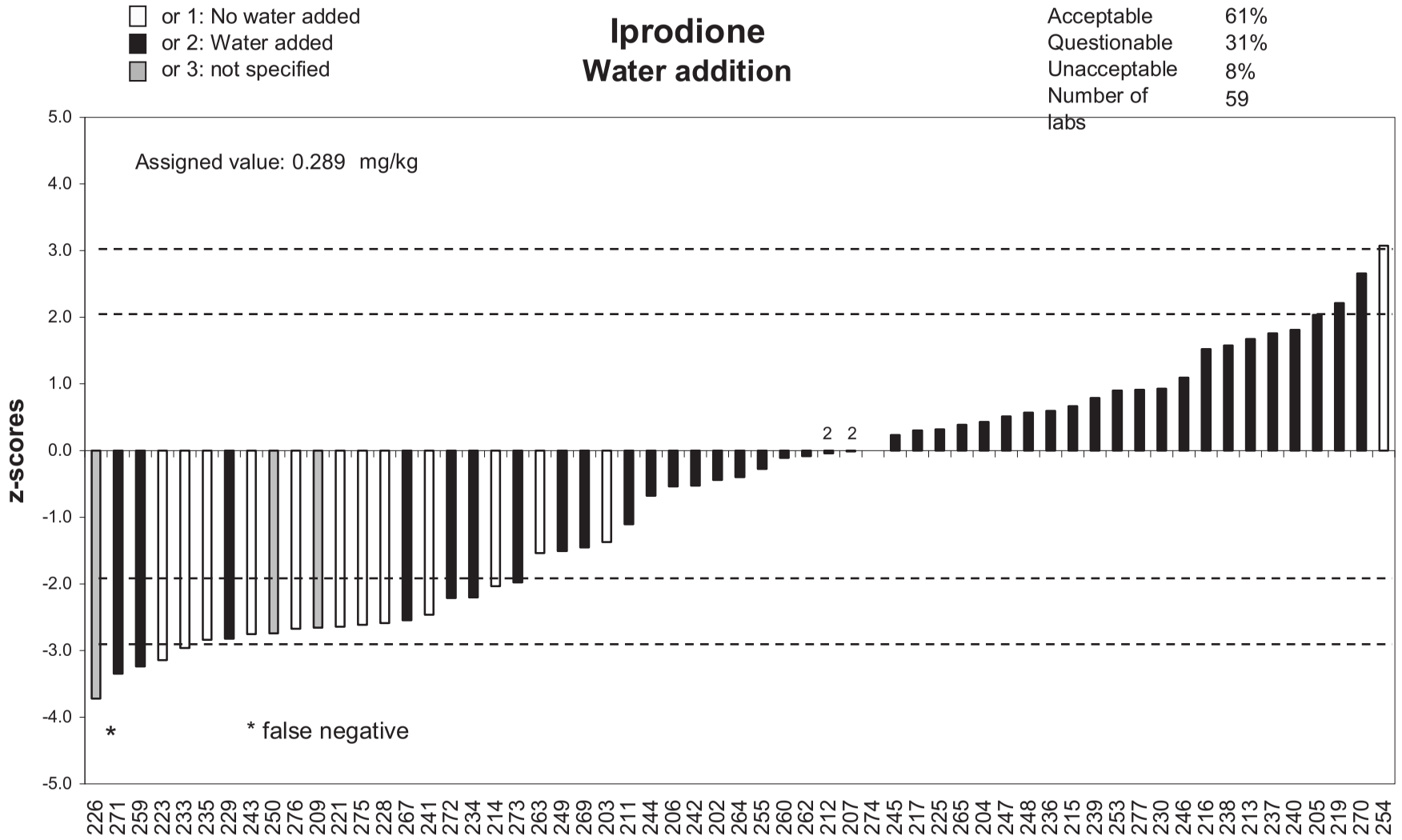

or 1: LC
or 2: GC
or 3: not specified or both
Difenconazole
LC/GC
Acceptable 86%
Questionable 10%
Unacceptable 4%
Number of labs 49
Assigned value: 0.169 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
1 2 1 2 1 1
* false negative
253 206 271 229 250 236 255 267 215 223 257 243 214 221 242 260 266 225 264 234 246 211 219 217 230 269 213 205 212 203 265 277 262 239 247 202 254 207 249 227 216 273 204 245 233 256 240 238 237

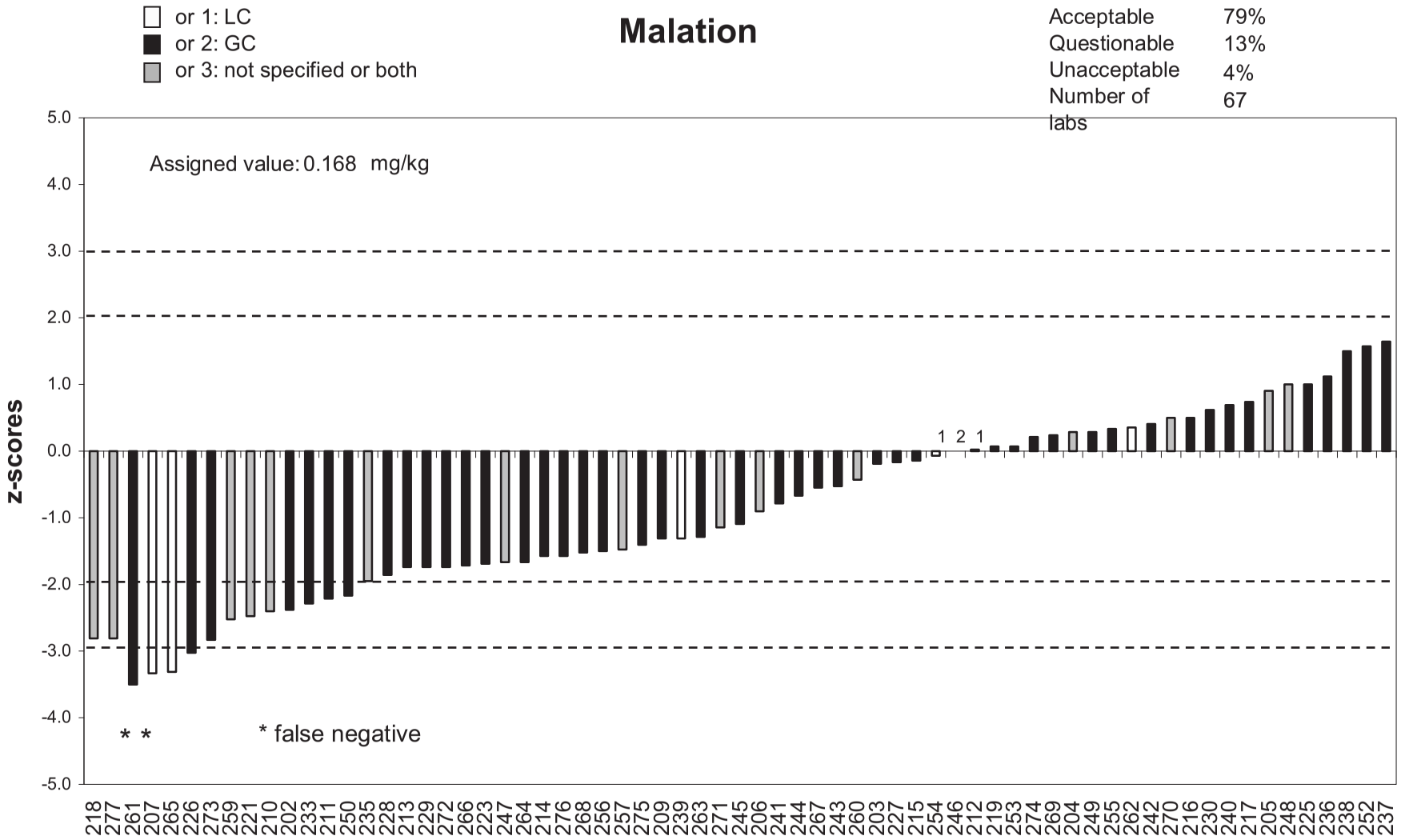

or 1: No water added
or 2: Water added
or 3: not specified
Difenconazole
Water addition
Acceptable 86%
Questionable 10%
Unacceptable 4%
Number of labs 49
Assigned value: 0.169 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 2 2 1 2 2
* false negative
253 206 271 229 250 236 255 267 215 223 257 243 214 221 242 260 266 225 264 234 246 211 219 217 230 269 213 205 212 203 265 277 262 239 247 202 254 207 249 227 216 273 204 245 233 256 240 238 237

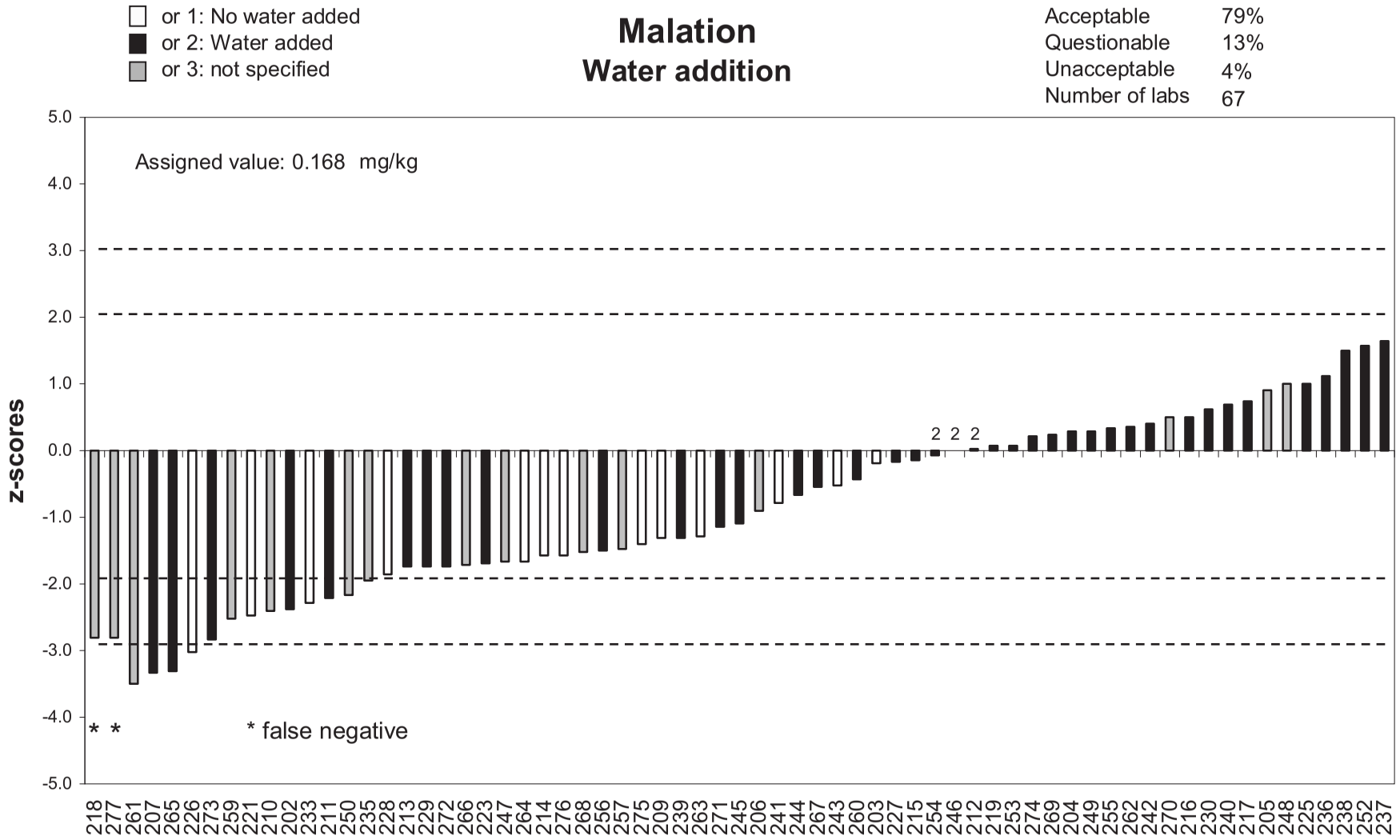

or 1: LC
or 2: GC
or 3: not specified or both
Epoxiconazole
LC/GC
Acceptable 83%
Questionable 4%
Unacceptable 6%
Number of labs 48
Assigned value: 0.176 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 1 2 2 2 1
* * *
* false negative
221 236 256 229 243 223 250 215 271 245 203 260 211 206 235 242 217 233 274 253 265 255 266 227 216 247 262 202 213 219 230 264 212 267 239 234 207 277 205 225 254 269 237 273 240 204 238 246

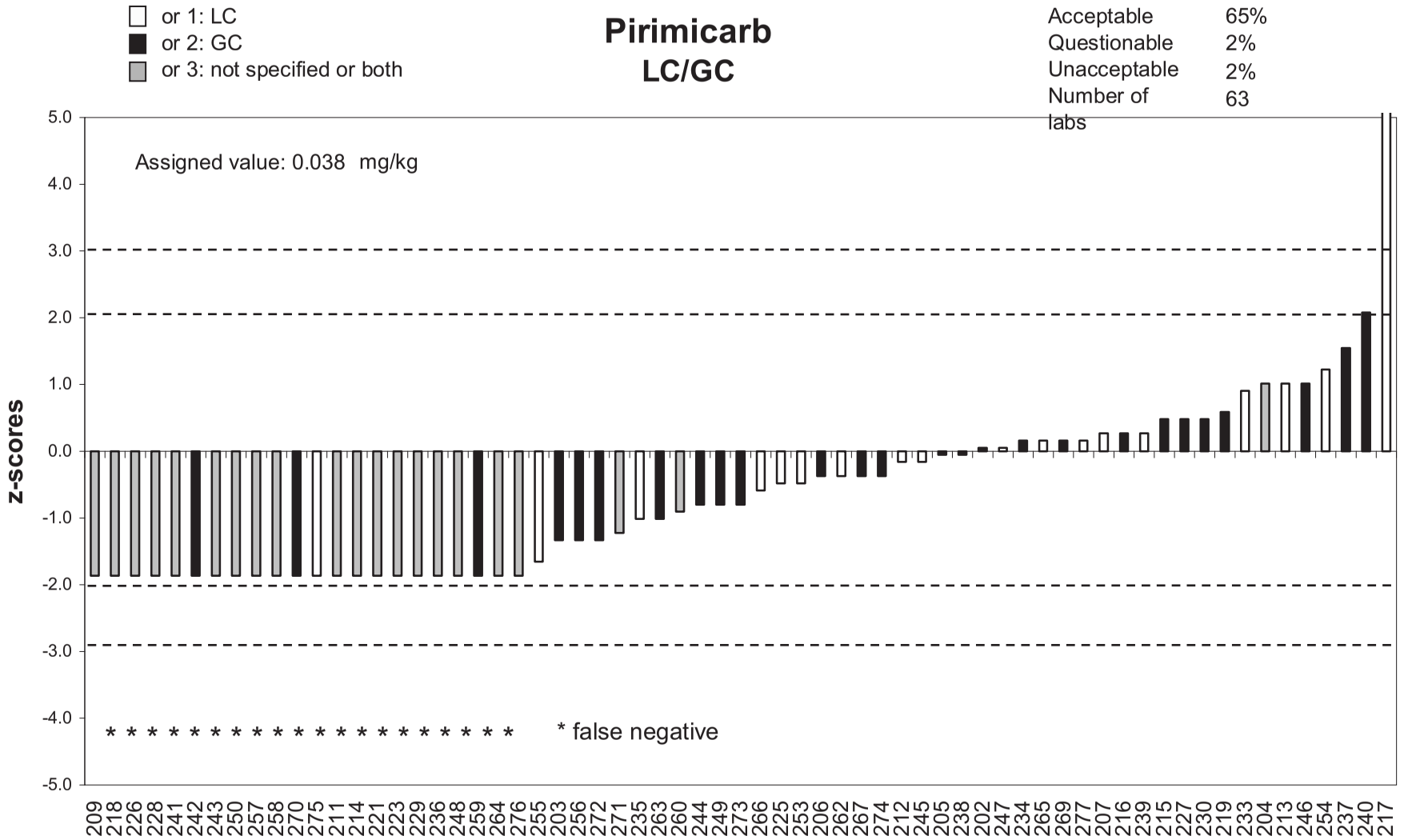

or 1: No water added
or 2: Water added
or 3: not specified
Epoxiconazole
Water addition
Acceptable 83%
Questionable 4%
Unacceptable 6%
Number of labs 48
Assigned value: 0.176 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
3 2 2 2 2 2
* * *
* false negative
221 236 256 229 243 223 250 215 271 245 203 260 211 206 235 242 217 233 274 253 265 255 266 227 216 247 262 202 213 219 230 264 212 267 239 234 207 277 205 225 254 269 237 273 240 204 238 246

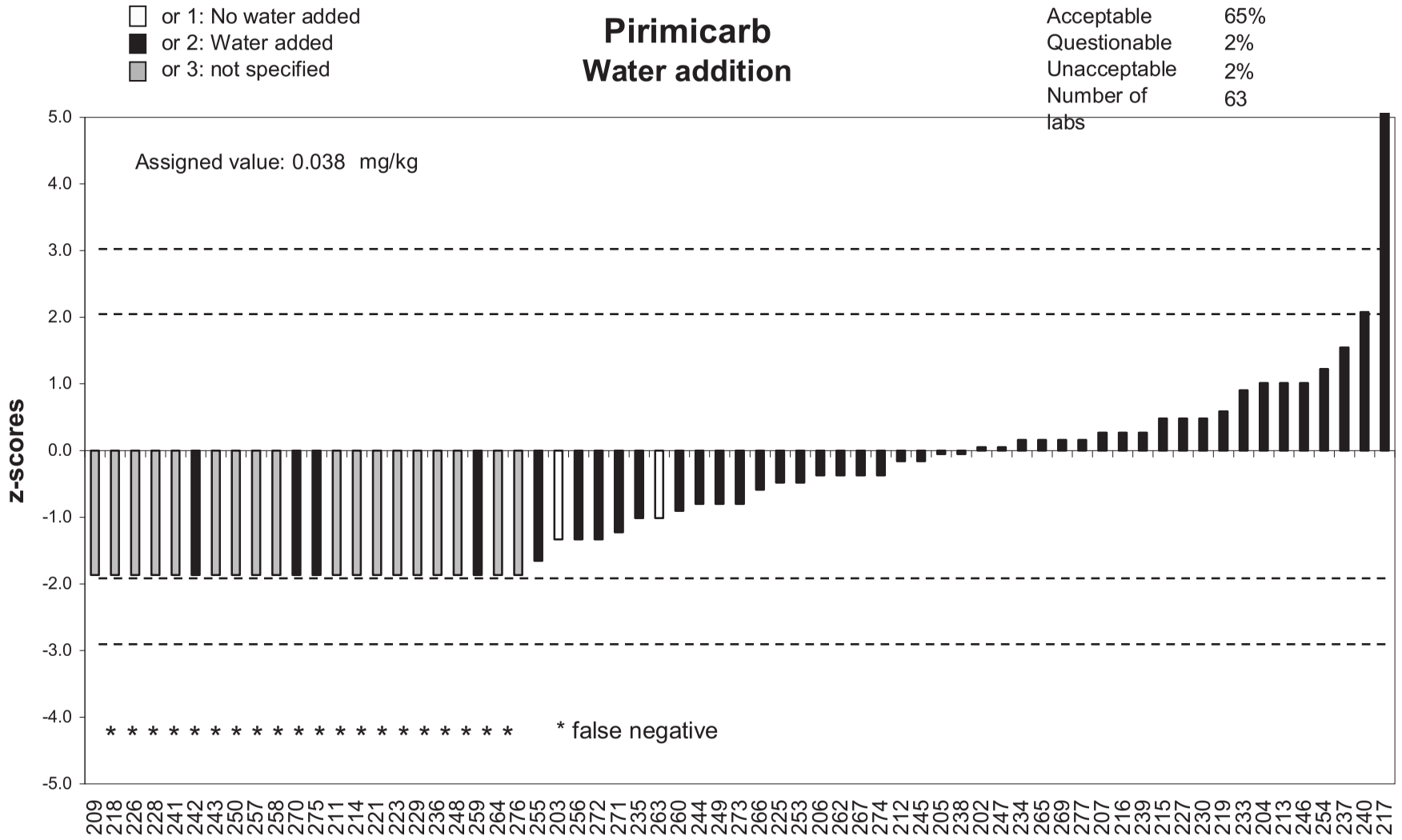

or 1: LC
or 2: GC
or 3: not specified or both
Iprodione
LC/GC
Acceptable 61%
Questionable 31%
Unacceptable 8%
Number of labs 59
Assigned value: 0.289 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 1
* false negative
226 271 259 223 233 235 229 243 250 276 209 221 275 228 267 241 272 234 214 273 263 249 269 203 211 244 206 242 202 264 255 260 262 212 207 274 245 217 225 265 204 247 248 236 215 239 253 277 230 246 216 238 213 237 240 205 219 270 254

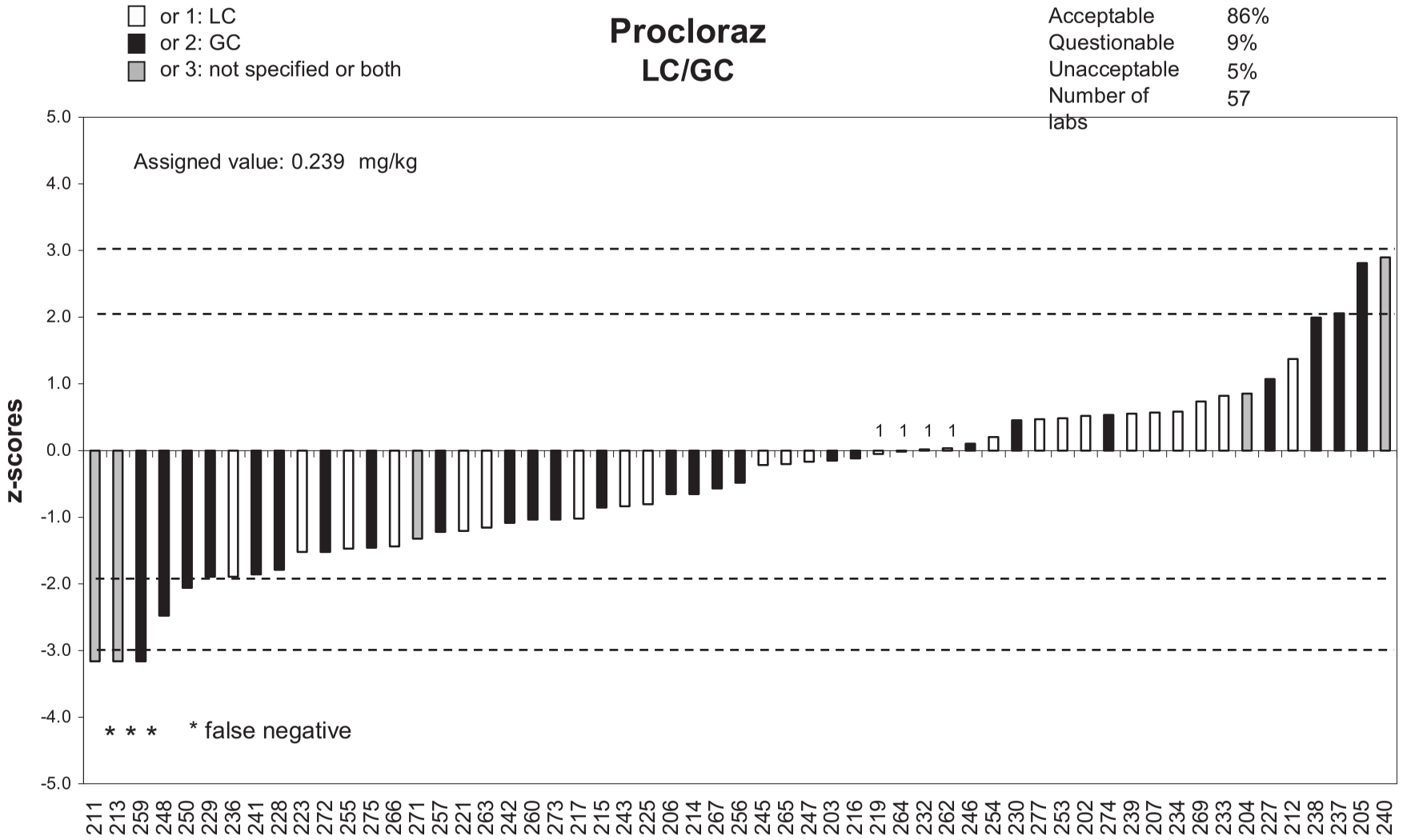

or 1: No water added
or 2: Water added
or 3: not specified
Iprodione
Water addition
Acceptable 61%
Questionable 31%
Unacceptable 8%
Number of labs 59
Assigned value: 0.289 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 2
*
* false negative
226 271 259 223 233 235 229 243 250 276 209 221 275 228 267 241 272 234 214 273 263 249 269 203 211 244 206 242 202 264 255 260 262 212 207 274 245 217 225 265 204 247 248 236 215 239 253 277 230 246 216 238 213 237 240 205 219 270 254

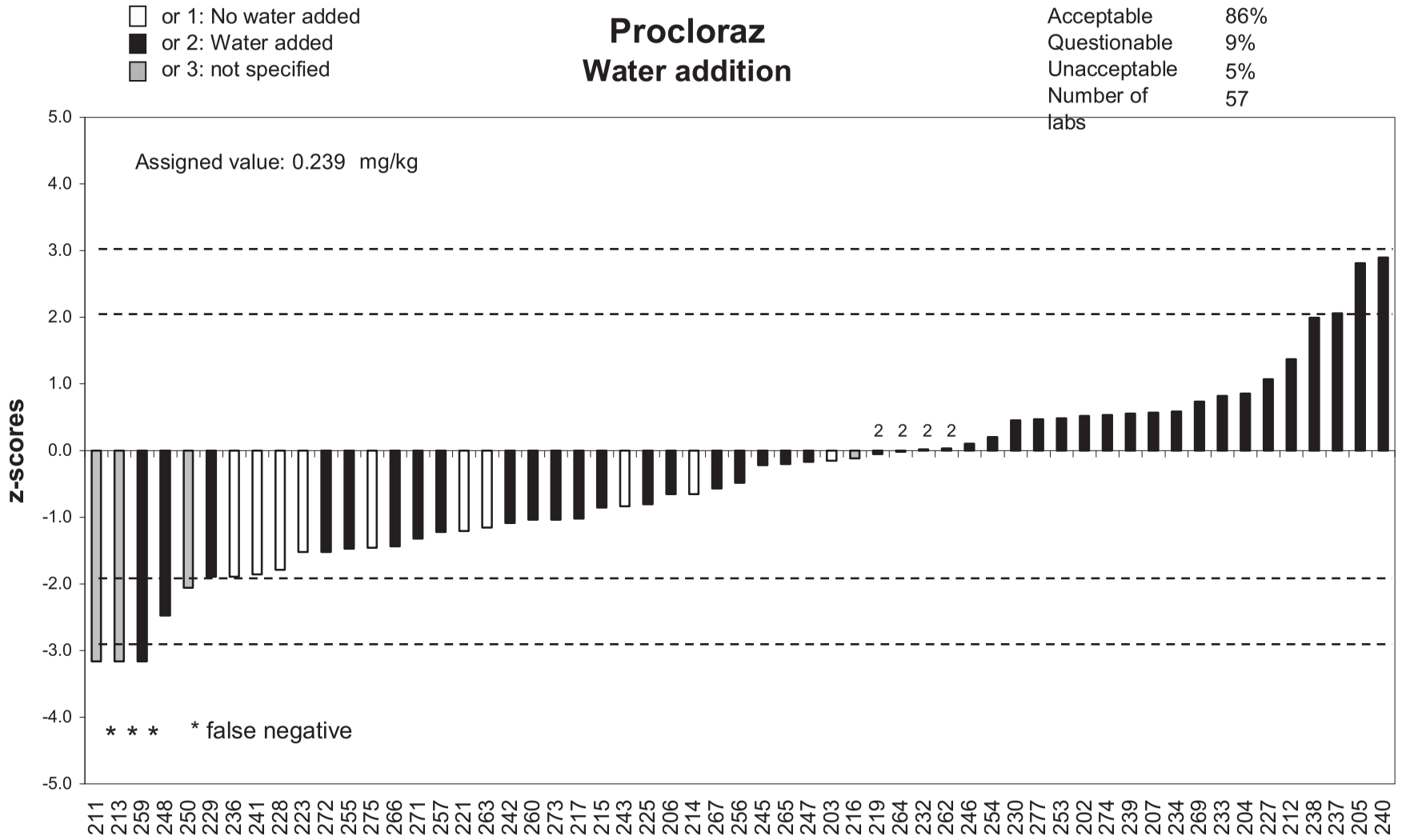

Malation
or 1: LC
or 2: GC
or 3: not specified or both
Acceptable 79%
Questionable 13%
Unacceptable 4%
Number of labs 67
Assigned value: 0.168 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
1 2 1
* *
* false negative
218 277 261 207 265 226 273 259 221 210 202 233 211 250 235 228 213 229 272 266 223 247 264 214 276 268 256 257 275 209 239 263 271 245 206 241 244 267 243 260 203 227 215 254 246 212 219 253 274 269 204 249 255 262 242 270 216 230 240 217 205 248 225 236 238 252 237

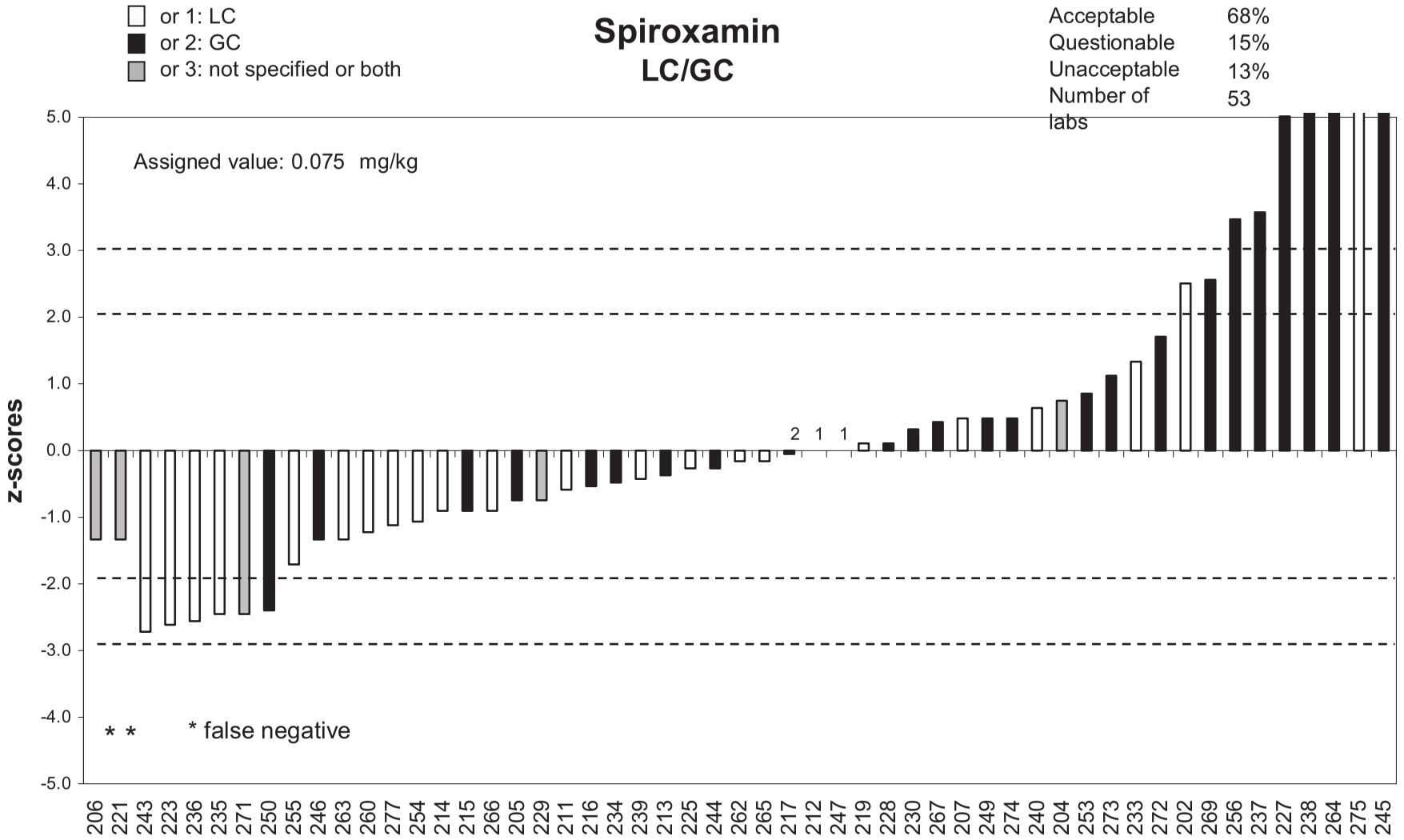

or 1: No water added
or 2: Water added
or 3: not specified
Malation
Water addition
Acceptable 79%
Questionable 13%
Unacceptable 4%
Number of labs 67
Assigned value: 0.168 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 2 2
* *
* false negative
218 277 261 207 265 226 273 259 221 210 202 233 211 250 235 228 213 229 272 266 223 247 264 214 276 268 256 257 275 209 239 263 271 245 206 241 244 267 243 260 203 227 215 254 246 212 219 253 274 269 204 249 255 262 242 270 216 230 240 217 205 248 225 236 238 252 237

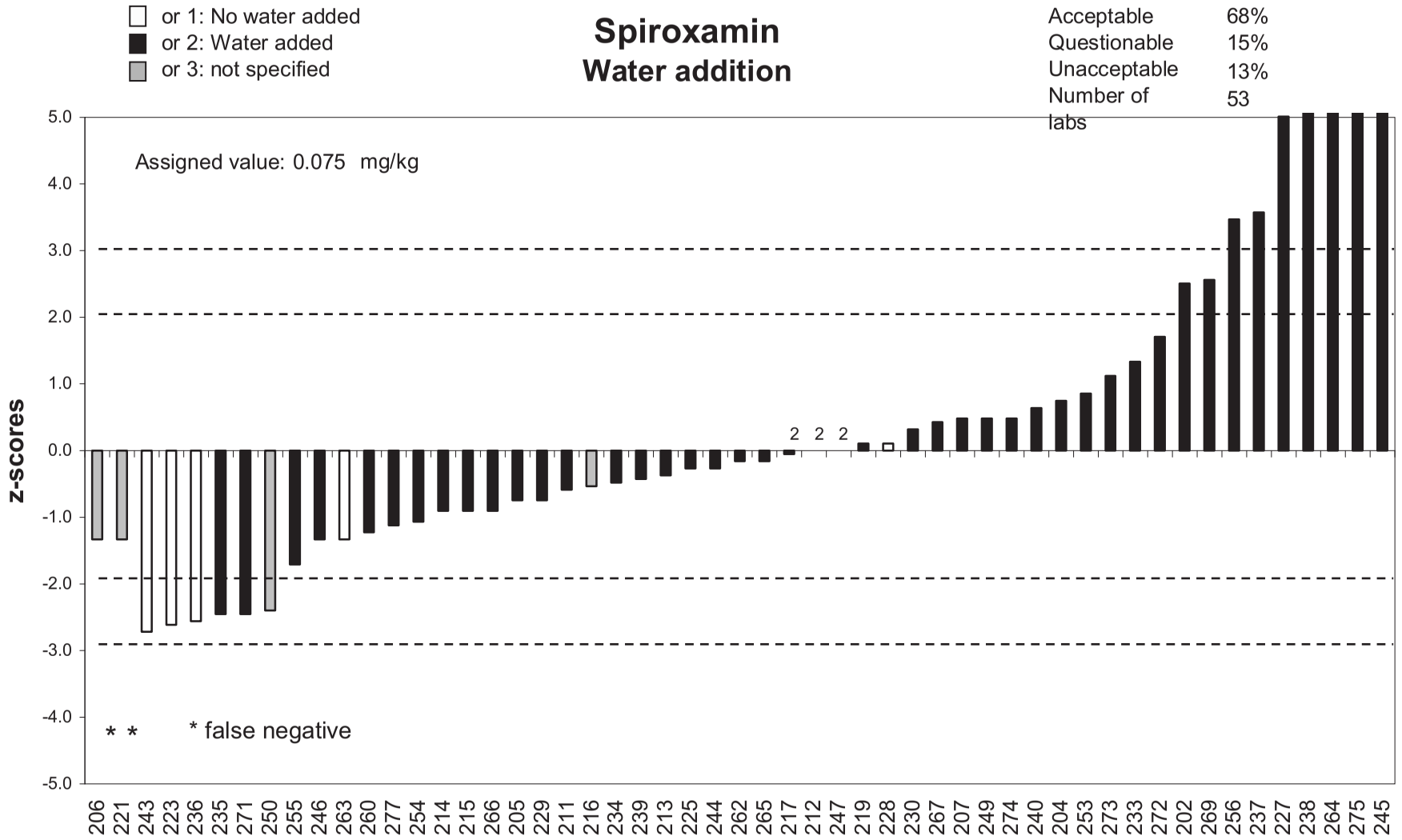

or 1: LC
or 2: GC
or 3: not specified or both
Pirimicarb
LC/GC
Acceptable 65%
Questionable 2%
Unacceptable 2%
Number of labs 63
Assigned value: 0.038 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
* *
* false negative
209 218 226 228 241 242 243 250 257 258 270 275 211 214 221 223 229 236 248 259 264 276 255 203 256 272 271 235 263 260 244 249 273 266 225 253 206 262 267 274 212 245 205 238 202 247 234 265 269 277 207 216 239 215 227 230 219 233 204 213 246 254 237 240 217

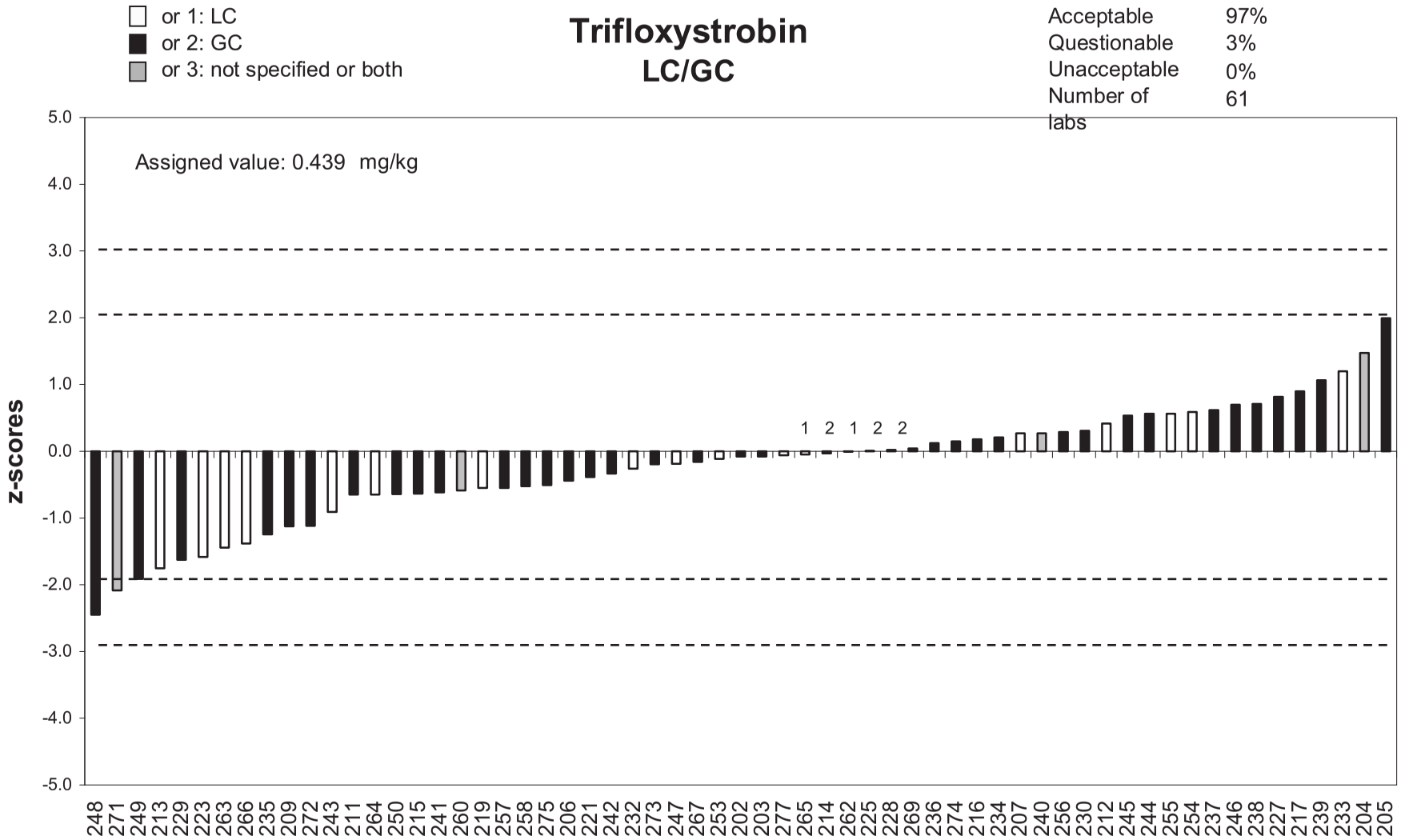

or 1: No water added
or 2: Water added
or 3: not specified
Pirimicarb
Water addition
Acceptable 65%
Questionable 2%
Unacceptable 2%
Number of labs 63
Assigned value: 0.038 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
* * * * * * * * * * * * * * * * * * * *
* false negative
209 218 226 228 241 242 243 250 257 258 270 275 211 214 221 223 229 236 248 259 264 276 255 203 256 272 271 235 263 260 244 249 273 266 225 253 206 262 267 274 212 245 205 238 202 247 234 265 269 277 207 216 239 215 227 230 219 233 204 213 246 254 237 240 217

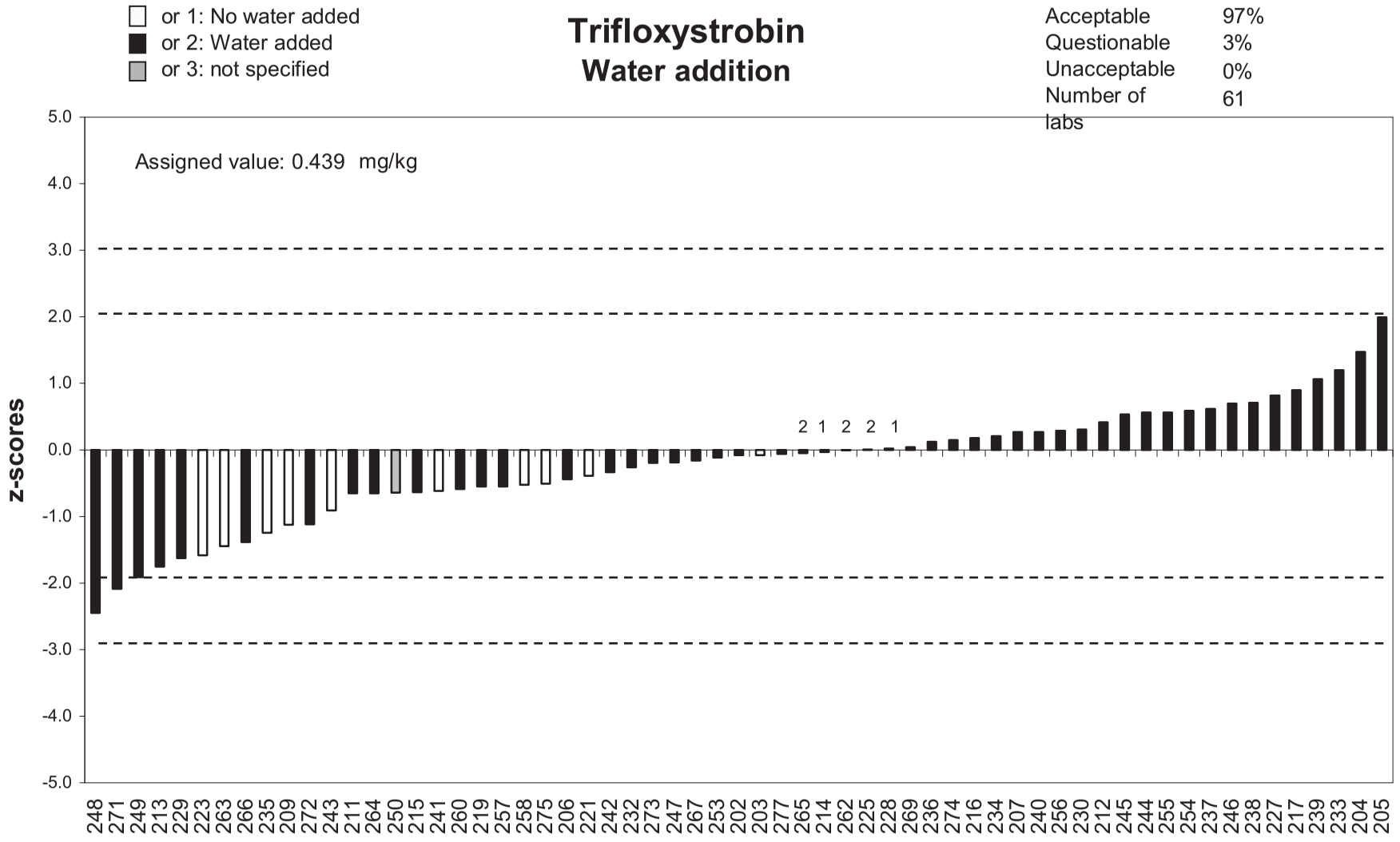

or 1: LC
or 2: GC
or 3: not specified or both
Procloraz
LC/GC
Acceptable 86%
Questionable 9%
Unacceptable 5%
Number of labs 57
Assigned value: 0.239 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
1 1 1 1
* * * * false negative
211 213 259 248 250 229 236 241 228 223 272 255 275 266 271 257 221 263 242 260 273 217 215 243 225 206 214 267 256 245 265 247 203 216 219 264 232 262 246 254 230 277 253 202 274 239 207 234 269 233 204 227 212 238 237 205 240


or 1: No water added
or 2: Water added
or 3: not specified
Procloraz
Water addition
Acceptable 86%
Questionable 9%
Unacceptable 5%
Number of labs 57
Assigned value: 0.239 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 2 2 2
* * * * false negative
211 213 259 248 250 229 236 241 228 223 272 255 275 266 271 257 221 263 242 260 273 217 215 243 225 206 214 267 256 245 265 247 203 216 219 264 232 262 246 254 230 277 253 202 274 239 207 234 269 233 204 227 212 238 237 205 240


Spiroxamin
LC/GC
or 1: LC
or 2: GC
or 3: not specified or both
Acceptable 68%
Questionable 15%
Unacceptable 13%
Number of labs 53
Assigned value: 0.075 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 1 1
* *
* false negative
206 221 243 223 236 235 271 250 255 246 263 260 277 254 214 215 266 205 229 211 216 234 239 213 225 244 262 265 217 212 247 219 228 230 267 207 249 274 240 204 253 273 233 272 202 269 256 237 227 238 264 275 245


or 1: No water added
or 2: Water added
or 3: not specified
Spiroxamin
Water addition
Acceptable 68%
Questionable 15%
Unacceptable 13%
Number of labs 53
Assigned value: 0.075 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 2 2
* *
* false negative
206 221 243 223 236 235 271 250 255 246 263 260 277 254 214 215 266 205 229 211 216 234 239 213 225 244 262 265 217 212 247 219 228 230 267 207 249 274 240 204 253 273 233 272 202 269 256 237 227 238 264 275 245


or 1: LC
or 2: GC
or 3: not specified or both
Trifloxystrobin
LC/GC
Acceptable 97%
Questionable 3%
Unacceptable 0%
Number of labs 61
Assigned value: 0.439 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
1 2 1 2 2
248 271 249 213 229 223 263 266 235 209 272 243 211 264 250 215 241 260 219 257 258 275 206 221 242 232 273 247 267 253 202 203 277 265 214 262 225 228 269 236 274 216 234 207 240 256 230 212 245 244 255 254 237 246 238 227 217 239 233 204 205


or 1: No water added
or 2: Water added
or 3: not specified
Trifloxystrobin
Water addition
Acceptable 97%
Questionable 3%
Unacceptable 0%
Number of labs 61
Assigned value: 0.439 mg/kg
z-scores
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
2 1 2 2 1
248 271 249 213 229 223 263 266 235 209 272 243 211 264 250 215 241 260 219 257 258 275 206 221 242 232 273 247 267 253 202 203 277 265 214 262 225 228 269 236 274 216 234 207 240 256 230 212 245 244 255 254 237 246 238 227 217 239 233 204 205

WSZ for Category A laboratories
OFL
NRL
Weighted Summed z-scores
0.0
1.0
2.0
3.0
4.0
5.0
262
*274
247
*216
*212
230
*225
*242
*260
*204
239
202
*245
*255
*219
*234
*217
*277
203
246
267
215
269
*265
207
254
*214
*206
*205
236
264
*253
233
256
*211
273
*221
*243
223
240
250
*229
213

Appendix 4 Methods used by the participating Laboratories

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
202	Azoxystrobin	No	0.246		5	Acetonitrile			Yes	No	No	SPE	MM-ML	MSD		GC/MS
202	Bifenthrin	No	0.089		5	Acetonitrile			Yes	No	No	SPE	MM-ML	MSD		GC/MS
202	Carbendazim	No	0.541	Quechers	5	Acetonitrile			Yes	No	Yes	None	MM-ML		MS/MS	LC/MS/MS
202	Chlorpyrifos-methyl	No	0.134		5	Acetonitrile			Yes	No	No	SPE	MM-ML	MSD		GC/MS
202	Cypermethrin	No	0.091		5	Acetonitrile			Yes	No	No	SPE	MM-ML	MSD		GC/MS
202	Difenoconazole	No	0.178		5	Acetonitrile			Yes	No	No	SPE	MM-ML	MSD		GC/MS
202	Epoxiconazole	No	0.176		5	Acetonitrile			Yes	No	No	SPE	MM-ML	MSD		GC/MS
202	Iprodione	No	0.257		5	Acetonitrile			Yes	No	No	SPE	MM-ML	MSD		GC/MS
202	Malathion	No	0.068		5	Acetonitrile			Yes	No	No	SPE	MM-ML	MSD		GC/MS
202	Pirimicarb	No	0.038		5	Acetonitrile			Yes	No	No	SPE	MM-ML	MSD		GC/MS
202	Prochloraz	No	0.270	Quechers	5	Acetonitrile			Yes	No	Yes	None	MM-ML		MS/MS	LC/MS/MS
202	Spiroxamine	No	0.122	Quechers	5	Acetonitrile			Yes	No	Yes	None	MM-ML		MS/MS	LC/MS/MS
202	Trifloxystrobin	No	0.430		5	Acetonitrile			Yes	No	No	SPE	MM-ML	MSD		GC/MS
202	Chlormequat	No	0.212	EN 15055	10	Methanol	Other		Yes	No	No	None	MM-ML		MS/MS	LC/MS/MS
203	Alpha-cypermethrin	Yes	0.086	Â § 64LFGB	8	Acetone	Dichloromethane		No	No	No	GPC	PS-ML	ECD		Two columns
203	Azoxystrobin	Yes	0.20	Â § 64LFGB	8	Acetone	Dichloromethane		No	No	No	GPC	MM-ML	MS/MS		GC/MS/MS
203	Bifenthrin	Yes	0.14	Â § 64LFGB	8	Acetone	Dichloromethane		No	No	No	GPC	MM-ML	MS/MS		GC/MS/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
203 cont.	Chlorpyrifos-methyl	Yes	0.13	Â § 64LFGB	8	Acetone	Dichloromethane		No	No	No	GPC	MM-ML	MS/MS		GC/MS/MS
203	Difenoconazole	Yes	0.17	Â § 64LFGB	8	Acetone	Dichloromethane		No	No	No	GPC	MM-ML	MS/MS		GC/MS/MS
203	Epoxiconazole	Yes	0.11	Â § 64LFGB	8	Acetone	Dichloromethane		No	No	No	GPC	MM-ML	MS/MS		GC/MS/MS
203	Iprodione	Yes	0.19	Â § 64LFGB	8	Acetone	Dichloromethane		No	No	No	GPC	MM-ML	MS/MS		GC/MS/MS
203	Malathion	Yes	0.16	Â § 64LFGB	8	Acetone	Dichloromethane		No	No	No	GPC	MM-ML	MS/MS		GC/MS/MS
203	Pirimicarb	Yes	0.025	Â § 64LFGB	8	Acetone	Dichloromethane		No	No	No	GPC	MM-ML	MS/MS		GC/MS/MS
203	Prochloraz	Yes	0.23	Â § 64LFGB	8	Acetone	Dichloromethane		No	No	No	GPC	MM-ML	MS/MS		GC/MS/MS
203	Trifloxystrobin	Yes	0.43	Â § 64LFGB	8	Acetone	Dichloromethane		No	No	No	GPC	MM-ML	MS/MS		GC/MS/MS
203	Chlormequat	Yes	0.25	No	10	Methanol			Yes	No	No	None	MM-ML		MS/MS	LC/MS/MS
204	Alpha-cypermethrin	Yes	0.088		10	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-SL	ECD		Two columns
204	Azoxystrobin	No	0.28		10	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-SL	ECD	MS/MS	LC/MS/MS
204	Bifenthrin	Yes	0.098		10	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-SL	ECD		Two columns
204	Carbendazim	No	0.61		10	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-SL		MS/MS	LC/MS/MS
204	Chlorpyrifos-methyl	Yes	0.15		10	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-SL	ECD		Two columns
204	Difenoconazole	No	0.2		10	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-SL	ECD	MS/MS	LC/MS/MS
204	Epoxiconazole	No	0.24		10	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-SL	ECD	MS/MS	LC/MS/MS
204	Iprodione	Yes	0.32		10	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-SL	ECD		Two columns
204	Malathion	Yes	0.18		10	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-SL	ECD	MS/MS	LC/MS/MS
204	Pirimicarb	Yes	0.047		10	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-SL	NPD	MS/MS	LC/MS/MS
204	Prochloraz	Yes	0.29		10	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-SL	ECD	MS/MS	LC/MS/MS
204	Spiroxamine	No	0.089		10	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-SL	NPD	MS/MS	LC/MS/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
204	Trifloxystrobin	No	0.6		10	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-SL	ECD	MS/MS	LC/MS/MS
205 cont.	Alpha-cypermethrin	Yes	0.095		5	Acetonitrile			Yes	No	Yes	DSPE	MM-SL	ECD		GC/MS
205	Azoxystrobin	Yes	0.326		5	Acetonitrile			Yes	No	Yes	DSPE	MM-SL	ECD		GC/MS
205	Bifenthrin	Yes	0.106		5	Acetonitrile			Yes	No	Yes	DSPE	MM-SL	ECD		GC/MS
205	Carbendazim	Yes	0.731	AOAC 86 (2003) 421-431	5	Acetonitrile			Yes	No	Yes	DSPE	MM-SL		MS/MS	LC/MS/MS
205	Chlorpyrifos-methyl	Yes	0.134		5	Acetonitrile			Yes	No	Yes	DSPE	MM-SL	ECD		GC/MS
205	Difenoconazole	Yes	0.169		5	Acetonitrile			Yes	No	Yes	DSPE	MM-SL	ECD		GC/MS
205	Epoxiconazole	Yes	0.200		5	Acetonitrile			Yes	No	Yes	DSPE	MM-SL	ECD		GC/MS
205	Iprodione	Yes	0.436		5	Acetonitrile			Yes	No	Yes	DSPE	MM-SL	ECD		GC/MS
205	Malathion	Yes	0.206		5	Acetonitrile			Yes	No	Yes	DSPE	MM-SL	ECD		GC/MS
205	Pirimicarb	Yes	0.037	AOAC 86 (2003) 421-431	5	Acetonitrile			Yes	No	Yes	DSPE	MM-SL	MSD		GC/MS
205	Prochloraz	Yes	0.407		5	Acetonitrile			Yes	No	Yes	DSPE	MM-SL	ECD		GC/MS
205	Spiroxamine	Yes	0.061	AOAC 86 (2003) 421-431	5	Acetonitrile			Yes	No	Yes	DSPE	MM-SL	MSD		GC/MS
205	Trifloxystrobin	Yes	0.657		5	Acetonitrile			Yes	No	Yes	DSPE	MM-SL	ECD		GC/MS
205	Chlormequat	Yes	0.250	NDC-T-012-080-2006	5	Methanol			Yes	No	No	liq./liq part	MM-SL		MS/MS	LC/MS/MS
206	Alpha-cypermethrin	Yes	0.12	Dutch method	20	Ethyl acetate			Yes	No	No	GPC	MM-ML	MSD		
206	Azoxystrobin	Yes	0.16	Dutch method	20	Ethyl acetate			Yes	No	No	GPC	MM-ML	MSD		
206	Bifenthrin	Yes	0.12	Dutch method	20	Ethyl acetate			Yes	No	No	GPC	MM-ML	MSD		
206	Chlorpyrifos-methyl	Yes	0.11	Dutch method	20	Ethyl acetate			Yes	No	No	GPC	MM-ML	MSD		
206	Epoxiconazole	Yes	0.13	Dutch method	20	Ethyl acetate			Yes	No	No	GPC	MM-ML	MSD		
206	Iprodione	Yes	0.25	Dutch method	20	Ethyl acetate			Yes	No	No	GPC	MM-ML	MSD		
206	Malathion	Yes	0.13	Dutch method	20	Ethyl acetate			Yes	No	No	GPC	MM-ML	MSD		
206	Pirimicarb	Yes	0.034	Dutch method	20	Ethyl acetate			Yes	No	No	GPC	MM-ML	MSD		

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
206	Prochloraz	Yes	0.20	Dutch method	20	Ethyl acetate			Yes	No	No	GPC	MM-ML	MSD		
206	Trifloxystrobin	Yes	0.39	Dutch method	20	Ethyl acetate			Yes	No	No	GPC	MM-ML	MSD		
206 cont.	Carbendazim	Yes	0.335	QuEChERs	15	Acetonitrile			Yes	No	No	DSPE	MM-ML		MS/MS	
206	Difenoconazole	Yes	0.073	QuEChERs	15	Acetonitrile			Yes	No	No	DSPE	MM-ML		MS/MS	
207	Alpha-cypermethrin	Yes	0.088		500	Acetonitrile			Yes			Freezing out	MM-ML	MSD		LC/MS/MS
207	Azoxystrobin	Yes	0.272		500	Acetonitrile			Yes			Freezing out	MM-ML		MS/MS	GC/MS
207	Bifenthrin	Yes	0.089		500	Acetonitrile			Yes			Freezing out	MM-ML	MSD		LC/MS/MS
207	Carbendazim	Yes	0.585		500	Acetonitrile			Yes			Freezing out	MM-ML		MS/MS	LC/MS/MS
207	Chlorpyrifos-methyl	Yes	0.102		500	Acetonitrile			Yes			Freezing out	Standard addition	MSD		None
207	Difenoconazole	Yes	0.185		500	Acetonitrile			Yes			Freezing out	MM-ML		MS/MS	GC/MS
207	Epoxiconazole	Yes	0.186		500	Acetonitrile			Yes			Freezing out	MM-ML		MS/MS	GC/MS
207	Iprodione	Yes	0.288		500	Acetonitrile			Yes			Freezing out	Standard addition		MS/MS	GC/MS
207	Malathion	Yes	0.028		500	Acetonitrile			Yes			Freezing out	MM-ML		MS/MS	GC/MS
207	Pirimicarb	Yes	0.040		500	Acetonitrile			Yes			Freezing out	MM-ML		MS/MS	GC/MS
207	Prochloraz	Yes	0.273		500	Acetonitrile			Yes			Freezing out	MM-ML		MS/MS	GC/MS
207	Spiroxamine	Yes	0.084		500	Acetonitrile			Yes			Freezing out	MM-ML		MS/MS	LC/MS/MS
207	Trifloxystrobin	Yes	0.468		500	Acetonitrile			Yes			Freezing out	MM-ML		MS/MS	GC/MS
207	Chlormequat	Yes	0.196		500	Methanol			Yes			None	PS-ML		MS/MS	None
209	Alpha-cypermethrin	No	0.125	SAR-2-04oc	6	Acetone	Dichloromethane	Other	No	No	No	None	MM-ML	ECD		Two columns
209	Azoxystrobin	No	0.143	SAR-2-04oc	6	Acetone	Dichloromethane	Other	No	No	No	None	MM-ML	ECD		Two columns
209	Bifenthrin	No	0.148	SAR-2-04oc	6	Acetone	Dichloromethane	Other	No	No	No	None	MM-ML	ECD		Two columns

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
209	Chlorpyrifos-methyl	No	0.063	SAR-1-04	12	Acetone	Dichloromethane	Other	No	No	No	None	MM-ML	NPD		Two columns
209	Iprodione	No	0.097		0											
209	Malathion	No	0.113	SAR-1-04	12	Acetone	Dichloromethane	Other	No	No	No	None	MM-ML	NPD		Two columns
209 cont.	Trifloxystrobin	No	0.315	SAR-2-04oc	6	Acetone	Dichloromethane	Other	No	No	No	None	MM-ML	ECD		Two columns
209	Carbendazim	No	0.405	SAR-1-02	50	Ethyl acetate			No	No	No	liq./liq part.	PS-ML		UV	Two columns
210	Alpha-cypermethrin	Yes	0.027	SR-EN 12393/1-3/2003	50	Acetonitrile						liq./liq part.	MM-ML	ECD		GC/MS/MS
210	Chlorpyrifos	No	0.0001	SR-EN 12393/1-3/2003	50	Acetonitrile						liq./liq part.	MM-ML	ECD		GC/MS/MS
210	Chlorpyrifos-methyl	No	0.038	SR- EN 12393/1-3/2003	50	Acetonitrile						liq./liq part.	MM-ML	NPD		GC/MS/MS
210	Cypermethrin	Yes	0.016	SR-EN 12393/1-3/2003	50	Acetonitrile						liq./liq part.	MM-ML	ECD		GC/MS/MS
210	Diazinon	Yes	0.0003	SR-EN 12393/1-3/2003	50	Acetonitrile						liq./liq part.	MM-ML	ECD		GC/MS/MS
210	Malathion	Yes	0.067	SR-EN 12393/1-3/2003	50	Acetonitrile						liq./liq part.	MM-ML	NPD		GC/MS/MS
211	Azoxystrobin	Yes	0.217	EN 12393-1,2,3:1998	25	Ethyl acetate			Yes	No	No	None	MM-SL	ECD		GC/MS
211	Bifenthrin	Yes	0.086	EN 12393-1,2,3:1998	25	Ethyl acetate			Yes	No	No	None	MM-SL	ECD		GC/MS
211	Chlorpyrifos-methyl	Yes	0.115	EN 12393-1,2,3:1998	25	Ethyl acetate			Yes	No	No	None	MM-SL	ECD		GC/MS
211	Cypermethrin	Yes	0.043	EN 12393-1,2,3:1998	25	Ethyl acetate			Yes	No	No	None	MM-SL	ECD		GC/MS
211	Difenoconazole	Yes	0.153	EN 12393-1,2,3:1998	25	Ethyl acetate			Yes	No	No	None	MM-SL	ECD		GC/MS
211	Epoxiconazole	Yes	0.121	EN 12393-1,2,3:1998	25	Ethyl acetate			Yes	No	No	None	MM-SL	ECD		GC/MS
211	Iprodione	Yes	0.209	EN 12393-1,2,3:1998	25	Ethyl acetate			Yes	No	No	None	MM-SL	ECD		GC/MS
211	Malathion	Yes	0.075	EN 12393-1,2,3:1998	25	Ethyl acetate			Yes	No	No	None	MM-SL	ECD		GC/MS
211	Trifloxystrobin	No	0.367	EN 12393-1,2,3:1998	25	Ethyl acetate			Yes	No	No	None	MM-SL	ECD		GC/MS
211	Carbendazim	No	0.470	QuEChERs	5	Acetonitrile			Yes	No	No	Freezing out	PS-ML		MS/MS	LC/MS/MS
211	Spiroxamine	No	0.064	QuEChERs	5	Acetonitrile			Yes	No	No	Freezing out	PS-ML		MS/MS	LC/MS/MS
212	Azoxystrobin	Yes	0.285		5	Acetonitrile			Yes		Yes		MM-ML		MS/MS	LC/MS/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
212	Difenoconazole	Yes	0.169		5	Acetonitrile			Yes		Yes		MM-ML		MS/MS	LC/MS/MS
212	Epoxiconazole	Yes	0.180		5	Acetonitrile			Yes		Yes		MM-ML		MS/MS	LC/MS/MS
212	Carbendazim	Yes	0.672		5	Acetonitrile			Yes		Yes		MM-ML		MS/MS	LC/MS/MS
212	Malathion	Yes	0.169		5	Acetonitrile			Yes		Yes		MM-ML		MS/MS	LC/MS/MS
212 cont.	Pirimicarb	Yes	0.036		5	Acetonitrile			Yes		Yes		MM-ML		MS/MS	LC/MS/MS
212	Prochloraz	Yes	0.321		5	Acetonitrile			Yes		Yes		MM-ML		MS/MS	LC/MS/MS
212	Spiroxamine	Yes	0.075		5	Acetonitrile			Yes		Yes		MM-ML		MS/MS	LC/MS/MS
212	Trifloxystrobin	Yes	0.484		5	Acetonitrile			Yes		Yes		MM-ML		MS/MS	LC/MS/MS
212	Bifenthrin	Yes	0.068		10	Ethyl acetate			Yes			GPC	MM-ML	MSD		
212	Alpha-cypermethrin	Yes	0.048		10	Methanol	Acetone		Yes		No	GPC	MM-ML	MSD		GC/MS
212	Chlormequat	Yes	0.226		10	Methanol	Other						Standard addition		MS/MS	LC/MS/MS
212	Chlorpyrifos-methyl	Yes	0.123		10	Methanol	Acetone		Yes		No	GPC	MM-ML	MSD		GC/MS
212	Cypermethrin	Yes	0.069		10	Methanol	Acetone		Yes		No	GPC	MM-ML	MSD		GC/MS
212	Glyphosate	Yes	1.05		25	Methanol	Other					SPE	MM-ML			GC/MS
212	Iprodione	Yes	0.286		10	Methanol	Acetone		Yes		No	GPC	MM-ML	MSD		GC/MS
213	Azoxystrobin	Yes	0.186	QuEChERS	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	MSD		GC/MS
213	Carbendazim	Yes	0.359	QuEChERS	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML		MS/MS	LC/MS/MS
213	Chlorpyrifos-methyl	Yes	0.087	QuEChERS	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	MSD		GC/MS
213	Difenoconazole	Yes	0.167	QuEChERS	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML		MS/MS	LC/MS/MS
213	Epoxiconazole	Yes	0.176	QuEChERS	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	MSD		GC/MS
213	Iprodione	Yes	0.410	QuEChERS	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	MSD		GC/MS
213	Malathion	Yes	0.095	QuEChERS	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	MSD		GC/MS
213	Pirimicarb	Yes	0.047	QuEChERS	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML		MS/MS	LC/MS/MS
213	Spiroxamine	Yes	0.068	QuEChERS	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	MSD		GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
213	Trifloxystrobin	Yes	0.246	QuEChERS	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML		MS/MS	LC/MS/MS
214	Alpha-cypermethrin	No	0.066	Anal.Meth.f.Pest.Res.in Foodst.NL 6th Ed.	20	Acetone	Dichloromethane		No	No	No	None	MM-ML	ECD		GC/MS
214	Azoxystrobin	Yes	0.139	Anal.Meth.f.Pest.Res.in Foodst.NL 6th Ed.	20	Acetone	Dichloromethane		No	No	No	None	MM-ML	ECD		GC/MS
214	Bifenthrin	Yes	0.115	Anal.Meth.f.Pest.Res.in Foodst.NL 6th Ed.	20	Acetone	Dichloromethane		No	No	No	None	MM-ML	ECD		GC/MS
214 cont.	Chlorpyrifos-methyl	Yes	0.063	Anal.Meth.f.Pest.Res.in Foodst.NL 6th Ed.	20	Acetone	Dichloromethane		No	No	No	None	MM-ML	FPD		GC/MS
214	Difenoconazole	Yes	0.113	Anal.Meth.f.Pest.Res.in Foodst.NL 6th Ed.	20	Acetone	Dichloromethane		No	No	No	None	MM-ML	ECD		GC/MS
214	Iprodione	Yes	0.142	Anal.Meth.f.Pest.Res.in Foodst.NL 6th Ed.	20	Acetone	Dichloromethane		No	No	No	None	MM-ML	ECD		GC/MS
214	Malathion	Yes	0.102	Anal.Meth.f.Pest.Res.in Foodst.NL 6th Ed.	20	Acetone	Dichloromethane		No	No	No	None	MM-ML	FPD		GC/MS
214	Prochloraz	Yes	0.200	Anal.Meth.f.Pest.Res.in Foodst.NL 6th Ed.	20	Acetone	Dichloromethane		No	No	No	None	MM-ML	NPD		GC/MS
214	Trifloxystrobin	Yes	0.435	Anal.Meth.f.Pest.Res.in Foodst.NL 6th Ed.	20	Acetone	Dichloromethane		No	No	No	None	MM-ML	ECD		GC/MS
214	Chlormequat	Yes	0.203	CEN/TC 275 EN 15054 (2005)	20	Methanol			Yes	No	No	None	PS-ML		MS/MS	
214	Carbendazim	Yes	0.589	Klein, J.; Alder, L.; JAOAC: 86.1015	5	Methanol			Yes	No	No	liq./liq part.	MM-ML		MS/MS	
214	Spiroxamine	Yes	0.058	Klein, J.; Alder, L.; JAOAC: 86.1015	5	Methanol			Yes	No	No	liq./liq part.	MM-ML		MS/MS	
215	Azoxystrobin	Yes	0.138	DFG S19	25	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	PS-ML	MSD		GC/MS
215	Bifenthrin	Yes	0.087	DFG S19	25	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	PS-ML	MSD		GC/MS
215	Chlorpyrifos-methyl	Yes	0.116	DFG S19	25	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	PS-ML	MSD		GC/MS
215	Cypermethrin	Yes	0.166	DFG S19	25	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	PS-ML	MSD		GC/MS
215	Difenoconazole	Yes	0.100	DFG S19	25	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	PS-ML	MSD		GC/MS
215	Epoxiconazole	Yes	0.097	DFG S19	25	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	PS-ML	MSD		GC/MS
215	Iprodione	Yes	0.337	DFG S19	25	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	PS-ML	MSD		GC/MS
215	Malathion	Yes	0.162	DFG S19	25	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	PS-ML	MSD		GC/MS
215	Pirimicarb	Yes	0.042	DFG S19	25	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	PS-ML	MSD		GC/MS
215	Prochloraz	Yes	0.188	DFG S19	25	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	PS-ML	MSD		GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
215	Spiroxamine	Yes	0.058	DFG S19	25	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	PS-ML	MSD		GC/MS
215	Trifloxystrobin	Yes	0.369	DFG S19	25	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	PS-ML	MSD		GC/MS
216	Azoxystrobin	Yes	0.251	EN-12393	10	Acetone			Yes			SPE	MM-ML	ECD		GC/MS/MS
216	Bifenthrin	Yes	0.096	EN-12393	10	Acetone			Yes			SPE	MM-ML	ECD		GC/MS/MS
216	Chlorpyrifos-methyl	Yes	0.145	EN-12393	10	Acetone			Yes			SPE	MM-ML	ECD		GC/MS/MS
216 cont.	Difenoconazole	Yes	0.192	EN-12393	10	Acetone			Yes			SPE	MM-ML	ECD		GC/MS/MS
216	Iprodione	Yes	0.399	EN-12393	10	Acetone			Yes			SPE	MM-ML	ECD		GC/MS/MS
216	Malathion	Yes	0.189	EN-12393	10	Acetone			Yes			SPE	MM-ML	ECD		GC/MS/MS
216	Pirimicarb	Yes	0.040	EN-12393	10	Acetone			Yes			SPE	MM-ML	NPD		GC/MS/MS
216	Trifloxystrobin	Yes	0.458	EN-12393	10	Acetone			Yes			SPE	MM-ML	ECD		GC/MS/MS
216	Carbendazim	No	0.475	Klein J., Alder L. JAOAC 86	10	Acetone			Yes		pH 7	SPE	PS-ML		Diode Array Det.	LC/MS/MS
216	Alpha-cypermethrin	No	0.061	QuEChERS	5	Acetonitrile						DSPE	MM-ML	MS/MS		GC/MS/MS
216	Cypermethrin	No	0.034	QuEChERS	5	Acetonitrile						DSPE	MM-ML	MS/MS		GC/MS/MS
216	Epoxiconazole	No	0.174	QuEChERS	5	Acetonitrile						DSPE	MM-ML	MS/MS		GC/MS/MS
216	Prochloraz	No	0.232	QuEChERS	5	Acetonitrile						DSPE	MM-ML	MS/MS		GC/MS/MS
216	Spiroxamine	No	0.065	QuEChERS	5	Acetonitrile						DSPE	MM-ML	MS/MS		GC/MS/MS
217	Chlormequat	No	0.245	individual method	5	Methanol			Yes	No	No	None	PS-ML		MS/MS	LC/MS/MS
217	Alpha-cypermethrin	Yes	0.107	SOP (GC, GC-MS)	25	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	ECD		GC/MS
217	Azoxystrobin	Yes	0.217	SOP (GC, GC-MS)	25	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	ECD		GC/MS
217	Bifenthrin	Yes	0.113	SOP (GC, GC-MS)	25	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	ECD		GC/MS
217	Chlorpyrifos-methyl	Yes	0.138	SOP (GC, GC-MS)	25	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	ECD		GC/MS
217	Cypermethrin	Yes	0.107	SOP (GC, GC-MS)	25	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	ECD		GC/MS
217	Iprodione	Yes	0.311	SOP (GC, GC-MS)	25	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	ECD		GC/MS
217	Malathion	Yes	0.199	SOP (GC, GC-MS)	25	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	ECD		GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
217	Spiroxamine	Yes	0.074	SOP (GC, GC-MS)	25	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	MSD		GC/MS
217	Trifloxystrobin	Yes	0.537	SOP (GC, GC-MS)	25	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	MSD		GC/MS
217	Difenoconazole	No	0.161	SOP (LC-MS/MS)	5	Methanol			Yes	No	No	liq./liq part.	MM-ML		MS/MS	LC/MS/MS
217	Epoxiconazole	Yes	0.151	SOP (LC-MS/MS)	5	Methanol			Yes	No	No	liq./liq part.	MM-ML		MS/MS	LC/MS/MS
217	Carbendazim	Yes	0.244	SOP (LC-MS/MS)	5	Methanol			Yes	No	No	liq./liq part.	MM-ML		MS/MS	LC/MS/MS
217 cont.	Pirimicarb	No	0.088	SOP (LC-MS/MS)	5	Methanol			Yes	No	No	liq./liq part.	MM-ML		MS/MS	LC/MS/MS
217	Prochloraz	Yes	0.178	SOP (LC-MS/MS)	5	Methanol			Yes	No	No	liq./liq part.	MM-ML		MS/MS	LC/MS/MS
218	Azoxystrobin	No	0.130	miniluke	0	Acetone	Dichloromethane	Other	No	No	No	GPC	PS-ML	ECD		GC/MS
218	Bifenthrin	No	0.090	miniluke	0	Acetone	Dichloromethane	Other	No	No	No	GPC	PS-ML	ECD		GC/MS
218	Chlorpyrifos-methyl	No	0.049	miniluke	0	Acetone	Dichloromethane	Other	No	No	No	GPC	PS-ML	ECD		GC/MS
218	Carbendazim	No	0.220	miniluke	0	Dichloromethane			No	No	No	GPC	PS-ML		Diode Array Det.	
219	Alpha-cypermethrin	No	0.078	QuEChERS	5	Acetonitrile			Yes		pH 5	DSPE	MM-SL	MSD		GC/MS
219	Azoxystrobin	No	0.293	QuEChERS	5	Acetonitrile			Yes		pH 5	DSPE	MM-SL	MSD		GC/MS
219	Bifenthrin	No	0.085	QuEChERS	5	Acetonitrile			Yes		pH 5	DSPE	MM-SL	MSD		GC/MS
219	Carbendazim	Yes	0.513	QuEChERS	5	Acetonitrile			Yes		pH 5	DSPE	MM-ML		MS/MS	LC/MS/MS
219	Chlorpyrifos-methyl	Yes	0.165	QuEChERS	5	Acetonitrile			Yes		pH 5	DSPE	MM-SL	MSD		GC/MS
219	Difenoconazole	No	0.159	QuEChERS	5	Acetonitrile			Yes		pH 5	DSPE	MM-ML		MS/MS	LC/MS/MS
219	Epoxiconazole	Yes	0.178	QuEChERS	5	Acetonitrile			Yes		pH 5	DSPE	MM-ML		MS/MS	LC/MS/MS
219	Iprodione	No	0.449	QuEChERS	5	Acetonitrile			Yes		pH 5	DSPE	MM-SL	MSD		GC/MS
219	Malathion	No	0.171	QuEChERS	5	Acetonitrile			Yes		pH 5	DSPE	MM-SL	MSD		GC/MS
219	Pirimicarb	Yes	0.043	QuEChERS	5	Acetonitrile			Yes		pH 5	DSPE	MM-SL	MSD		GC/MS
219	Prochloraz	No	0.236	QuEChERS	5	Acetonitrile			Yes		pH 5	DSPE	MM-ML		MS/MS	LC/MS/MS
219	Spiroxamine	Yes	0.077	QuEChERS	5	Acetonitrile			Yes		pH 5	DSPE	MM-ML		MS/MS	LC/MS/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
219	Trifloxystrobin	No	0.378	QuEChERS	5	Acetonitrile			Yes		pH 5	DSPE	MM-ML		MS/MS	LC/MS/MS
219	Chlormequat	Yes	0.209	CEN 15055	25	Methanol			Yes			None	PS-ML		MS/MS	LC/MS/MS
219	Glyphosate	No	2.46	In house	5	Other						liq./liq part.	PS-ML		MS/MS	LC/MS/MS
221	Alpha-cypermethrin	Yes	0.072	internal method	20	Acetone	Dichloromethane	Other	No	No	No	GPC	MM-ML	MSD		
221	Azoxystrobin	Yes	0.241	internal method	20	Acetone	Dichloromethane	Other	No	No	No	GPC	MM-ML	MSD		
221	Bifenthrin	Yes	0.094	internal method	20	Acetone	Dichloromethane	Other	No	No	No	GPC	MM-ML	MSD		
221 cont.	Carbendazim	No	0.245	internal method	20	Acetone	Dichloromethane	Other	No	No	No	GPC	MM-ML		MS/MS	
221	Chlorpyrifos-methyl	Yes	0.049	internal method	20	Acetone	Dichloromethane	Other	No	No	No	GPC	MM-ML	MSD		
221	Cypermethrin	Yes	0.072	internal method	20	Acetone	Dichloromethane	Other	No	No	No	GPC	MM-ML	MSD		
221	Difenoconazole	No	0.115	internal method	20	Acetone	Dichloromethane	Other	No	No	No	GPC	MM-ML		MS/MS	
221	Iprodione	Yes	0.098	internal method	20	Acetone	Dichloromethane	Other	No	No	No	GPC	MM-ML	MSD		
221	Malathion	No	0.064	internal method	20	Acetone	Dichloromethane	Other	No	No	No	GPC	MM-ML	MSD	MS/MS	
221	Prochloraz	No	0.167	internal method	20	Acetone	Dichloromethane	Other	No	No	No	GPC	MM-ML		MS/MS	
221	Trifloxystrobin	Yes	0.396	internal method	20	Acetone	Dichloromethane	Other	No	No	No	GPC	MM-ML	MSD		
223	Alpha-cypermethrin	Yes	0.079	GMS	5	Other	Ethyl acetate	Acetone	No	No	No	None	MM-ML	MS/MS		GC/MS/MS
223	Bifenthrin	Yes	0.111	GMS	5	Other	Ethyl acetate	Acetone	No	No	No	None	MM-ML	MS/MS		GC/MS/MS
223	Iprodione	No	0.062	GMS	5	Other	Ethyl acetate	Acetone	No	No	No	None	MM-ML	MS/MS		GC/MS/MS
223	Azoxystrobin	Yes	0.125	LMS	10	Acetone	Dichloromethane	Other	No	Yes	No	None	PS-ML		MS/MS	LC/MS/MS
223	Carbendazim	Yes	0.285	LMS	10	Acetone	Dichloromethane	Other	No	Yes	No	None	PS-ML		MS/MS	LC/MS/MS
223	Difenoconazole	Yes	0.100	LMS	10	Acetone	Dichloromethane	Other	No	Yes	No	None	PS-ML		MS/MS	LC/MS/MS
223	Epoxiconazole	Yes	0.038	LMS	10	Acetone	Dichloromethane	Other	No	Yes	No	None	PS-ML		MS/MS	LC/MS/MS
223	Prochloraz	Yes	0.148	LMS	10	Acetone	Dichloromethane	Other	No	Yes	No	None	PS-ML		MS/MS	LC/MS/MS
223	Spiroxamine	Yes	0.026	LMS	10	Acetone	Dichloromethane	Other	No	Yes	No	None	PS-ML		MS/MS	LC/MS/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
223	Trifloxystrobin	Yes	0.265	LMS	10	Acetone	Dichloromethane	Other	No	Yes	No	None	PS-ML		MS/MS	LC/MS/MS
223	Chlorpyrifos-methyl	Yes	0.066	P2	10	Cyclohexane	Ethyl acetate		Yes	No	No	GPC	PS-ML	FPD		GC/MS/MS
223	Malathion	Yes	0.097	P2	10	Cyclohexane	Ethyl acetate		Yes	No	No	GPC	PS-ML	FPD		GC/MS/MS
224	Chlormequat	Yes	0.243		1	Methanol			Yes	No	No	SPE	PS-ML		MS/MS	LC/MS/MS
225	Alpha-cypermethrin	No	0.068		20	Acetone			Yes	No	No	liq./liq part.	MM-ML	ECD		Two columns
225	Bifenthrin	No	0.045		20	Acetone			Yes	No	No	liq./liq part.	MM-ML	ECD		Two columns
225 cont.	Chlorpyrifos-methyl	No	0.141		20	Acetone			Yes	No	No	liq./liq part.	MM-ML	ECD		Two columns
225	Epoxiconazole	No	0.201		20	Acetone			Yes	No	No	liq./liq part.	MM-ML	ECD		Two columns
225	Iprodione	No	0.312		20	Acetone			Yes	No	No	liq./liq part.	MM-ML	ECD		Two columns
225	Malathion	No	0.210		20	Acetone			Yes	No	No	liq./liq part.	MM-ML	ECD		Two columns
225	Trifloxystrobin	No	0.439		20	Acetone			Yes	No	No	liq./liq part.	MM-ML	ECD		Two columns
225	Azoxystrobin	No	0.231		10	Methanol			Yes	No	pH 5	None	MM-ML		MS/MS	LC/MS/MS
225	Carbendazim	No	0.605		10	Methanol			Yes	No	pH 5	None	MM-ML		MS/MS	LC/MS/MS
225	Chlormequat	No	0.222		10	Methanol			Yes	No	pH 5	None	Standard addition		MS/MS	LC/MS/MS
225	Difenoconazole	No	0.145		10	Methanol			Yes	No	pH 5	None	MM-ML		MS/MS	LC/MS/MS
225	Pirimicarb	No	0.033		10	Methanol			Yes	No	pH 5	None	MM-ML		MS/MS	LC/MS/MS
225	Prochloraz	No	0.191		10	Methanol			Yes	No	pH 5	None	MM-ML		MS/MS	LC/MS/MS
225	Spiroxamine	No	0.070		10	Methanol			Yes	No	pH 5	None	MM-ML		MS/MS	LC/MS/MS
226	Bifenthrin	No	0.023	luke	15	Acetone	Dichloromethane	Other	No	No	No	None	MM-ML	ECD		GC/MS/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
226	Chlorpyrifos-methyl	No	0.040	luke	15	Acetone	Dichloromethane	Other	No	No	No	None	MM-ML	NPD		GC/MS/MS
226	Cypermethrin	No	0.071	luke	15	Acetone	Dichloromethane	Other	No	No	No	None	MM-ML	ECD		GC/MS/MS
226	Malathion	No	0.041	luke	15	Acetone	Dichloromethane	Other	No	No	No	None	MM-ML	NPD		GC/MS/MS
227	Alpha-cypermethrin	No	0.069	QuEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	MSD		None
227	Azoxystrobin	No	0.284	QuEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	MSD		None
227	Bifenthrin	No	0.087	QuEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	MSD		None
227	Chlorpyrifos-methyl	No	0.143	QuEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	MSD		None
227	Difenoconazole	No	0.191	QuEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	MSD		None
227	Epoxiconazole	No	0.169	QuEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	MSD		None
227 cont.	Malathion	No	0.161	QuEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	MSD		None
227	Pirimicarb	No	0.042	QuEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	MSD		None
227	Prochloraz	No	0.303	QuEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	MSD		None
227	Spiroxamine	No	0.169	QuEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	MSD		None
227	Trifloxystrobin	No	0.528	QuEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	MSD		None
228	Alpha-cypermethrin	No	0.067	1	5	Acetone	Other		No	No	No	None	MM-ML	MSD		GC/MS
228	Azoxystrobin	No	0.116	1	5	Acetone	Other		No	No	No	None	MM-ML	MSD		GC/MS
228	Bifenthrin	No	0.107	1	5	Acetone	Other		No	No	No	None	MM-ML	MSD		GC/MS
228	Chlorpyrifos-methyl	No	0.060	1	5	Acetone	Other		No	No	No	None	MM-ML	MSD		GC/MS
228	Iprodione	No	0.102	1	5	Acetone	Other		No	No	No	None	MM-ML	MSD		GC/MS
228	Malathion	No	0.090	1	5	Acetone	Other		No	No	No	None	MM-ML	MSD		GC/MS
228	Prochloraz	No	0.132	1	5	Acetone	Other		No	No	No	None	MM-ML	MSD		GC/MS
228	Spiroxamine	No	0.077	1	5	Acetone	Other		No	No	No	None	MM-ML	MSD		GC/MS
228	Trifloxystrobin	No	0.441	1	5	Acetone	Other		No	No	No	None	MM-ML	MSD		GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
229	Alpha-cypermethrin	Yes	0.043	LUKE	15	Acetone	Dichloromethane	Other	Yes	No	No	GPC	MM-ML	ECD		GC/MS
229	Azoxystrobin	Yes	0.078	LUKE	15	Acetone	Dichloromethane	Other	Yes	No	No	GPC	MM-ML			GC/MS
229	Bifenthrin	Yes	0.119	LUKE	15	Acetone	Dichloromethane	Other	Yes	No	No	GPC	MM-ML	ECD		GC/MS
229	Chlorpyrifos-methyl	Yes	0.057	LUKE	15	Acetone	Dichloromethane	Other	Yes	No	No	GPC	MM-ML	FPD		GC/MS
229	Cypermethrin	Yes	0.098	LUKE	15	Acetone	Dichloromethane	Other	Yes	No	No	GPC	MM-ML	ECD		GC/MS
229	Difenoconazole	No	0.088	LUKE	15	Acetone	Dichloromethane	Other	Yes	No	No	GPC	MM-ML	ECD		GC/MS
229	Epoxiconazole	No	0.035	LUKE	15	Acetone	Dichloromethane	Other	Yes	No	No	GPC	MM-ML	ECD		GC/MS
229	Iprodione	Yes	0.085	LUKE	15	Acetone	Dichloromethane	Other	Yes	No	No	GPC	MM-ML	ECD		GC/MS
229	Malathion	Yes	0.095	LUKE	15	Acetone	Dichloromethane	Other	Yes	No	No	GPC	MM-ML	FPD		GC/MS
229	Prochloraz	Yes	0.126	LUKE	15	Acetone	Dichloromethane	Other	Yes	No	No	GPC	MM-ML	ECD		GC/MS
229 cont.	Spiroxamine	Yes	0.061	LUKE	15	Acetone	Dichloromethane	Other	Yes	No	No	GPC	MM-ML			GC/MS
229	Trifloxystrobin	Yes	0.260	LUKE	15	Acetone	Dichloromethane	Other	Yes	No	No	GPC	MM-ML	ECD		GC/MS
230	Carbendazim	Yes	0.604	inhouse validated method	50	Acetone	Ethyl acetate	Cyclohexane	Yes	No	pH 7	liq./liq part.	MM-ML		Diode Array Det.	Other
230	Alpha-cypermethrin	Yes	0.092	modular Multimethod Â§ 64 LFGD, L 00.00-64	50	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	ECD		GC/MS/MS
230	Azoxystrobin	Yes	0.261	modular Multimethod Â§ 64 LFGD, L 00.00-64	50	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	ECD		GC/MS/MS
230	Bifenthrin	Yes	0.117	modular Multimethod Â§ 64 LFGD, L 00.00-64	50	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	ECD		GC/MS/MS
230	Chlorpyrifos-methyl	Yes	0.16	modular Multimethod Â§ 64 LFGD, L 00.00-64	50	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	NPD		GC/MS/MS
230	Difenoconazole	Yes	0.165	modular Multimethod Â§ 64 LFGD, L 00.00-64	50	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	ECD		GC/MS/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
230	Epoxiconazole	Yes	0.179	modular Multimethod Â§ 64 LFGD, L 00.00-64	50	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	ECD		GC/MS/MS
230	Iprodione	Yes	0.356	modular Multimethod Â§ 64 LFGD, L 00.00-64	50	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	ECD		GC/MS/MS
230	Malathion	Yes	0.194	modular Multimethod Â§ 64 LFGD, L 00.00-64	50	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	NPD		GC/MS/MS
230	Pirimicarb	Yes	0.042	modular Multimethod Â§ 64 LFGD, L 00.00-64	50	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	NPD		GC/MS/MS
230	Prochloraz	Yes	0.266	modular Multimethod Â§ 64 LFGD, L 00.00-64	50	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	NPD		GC/MS/MS
230	Spiroxamine	Yes	0.081	modular Multimethod Â§ 64 LFGD, L 00.00-64	50	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	NPD		GC/MS/MS
230 cont.	Trifloxystrobin	Yes	0.472	modular Multimethod Â§ 64 LFGD, L 00.00-64	50	Acetone	Ethyl acetate	Cyclohexane	Yes	No	No	GPC	MM-ML	ECD		GC/MS/MS
230	Chlormequat	Yes	0.217	CCC-Bestimmung mittels LC-MS/MS Â§ 64 LFGB, L00.00-76	10	Methanol			Yes		No		MM-ML		MS/MS	LC/MS/MS
232	Azoxystrobin	No	0.23	1	50	Methanol	Dichloromethane		Yes	No	No	liq./liq part.	Standard addition		MS/MS	LC/MS/MS
232	Carbendazim	No	0.71	1	50	Methanol	Dichloromethane		Yes	No	No	liq./liq part.	Standard addition		MS/MS	LC/MS/MS
232	Chlorpyrifos-methyl	No	0.13	1	50	Methanol	Dichloromethane		Yes	No	No	liq./liq part.	Standard addition		MS/MS	LC/MS/MS
232	Prochloraz	No	0.24	1	50	Methanol	Dichloromethane		Yes	No	No	liq./liq part.	Standard addition		MS/MS	LC/MS/MS
232	Trifloxystrobin	No	0.41	1	50	Methanol	Dichloromethane		Yes	No	No	liq./liq part.	Standard addition		MS/MS	LC/MS/MS
233	Azoxystrobin	Yes	0.316	Internal method	15	Acetonitrile			Yes	No	Yes	None	MM-SL		MS/MS	LC/MS/MS
233	Carbendazim	Yes	0.745	Internal method	15	Acetonitrile			Yes	No	Yes	None	MM-SL		MS/MS	LC/MS/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
233	Difenoconazole	Yes	0.214	Internal method	15	Acetonitrile			Yes	No	Yes	None	MM-SL		MS/MS	LC/MS/MS
233	Epoxiconazole	No	0.151	Internal method	15	Acetonitrile			Yes	No	Yes	None	MM-SL		MS/MS	LC/MS/MS
233	Pirimicarb	Yes	0.046	Internal method	15	Acetonitrile			Yes	No	Yes	None	MM-SL		MS/MS	LC/MS/MS
233	Prochloraz	Yes	0.288	Internal method	15	Acetonitrile			Yes	No	Yes	None	MM-SL		MS/MS	LC/MS/MS
233	Spiroxamine	Yes	0.100	Internal method	15	Acetonitrile			Yes	No	Yes	None	MM-SL		MS/MS	LC/MS/MS
233	Trifloxystrobin	No	0.570	Internal method	15	Acetonitrile			Yes	No	Yes	None	MM-SL		MS/MS	LC/MS/MS
233	Alpha-cypermethrin	No	0.063	Internal method	48	Ethyl acetate			No	No	No	None	MM-SL	MS/MS		GC/MS/MS
233	Bifenthrin	Yes	0.099	Internal method	48	Ethyl acetate			No	No	No	None	MM-SL	MS/MS		GC/MS/MS
233	Chlorpyrifos-methyl	Yes	0.040	Internal method	48	Ethyl acetate			No	No	No	None	MM-SL	MS/MS		GC/MS/MS
233	Iprodione	Yes	0.075	Internal method	48	Ethyl acetate			No	No	No	None	MM-SL	MS/MS		GC/MS/MS
233	Malathion	Yes	0.072	Internal method	48	Ethyl acetate			No	No	No	None	MM-SL	MS/MS		GC/MS/MS
233 cont.	Chlormequat	Yes	0.208	Internal method	10	Methanol			Yes	No	No	None	PS-ML		MS/MS	LC/MS/MS
234	Azoxystrobin	Yes	0.233		20	Acetone			Yes			SPE	MM-ML	MSD		GC/MS
234	Bifenthrin	No	0.045		20	Acetone			Yes			SPE	MM-ML	MSD		GC/MS
234	Chlorpyrifos-methyl	Yes	0.133		20	Acetone			Yes			SPE	MM-ML	MSD		GC/MS
234	Cypermethrin	No	0.097		20	Acetone			Yes			SPE	MM-ML	MSD		GC/MS
234	Difenoconazole	Yes	0.152		20	Acetone			Yes			SPE	MM-ML	MSD		GC/MS
234	Epoxiconazole	No	0.185		20	Acetone			Yes			SPE	MM-ML	MSD		GC/MS
234	Iprodione	No	0.130		20	Acetone			Yes			SPE	MM-ML	MSD		GC/MS
234	Malathion	Yes	0.175		20	Acetone			Yes			SPE	MM-ML	MSD		GC/MS
234	Pirimicarb	Yes	0.039		20	Acetone			Yes			SPE	MM-ML	MSD		GC/MS
234	Spiroxamine	Yes	0.066		20	Acetone			Yes			SPE	MM-ML	MSD		GC/MS
234	Trifloxystrobin	Yes	0.461		20	Acetone			Yes			SPE	MM-ML	MSD		GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
234	Carbendazim	Yes	0.642		20	Methanol			Yes		pH 7	SPE	MM-ML		MS/MS	
234	Chlormequat	Yes	0.204		20	Methanol			Yes		pH 7	None	MM-ML		MS/MS	
234	Prochloraz	No	0.274		20	Methanol			Yes		pH 7	SPE	MM-ML		MS/MS	
235	Azoxystrobin	Yes	0.153	fp004	25	Acetone	Ethyl acetate	Cyclohexane	No	No	No	GPC	MM-ML	ECD		Two columns
235	Bifenthrin	Yes	0.089	fp004	25	Acetone	Ethyl acetate	Cyclohexane	No	No	No	GPC	MM-ML	ITD		GC/MS
235	Chlorpyrifos-methyl	No	0.042	fp004	25	Acetone	Ethyl acetate	Cyclohexane	No	No	No	GPC	MM-ML	ITD		GC/MS
235	Cypermethrin	Yes	0.090	fp004	25	Acetone	Ethyl acetate	Cyclohexane	No	No	No	GPC	MM-ML	ECD		Two columns
235	Iprodione	Yes	0.084	fp004	25	Acetone	Ethyl acetate	Cyclohexane	No	No	No	GPC	MM-ML	ECD		Two columns
235	Malathion	Yes	0.086	fp004	25	Acetone	Ethyl acetate	Cyclohexane	No	No	No	GPC	MM-ML	NPD		Two columns
235	Trifloxystrobin	Yes	0.302	fp004	25	Acetone	Ethyl acetate	Cyclohexane	No	No	No	GPC	MM-ML	ITD		GC/MS
235	Carbendazim	No	0.680	fp086	10	Methanol	Other		Yes	No	No	Other	MM-ML		MS/MS	LC/MS/MS
235	Chlormequat	Yes	0.161	fp045	10	Methanol	Other		No	No	No	SPE	MM-ML		MS/MS	LC/MS/MS
235 cont.	Epoxiconazole	No	0.144	fp086	10	Methanol	Other		Yes	No	No	Other	MM-ML		MS/MS	LC/MS/MS
235	Pirimicarb	No	0.028	fp086	10	Methanol	Other		Yes	No	No	Other	MM-ML		MS/MS	LC/MS/MS
235	Spiroxamine	No	0.029	fp086	10	Methanol	Other		Yes	No	No	Other	MM-ML		MS/MS	LC/MS/MS
236	Glyphosate	No	1.90	Alferness	4	Other			Yes	No	Yes	liq./liq part.	MM-ML	MSD		GC/MS
236	Alpha-cypermethrin	Yes	0.084	Internal	10	Dichloromethane	Other		No	No	No	GPC	PS-ML	ECD		GC/MS
236	Carbendazim	Yes	0.240	Internal	10	Dichloromethane	Other		No	No	No	None	MM-ML		MS/MS	LC/MS/MS
236	Difenoconazole	Yes	0.091	Internal	10	Dichloromethane	Other		No	No	No	None	MM-ML		MS/MS	LC/MS/MS
236	Prochloraz	Yes	0.126	Internal	10	Dichloromethane	Other		No	No	No	None	MM-ML		MS/MS	LC/MS/MS
236	Spiroxamine	Yes	0.027	Internal	10	Dichloromethane	Other		No	No	No	None	MM-ML		MS/MS	LC/MS/MS
236	Chlormequat	Yes	0.173	EN15054	20	Methanol			Yes	No	No	None	PS-ML		MS	LC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
236	Azoxystrobin	Yes	0.267	Quechers	5	Acetonitrile			Yes	No	No	DSPE	PS-ML	MSD		GC/MS
236	Bifenthrin	No	0.078	Quechers	5	Acetonitrile			Yes	No	No	DSPE	PS-ML	MSD		GC/MS
236	Chlorpyrifos-methyl	Yes	0.141	Quechers	5	Acetonitrile			Yes	No	No	DSPE	PS-ML	MSD		GC/MS
236	Iprodione	Yes	0.332	Quechers	5	Acetonitrile			Yes	No	No	DSPE	PS-ML	MSD		GC/MS
236	Malathion	Yes	0.215	Quechers	5	Acetonitrile			Yes	No	No	DSPE	PS-ML	MSD		GC/MS
237	Alpha-cypermethrin	Yes	0.064		5	Acetonitrile			Yes			Freezing out	MM-ML	ECD		GC/MS
237	Azoxystrobin	Yes	0.288		5	Acetonitrile			Yes			Freezing out	MM-ML	ECD		GC/MS
237	Bifenthrin	Yes	0.106		5	Acetonitrile			Yes			Freezing out	MM-ML	ECD		GC/MS
237	Carbendazim	Yes	0.557		5	Acetonitrile			Yes			Freezing out	MM-ML	ECD		GC/MS
237	Chlorpyrifos-methyl	Yes	0.159		5	Acetonitrile			Yes			Freezing out	MM-ML	ECD		GC/MS
237	Difenoconazole	Yes	0.342		5	Acetonitrile			Yes			Freezing out	MM-ML	ECD		GC/MS
237	Epoxiconazole	Yes	0.217		5	Acetonitrile			Yes			Freezing out	MM-ML	ECD		GC/MS
237	Iprodione	Yes	0.416		5	Acetonitrile			Yes			Freezing out	MM-ML	ECD		GC/MS
237 cont.	Malathion	Yes	0.237		5	Acetonitrile			Yes			Freezing out	MM-ML	ECD		GC/MS
237	Pirimicarb	Yes	0.052		5	Acetonitrile			Yes			Freezing out	MM-ML	ECD		GC/MS
237	Prochloraz	Yes	0.362		5	Acetonitrile			Yes			Freezing out	MM-ML	ECD		GC/MS
237	Spiroxamine	Yes	0.142		5	Acetonitrile			Yes			Freezing out	MM-ML	ECD		GC/MS
237	Trifloxystrobin	Yes	0.506		5	Acetonitrile			Yes			Freezing out	MM-ML	ECD		GC/MS
237	Chlormequat	Yes	0.158		5	Methanol			Yes			Other	MM-ML		MS/MS	
238	Alpha-cypermethrin	Yes	0.079	QuEChERS Anastas-siades	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	ECD		GC/MS
238	Azoxystrobin	Yes	0.266	QuEChERS Anastas-siades	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML		Diode Array Det.	GC/MS
238	Bifenthrin	Yes	0.102	QuEChERS Anastas-siades	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	ECD		GC/MS
238	Carbendazim	Yes	0.575	QuEChERS Anastas-siades	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML		Diode Array Det.	GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
238	Chlorpyrifos-methyl	Yes	0.169	QuEChERS Anastas-siades	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	NPD		GC/MS
238	Difenoconazole	Yes	0.308	QuEChERS Anastas-siades	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	ECD		GC/MS
238	Epoxiconazole	Yes	0.245	QuEChERS Anastas-siades	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	ECD		GC/MS
238	Iprodione	Yes	0.403	QuEChERS Anastas-siades	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	ECD		GC/MS
238	Malathion	Yes	0.231	QuEChERS Anastas-siades	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	NPD		GC/MS
238	Pirimicarb	Yes	0.037	QuEChERS Anastas-siades	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	NPD		GC/MS
238	Prochloraz	Yes	0.358	QuEChERS Anastas-siades	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	ECD		GC/MS
238	Spiroxamine	Yes	0.195	QuEChERS Anastas-siades	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	MSD		None
238	Trifloxystrobin	Yes	0.516	QuEChERS Anastas-siades	5	Acetonitrile			Yes	No	Yes	DSPE	PS-ML	ECD		GC/MS
238	Chlormequat	Yes	0.177	EN 15055:2006	10	Methanol			Yes	No	No	None	MM-ML		MS/MS	None
239	Alpha-cypermethrin	Yes	0.102	QUEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	TOF		GC/MS
239	Azoxystrobin	Yes	0.283	QUEChERS	5	Acetonitrile			Yes	No	No	Freezing out	MM-ML		MS/MS	LC/MS/MS
239	Bifenthrin	Yes	0.078	QUEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	TOF		GC/MS
239	Carbendazim	Yes	0.574	QUEChERS	5	Acetonitrile			Yes	No	No	Freezing out	MM-ML		MS/MS	LC/MS/MS
239 cont.	Chlorpyrifos-methyl	Yes	0.193	QUEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	TOF		GC/MS
239	Difenoconazole	Yes	0.176	QUEChERS	5	Acetonitrile			Yes	No	No	Freezing out	MM-ML		MS/MS	LC/MS/MS
239	Epoxiconazole	Yes	0.183	QUEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	TOF		GC/MS
239	Iprodione	Yes	0.346	QUEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	TOF		GC/MS
239	Malathion	Yes	0.113	QUEChERS	5	Acetonitrile			Yes	No	No	Freezing out	MM-ML		MS/MS	LC/MS/MS
239	Pirimicarb	Yes	0.040	QUEChERS	5	Acetonitrile			Yes	No	No	Freezing out	MM-ML		MS/MS	LC/MS/MS
239	Prochloraz	Yes	0.272	QUEChERS	5	Acetonitrile			Yes	No	No	Freezing out	MM-ML		MS/MS	LC/MS/MS
239	Spiroxamine	Yes	0.067	QUEChERS	5	Acetonitrile			Yes	No	No	Freezing out	MM-ML		MS/MS	LC/MS/MS
239	Trifloxystrobin	Yes	0.555	QUEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	TOF		GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
239	Chlormequat	Yes	0.294	Â§ 64 LFGB L00.00-76	10	Methanol			Yes	No	No	None	PS-ML		MS	LC/MS
240	Azoxystrobin	No	0.415	quechers	50	Acetonitrile			Yes	No	No	Freezing out	PS-ML	ECD	MS/MS	LC/MS/MS
240	Bifenthrin	Yes	0.086	quechers	50	Acetonitrile			Yes	No	No	Freezing out	PS-ML	ECD	MS/MS	LC/MS/MS
240	Chlorpyrifos-methyl	Yes	0.185	quechers	50	Acetonitrile			Yes	No	No	Freezing out	PS-ML	FPD		GC/MS
240	Cypermethrin	Yes	0.090	quechers	50	Acetonitrile			Yes	No	No	Freezing out	PS-ML	ECD	MS/MS	LC/MS/MS
240	Difenoconazole	No	0.278	quechers	50	Acetonitrile			Yes	No	No	Freezing out	PS-ML	ECD	MS/MS	LC/MS/MS
240	Epoxiconazole	No	0.228	quechers	50	Acetonitrile			Yes	No	No	Freezing out	PS-ML	ECD	MS/MS	LC/MS/MS
240	Iprodione	Yes	0.420	quechers	50	Acetonitrile			Yes	No	No	Freezing out	PS-ML	NPD		GC/MS
240	Malathion	Yes	0.197	quechers	50	Acetonitrile			Yes	No	No	Freezing out	PS-ML	FPD		GC/MS
240	Pirimicarb	Yes	0.057	quechers	50	Acetonitrile			Yes	No	No	Freezing out	PS-ML	NPD		GC/MS
240	Prochloraz	No	0.412	quechers	50	Acetonitrile			Yes	No	No	Freezing out	PS-ML	ECD	MS/MS	LC/MS/MS
240	Spiroxamine	No	0.087	quechers	50	Acetonitrile			Yes	No	No	Freezing out	PS-ML		MS/MS	GC/MS
240	Trifloxystrobin	No	0.468	quechers	50	Acetonitrile			Yes	No	No	Freezing out	PS-ML	ECD	MS/MS	LC/MS/MS
240	Carbendazim	Yes	0.110	14333-1	15	Acetone	Dichloromethane	Other	Yes	No	Yes	SPE	PS-ML		MS/MS	LC/MS/MS
241	Alpha-cypermethrin	No	0.071	1	10	Acetonitrile			No	No	No	None	PS-SL	ECD		GC/MS
241 cont.	Azoxystrobin	No	0.133	1	10	Acetonitrile			No	No	No	None	PS-SL	ECD		GC/MS
241	Bifenthrin	No	0.082	1	10	Acetonitrile			No	No	No	None	PS-SL	ECD		GC/MS
241	Chlorpyrifos-methyl	No	0.071	2	10	Acetonitrile			No	No	No	None	PS-SL	NPD		GC/MS
241	Cypermethrin	No	0.111	1	10	Acetonitrile			No	No	No	None	PS-SL	ECD		GC/MS
241	Iprodione	No	0.111	1	10	Acetonitrile			No	No	No	None	PS-SL	ECD		GC/MS
241	Malathion	No	0.135	2	10	Acetonitrile			No	No	No	None	PS-SL	NPD		GC/MS
241	Prochloraz	No	0.128	1	10	Acetonitrile			No	No	No	None	PS-SL	ECD		GC/MS
241	Trifloxystrobin	No	0.371	1	10	Acetonitrile			No	No	No	None	PS-SL	ECD		GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
242	Alpha-cypermethrin	No	0.074	internal method	10	Acetone	Other	Other	Yes	No	No	Other	MM-SL	ECD		Two columns
242	Azoxystrobin	No	0.152	internal method	10	Acetone	Other	Other	Yes	No	No	Other	MM-SL	ECD		Two columns
242	Bifenthrin	No	0.088	internal method	10	Acetone	Other	Other	Yes	No	No	Other	MM-SL	ECD		Two columns
242	Chlorpyrifos-methyl	No	0.145	internal method	10	Acetone	Other	Other	Yes	No	No	Other	MM-SL	ECD		Two columns
242	Difenoconazole	No	0.129	internal method	10	Acetone	Other	Other	Yes	No	No	Other	MM-SL	ECD		Two columns
242	Epoxiconazole	No	0.146	internal method	10	Acetone	Other	Other	Yes	No	No	Other	MM-SL	ECD		Two columns
242	Iprodione	No	0.251	internal method	10	Acetone	Other	Other	Yes	No	No	Other	MM-SL	ECD		Two columns
242	Malathion	No	0.185	internal method	10	Acetone	Other	Other	Yes	No	No	Other	MM-SL	ECD		Two columns
242	Prochloraz	No	0.174	internal method	10	Acetone	Other	Other	Yes	No	No	Other	MM-SL	ECD		Two columns
242	Trifloxystrobin	No	0.402	internal method	10	Acetone	Other	Other	Yes	No	No	Other	MM-SL	ECD		Two columns
243	Alpha-cypermethrin	No	0.105		5	Ethyl acetate			No	No	No	GPC	PS-ML	MS/MS		GC/MS/MS
243	Azoxystrobin	No	0.118		5	Ethyl acetate			No	No	No	GPC	PS-ML		MS/MS	LC/MS/MS
243	Bifenthrin	No	0.090		5	Ethyl acetate			No	No	No	GPC	PS-ML	MS/MS		GC/MS/MS
243	Carbendazim	No	0.317		5	Ethyl acetate			No	No	No	GPC	PS-ML		MS/MS	LC/MS/MS
243	Chlorpyrifos-methyl	No	0.050		5	Ethyl acetate			No	No	No	GPC	PS-ML	MS/MS		GC/MS/MS
243	Difenoconazole	No	0.107		5	Ethyl acetate			No	No	No	GPC	PS-ML		MS/MS	LC/MS/MS
243 cont.	Epoxiconazole	No	0.037		5	Ethyl acetate			No	No	No	GPC	PS-ML		MS/MS	LC/MS/MS
243	Iprodione	No	0.090		5	Ethyl acetate			No	No	No	GPC	PS-ML	MS/MS		GC/MS/MS
243	Malathion	No	0.146		5	Ethyl acetate			No	No	No	GPC	PS-ML	MS/MS		GC/MS/MS
243	Prochloraz	No	0.189		5	Ethyl acetate			No	No	No	GPC	PS-ML		MS/MS	LC/MS/MS
243	Spiroxamine	No	0.024		5	Ethyl acetate			No	No	No	GPC	PS-ML		MS/MS	LC/MS/MS
243	Chlormequat	No	0.232	EN 15054	5	Methanol			Yes	No	No	None	PS-ML		MS/MS	LC/MS/MS
243	Glyphosate	No	1.96		5	Other			Yes	No		SPE	PS-ML		MS/MS	LC/MS/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
243	Trifloxystrobin	No	0.339		5	Ethyl acetate			No	No	No	GPC	PS-ML		MS/MS	LC/MS/MS
244	Alpha-cypermethrin	No	0.07	EN-12393 Method P	25	Ethyl acetate			Yes	No	No	GPC	MM-ML	ECD		GC/MS
244	Azoxystrobin	No	0.20	EN-12393 Method P	25	Ethyl acetate			Yes	No	No	GPC	MM-ML	ECD		GC/MS
244	Bifenthrin	Yes	0.09	EN-12393 Method P	25	Ethyl acetate			Yes	No	No	GPC	MM-ML	ECD		GC/MS
244	Carbendazim	No	0.49	EN-12393 Method P	25	Ethyl acetate			Yes	No	Yes	GPC	PS-ML		Diode Array Det.	
244	Chlorpyrifos-methyl	Yes	0.11	EN-12393 Method P	25	Ethyl acetate			Yes	No	No	GPC	MM-ML	NPD		GC/MS
244	Iprodione	Yes	0.24	EN-12393 Method P	25	Ethyl acetate			Yes	No	No	GPC	MM-ML	ECD		Other
244	Malathion	No	0.14	EN-12393 Method P	25	Ethyl acetate			Yes	No	No	GPC	MM-ML	FPD		Other
244	Pirimicarb	Yes	0.03	EN-12393 Method P	25	Ethyl acetate			Yes	No	No	GPC	MM-ML	ITD		Other
244	Spiroxamine	Yes	0.07	EN-12393 Method P	25	Ethyl acetate			Yes	No	No	GPC	MM-ML	ITD		Other
244	Trifloxystrobin	Yes	0.50	EN-12393 Method P	25	Ethyl acetate			Yes	No	No	GPC	MM-ML	ECD		GC/MS
245	Difenoconazole	Yes	0.204	quechers	5	Acetonitrile			Yes			DSPE	MM-ML	MS/MS		GC/MS/MS
245	Epoxiconazole	Yes	0.107	quechers	5	Acetonitrile			Yes			DSPE	MM-ML	MS/MS		GC/MS/MS
245	Pirimicarb	Yes	0.036	quechers	5	Acetonitrile			Yes			DSPE	MM-ML		MS/MS	LC/MS/MS
245	Prochloraz	Yes	0.226	quechers	5	Acetonitrile			Yes			DSPE	MM-ML		MS/MS	LC/MS/MS
245	Spiroxamine	Yes	0.247	quechers	5	Acetonitrile			Yes			DSPE	MM-ML	MS/MS		GC/MS/MS
245	Trifloxystrobin	Yes	0.497	quechers	5	Acetonitrile			Yes			DSPE	MM-ML	MS/MS		GC/MS/MS
245 cont.	Alpha-cypermethrin	Yes	0.105	EN 12393	10	Ethyl acetate			Yes			GPC	MM-ML	ECD		GC/MS
245	Azoxystrobin	Yes	0.318	EN 12393	10	Ethyl acetate			Yes			GPC	MM-ML	ECD		GC/MS
245	Bifenthrin	Yes	0.065	EN 12393	10	Ethyl acetate			Yes			GPC	MM-ML	ECD		GC/MS
245	Carbendazim	Yes	0.53	EN 12393	10	Ethyl acetate			Yes		Yes	GPC	MM-ML		Diode Array Det.	Other
245	Chlorpyrifos-methyl	Yes	0.099	EN 12393	10	Ethyl acetate			Yes			GPC	MM-ML	ECD		GC/MS
245	Iprodione	Yes	0.306	EN 12393	10	Ethyl acetate			Yes			GPC	MM-ML	ECD		GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
245	Malathion	Yes	0.122	EN 12393	10	Ethyl acetate			Yes			GPC	MM-ML	ECD		GC/MS
245	Chlormequat	No	0.225		5	Methanol	Other		Yes			None	PS-ML		MS/MS	LC/MS/MS
246	Alpha-cypermethrin	Yes	0.09	Â § 35LMBG	10	Acetone	Dichloromethane		Yes	No	No	GPC	MM-ML	ECD		Two columns
246	Azoxystrobin	Yes	0.301	Â § 35LMBG	10	Acetone	Dichloromethane		Yes	No	No	GPC	MM-ML	ECD		Two columns
246	Bifenthrin	No	0.09	Â § 35LMBG	10	Acetone	Dichloromethane		Yes	No	No	GPC	MM-ML	ECD		Two columns
246	Chlorpyrifos-methyl	Yes	0.122	Â § 35LMBG	10	Acetone	Dichloromethane		Yes	No	No	GPC	MM-ML	NPD		Two columns
246	Cypermethrin	No	0.106	Â § 35LMBG	10	Acetone	Dichloromethane		Yes	No	No	GPC	MM-ML	ECD		Two columns
246	Difenoconazole	No	0.152	Â § 35LMBG	10	Acetone	Dichloromethane		Yes	No	No	GPC	MM-ML	ECD		Two columns
246	Epoxiconazole	No	0.3	Â § 35LMBG	10	Acetone	Dichloromethane		Yes	No	No	GPC	MM-ML	ECD		Two columns
246	Iprodione	No	0.368	Â § 35LMBG	10	Acetone	Dichloromethane		Yes	No	No	GPC	MM-ML	ECD		Two columns
246	Malathion	Yes	0.168	Â § 35LMBG	10	Acetone	Dichloromethane		Yes	No	No	GPC	MM-ML	NPD		Two columns
246	Pirimicarb	No	0.047	Â § 35LMBG	10	Acetone	Dichloromethane		Yes	No	No	GPC	MM-ML	NPD		Two columns
246	Prochloraz	Yes	0.245	Â § 35LMBG	10	Acetone	Dichloromethane		Yes	No	No	GPC	MM-ML	ECD		Two columns
246	Spiroxamine	No	0.05	Â § 35LMBG	10	Acetone	Dichloromethane		Yes	No	No	GPC	MM-ML	NPD		Two columns
246	Trifloxystrobin	No	0.515	Â § 35LMBG	10	Acetone	Dichloromethane		Yes	No	No	GPC	MM-ML	ECD		Two columns
247	Alpha-cypermethrin	Yes	0.081	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-ML	MSD		GC/MS
247	Azoxystrobin	Yes	0.253	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-ML		MS/MS	GC/MS
247	Bifenthrin	Yes	0.109	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-ML	MS/MS		LC/MS/MS
247 cont.	Carbendazim	Yes	0.527	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-ML		MS/MS	
247	Chlorpyrifos-methyl	Yes	0.136	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-ML	FPD		GC/MS/MS
247	Difenoconazole	Yes	0.176	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-ML		MS/MS	GC/MS
247	Epoxiconazole	Yes	0.174	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-ML		MS/MS	GC/MS
247	Iprodione	Yes	0.326	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-ML	MSD		GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
247	Pirimicarb	Yes	0.038	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-ML		MS/MS	GC/MS
247	Prochloraz	Yes	0.229	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-ML		MS/MS	GC/MS
247	Spiroxamine	Yes	0.075	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-ML		MS/MS	
247	Trifloxystrobin	Yes	0.418	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-ML		MS/MS	GC/MS
247	Chlormequat	Yes	0.235	EN 15055:2006	10	Methanol			Yes	No	No	None	PS-ML		MS/MS	
247	Malathion	Yes	0.098	calculated from 291 and 292	0											
248	Azoxystrobin	Yes	0.063		50	Acetone	Methanol		Yes	No	No	SPE	PS-ML	MSD		
248	Bifenthrin	Yes	0.055		50	Acetone	Methanol		Yes	No	No	SPE	PS-ML	MSD		
248	Chlorpyrifos-methyl	Yes	0.078		50	Acetone	Methanol		Yes	No	No	SPE	PS-ML	MSD		
248	Cypermethrin	Yes	0.191		50	Acetone	Methanol		Yes	No	No	SPE	PS-ML	MSD		
248	Iprodione	Yes	0.33		50	Acetone	Methanol		Yes	No	No	SPE	PS-ML	MSD		
248	Malathion	Yes	0.21		50	Acetone	Methanol		Yes	No	No	SPE	PS-ML	MSD		
248	Prochloraz	No	0.091		50	Acetone	Methanol		Yes	No	No	SPE	PS-ML	MSD		
248	Trifloxystrobin	Yes	0.17		50	Acetone	Methanol		Yes	No	No	SPE	PS-ML	MSD		
248	Carbendazim	Yes	0.26		20	Ethyl acetate			No	No	Yes	liq./liq part	PS-ML		Diode Array Det	
249	Azoxystrobin	No	0.188		25	Acetonitrile			Yes	No	No		PS-ML	MSD		GC/MS
249	Bifenthrin	Yes	0.084		25	Acetonitrile			Yes	No	No		PS-ML	MSD		GC/MS
249	Chlorpyrifos-methyl	Yes	0.150		25	Acetonitrile			Yes	No	No		PS-ML	MSD		GC/MS
249	Difenoconazole	No	0.190		25	Acetonitrile			Yes	No	No		PS-ML	MSD		GC/MS
249 cont.	Iprodione	Yes	0.180		25	Acetonitrile			Yes	No	No		PS-ML	MSD		GC/MS
249	Malathion	Yes	0.180		25	Acetonitrile			Yes	No	No		PS-ML	MSD		GC/MS
249	Pirimicarb	Yes	0.030		25	Acetonitrile			Yes	No	No		PS-ML	MSD		GC/MS
249	Spiroxamine	No	0.084		25	Acetonitrile			Yes	No	No		PS-ML	MSD		GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
249	Trifloxystrobin	No	0.229		25	Acetonitrile			Yes	No	No		PS-ML	MSD		GC/MS
249	Carbendazim	Yes	0.38		10	Acetone	Dichloromethane	Other	No	No	No	SPE	PS-ML		UV	
250	Alpha-cypermethrin	No	0.081	1	15	Dichloromethane							MM-ML	ECD		GC/MS
250	Azoxystrobin	No	0.112	1	15	Dichloromethane							MM-ML	ECD		GC/MS
250	Bifenthrin	No	0.087	1	15	Dichloromethane							MM-ML	ECD		GC/MS
250	Carbendazim	No	0.238	1	15	Dichloromethane							MM-ML	ECD		GC/MS
250	Chlorpyrifos-methyl	No	0.057	1	15	Dichloromethane							MM-ML	ECD		GC/MS
250	Cypermethrin	No	0.099	1	15	Dichloromethane							MM-ML	ECD		GC/MS
250	Difenoconazole	No	0.088	1	15	Dichloromethane							MM-ML	ECD		GC/MS
250	Epoxiconazole	No	0.078	1	15	Dichloromethane							MM-ML	ECD		GC/MS
250	Iprodione	No	0.091	1	15	Dichloromethane							MM-ML	ECD		GC/MS
250	Malathion	No	0.077	1	15	Dichloromethane							MM-ML	ECD		GC/MS
250	Prochloraz	No	0.116	1	15	Dichloromethane							MM-ML	ECD		GC/MS
250	Spiroxamine	No	0.03	1	15	Dichloromethane							MM-ML	ECD		GC/MS
250	Trifloxystrobin	No	0.368	1	15	Dichloromethane							MM-ML	ECD		GC/MS
250	Chlormequat	No	0.069	2	15	Methanol							PS-ML		MS/MS	LC/MS/MS
252	Chlorpyrifos-methyl	No	0.211	QuEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	MSD		GC/MS
252	Malathion	No	0.234	QuEChERS	5	Acetonitrile			Yes	No	No	DSPE	MM-ML	MSD		GC/MS
253	Alpha-cypermethrin	Yes	0.060	Quechers	5	Acetonitrile			Yes		Yes	DSPE	MM-ML	MSD		GC/MS/MS
253	Azoxystrobin	Yes	0.282	Quechers	5	Acetonitrile			Yes		Yes	Freezing out	MM-ML		MS/MS	
253 cont.	Bifenthrin	Yes	0.087	Quechers	5	Acetonitrile			Yes		Yes	DSPE	MM-ML	MSD		GC/MS/MS
253	Chlorpyrifos-methyl	Yes	0.132	Quechers	5	Acetonitrile			Yes		Yes	DSPE	MM-ML	MSD		GC/MS/MS
253	Cypermethrin	Yes	0.087	Quechers	5	Acetonitrile			Yes		Yes	DSPE	MM-ML	MSD		GC/MS/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
253	Epoxiconazole	Yes	0.153	Quechers	5	Acetonitrile			Yes		Yes	DSPE	MM-ML	MSD		GC/MS/MS
253	Iprodione	Yes	0.354	Quechers	5	Acetonitrile			Yes		Yes	DSPE	MM-ML	MSD		GC/MS/MS
253	Malathion	Yes	0.171	Quechers	5	Acetonitrile			Yes		Yes	DSPE	MM-ML	MSD		GC/MS/MS
253	Pirimicarb	Yes	0.033	Quechers	5	Acetonitrile			Yes		Yes	Freezing out	MM-ML		MS/MS	GC/MS/MS
253	Prochloraz	Yes	0.268	Quechers	5	Acetonitrile			Yes		Yes	Freezing out	MM-ML		MS/MS	
253	Spiroxamine	Yes	0.091	Quechers	5	Acetonitrile			Yes		Yes	DSPE	MM-ML	MSD		GC/MS/MS
253	Trifloxystrobin	Yes	0.426	Quechers	5	Acetonitrile			Yes		Yes	Freezing out	MM-ML		MS/MS	
254	Alpha-cypermethrin	Yes	0.084		10	Acetonitrile			No	No	No	GPC	MM-ML	MSD		GC/MS
254	Azoxystrobin	Yes	0.327		5	Acetonitrile			Yes	No	Yes	DSPE	Standard addition		MS/MS	LC/MS/MS
254	Bifenthrin	Yes	0.084		10	Acetonitrile			No	No	No	GPC	MM-ML	MSD		GC/MS
254	Carbendazim	Yes	0.604		5	Acetonitrile			Yes	No	Yes	DSPE	Standard addition		MS/MS	LC/MS/MS
254	Difenoconazole	Yes	0.180		5	Acetonitrile			Yes	No	Yes	DSPE	Standard addition		MS/MS	LC/MS/MS
254	Epoxiconazole	Yes	0.207		5	Acetonitrile			Yes	No	Yes	DSPE	Standard addition		MS/MS	LC/MS/MS
254	Malathion	Yes	0.165		5	Acetonitrile			Yes	No	Yes	DSPE	Standard addition		MS/MS	LC/MS/MS
254	Pirimicarb	Yes	0.049		5	Acetonitrile			Yes	No	Yes	DSPE	Standard addition		MS/MS	LC/MS/MS
254	Prochloraz	Yes	0.251		5	Acetonitrile			Yes	No	Yes	DSPE	Standard addition		MS/MS	LC/MS/MS
254	Spiroxamine	Yes	0.055		5	Acetonitrile			Yes	No	Yes	DSPE	Standard addition		MS/MS	LC/MS/MS
254	Trifloxystrobin	Yes	0.503		5	Acetonitrile			Yes	No	Yes	DSPE	Standard addition		MS/MS	LC/MS/MS
254	Chlorpyrifos-methyl	Yes	0.175		10	Cyclohexane	Ethyl acetate		No	No	No	GPC	MM-ML	MSD		GC/MS
254	Iprodione	No	0.511		10	Cyclohexane	Ethyl acetate		No	No	No	GPC	MM-ML	MSD		GC/MS
255	Alpha-cypermethrin	Yes	0.086		15	Acetonitrile			Yes		pH 4	None	MM-ML	MS/MS		GC/MS/MS
255 cont.	Azoxystrobin	Yes	0.129		15	Acetonitrile			Yes		pH 4	None	MM-ML		MS/MS	LC/MS/MS
255	Bifenthrin	Yes	0.098		15	Acetonitrile			Yes		pH 4	None	MM-ML	MS/MS		GC/MS/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
255	Carbendazim	Yes	0.356		15	Acetonitrile			Yes		pH 4	None	MM-ML		MS/MS	LC/MS/MS
255	Chlorpyrifos-methyl	Yes	0.115		15	Acetonitrile			Yes		pH 4	None	MM-ML	MS/MS		GC/MS/MS
255	Difenoconazole	Yes	0.094		15	Acetonitrile			Yes		pH 4	None	MM-ML		MS/MS	LC/MS/MS
255	Epoxiconazole	Yes	0.157		15	Acetonitrile			Yes		pH 4	None	MM-ML		MS/MS	LC/MS/MS
255	Iprodione	Yes	0.269		15	Acetonitrile			Yes		pH 4	None	MM-ML	MS/MS		GC/MS/MS
255	Malathion	Yes	0.182		15	Acetonitrile			Yes		pH 4	None	MM-ML	MS/MS		GC/MS/MS
255	Pirimicarb	Yes	0.022		15	Acetonitrile			Yes		pH 4	None	MM-ML		MS/MS	LC/MS/MS
255	Prochloraz	Yes	0.151		15	Acetonitrile			Yes		pH 4	None	MM-ML		MS/MS	LC/MS/MS
255	Spiroxamine	Yes	0.043		15	Acetonitrile			Yes		pH 4	None	MM-ML		MS/MS	LC/MS/MS
255	Trifloxystrobin	Yes	0.500		15	Acetonitrile			Yes		pH 4	None	MM-ML		MS/MS	LC/MS/MS
256	Azoxystrobin	Yes	0.25	Anastassiades et al. JAOAC 86 (2003)	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-SL	MSD		None
256	Bifenthrin	Yes	0.075	Anastassiades et al. JAOAC 86 (2003)	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-SL	MSD		None
256	Carbendazim	Yes	0.57	Anastassiades et al. JAOAC 86 (2003)	5	Acetonitrile			Yes	No	pH 5	DSPE	PS-SL		Diode Array Det.	None
256	Chlorpyrifos-methyl	Yes	0.083	Anastassiades et al. JAOAC 86 (2003)	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-SL	MSD		None
256	Difenoconazole	Yes	0.27	Anastassiades et al. JAOAC 86 (2003)	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-SL	MSD		None
256	Malathion	Yes	0.105	Anastassiades et al. JAOAC 86 (2003)	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-SL	MSD		None
256	Pirimicarb	Yes	0.025	Anastassiades et al. JAOAC 86 (2003)	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-SL	MSD		None
256	Prochloraz	Yes	0.21	Anastassiades et al. JAOAC 86 (2003)	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-SL	MSD		None
256	Spiroxamine	Yes	0.14	Anastassiades et al. JAOAC 86 (2003)	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-SL	MSD		None
256	Trifloxystrobin	Yes	0.47	Anastassiades et al. JAOAC 86 (2003)	5	Acetonitrile			Yes	No	pH 5	DSPE	MM-SL	MSD		None
257	Alpha-cypermethrin	No	0.070	Luke	20	Acetone	Dichloromethane		Yes	No	No	Other	MM-SL	ECD		None
257	Azoxystrobin	No	0.125	Luke	20	Acetone	Dichloromethane		Yes	No	No	Other	MM-SL	ECD		None
257 cont.	Bifenthrin	No	0.088	Luke	20	Acetone	Dichloromethane		Yes	No	No	Other	MM-SL	ECD		None

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
257	Chlorpyrifos-methyl	No	0.057	Luke	20	Acetone	Dichloromethane		Yes	No	No	Other	MM-SL	ECD		Two columns
257	Difenoconazole	No	0.105	Luke	20	Acetone	Dichloromethane		Yes	No	No	Other	MM-SL	ECD		Two columns
257	Malathion	No	0.106	Luke	20	Acetone	Dichloromethane		Yes	No	No	Other	MM-SL	ECD		Two columns
257	Prochloraz	No	0.166	Luke	20	Acetone	Dichloromethane		Yes	No	No	Other	MM-SL	ECD		Two columns
257	Trifloxystrobin	No	0.378	Luke	20	Acetone	Dichloromethane		Yes	No	No	Other	MM-SL	ECD		Two columns
258	Alpha-cypermethrin	No	0.070	Luke	20	Acetone	Other		No	Yes	No	Other	MM-ML	ECD		
258	Azoxystrobin	No	0.125	Luke	20	Acetone	Other		No	Yes	No	Other	MM-ML	ECD		
258	Bifenthrin	No	0.073	Luke	20	Acetone	Other		No	Yes	No	Other	MM-ML	ECD		
258	Chlorpyrifos-methyl	No	0.060	Luke	20	Acetone	Other		No	Yes	No	Other	MM-ML	ECD		
258	Trifloxystrobin	No	0.381	Luke	20	Acetone	Other		No	Yes	No	Other	MM-ML	ECD		
259	Bifenthrin	Yes	0.037	No	10	Acetone	Dichloromethane	Other	Yes	No	No	liq./liq part.	PS-ML	ECD		GC/MS
259	Chlorpyrifos-methyl	Yes	0.056	No	50	Acetone	Dichloromethane	Other	Yes	No	No	liq./liq part.	PS-ML	NPD		GC/MS
259	Iprodione	No	0.055	No	10	Acetone	Dichloromethane	Other	Yes	No	No	liq./liq part.	PS-ML	ECD		GC/MS
259	Malathion	Yes	0.062	No	50	Acetone	Dichloromethane	Other	Yes	No	No	liq./liq part.	PS-ML	NPD		GC/MS
260	Alpha-cypermethrin	Yes	0.071	in house	10	Ethyl acetate			Yes			None	MM-ML	ECD		GC/MS
260	Azoxystrobin	Yes	0.207	in house	10	Ethyl acetate			Yes			GPC	MM-ML	ECD	MS/MS	LC/MS/MS
260	Bifenthrin	Yes	0.086	in house	10	Ethyl acetate			Yes			None	MM-ML	ECD		GC/MS
260	Carbendazim	No	0.422	in house	10	Ethyl acetate			Yes			None	MM-ML		MS/MS	LC/MS/MS
260	Chlorpyrifos-methyl	Yes	0.089	in house	10	Ethyl acetate			Yes			GPC	MM-ML	FPD		GC/MS
260	Difenoconazole	Yes	0.141	in house	10	Ethyl acetate			Yes			GPC	MM-ML	ECD		LC/MS/MS
260	Epoxiconazole	Yes	0.117	in house	10	Ethyl acetate			Yes			GPC	MM-ML	ECD		LC/MS/MS
260	Iprodione	Yes	0.281	in house	10	Ethyl acetate			Yes			GPC	MM-ML	ECD		GC/MS
260	Malathion	Yes	0.150	in house	10	Ethyl acetate			Yes			GPC	MM-ML	FPD	MS/MS	GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
260 cont.	Pirimicarb	Yes	0.029	in house	10	Ethyl acetate			Yes			GPC	MM-ML	ITD	MS/MS	GC/MS
260	Prochloraz	Yes	0.177	in house	10	Ethyl acetate			Yes			GPC	MM-ML	ECD		GC/MS
260	Spiroxamine	No	0.052	in house	10	Ethyl acetate			Yes			None	MM-ML		MS/MS	LC/MS/MS
260	Trifloxystrobin	Yes	0.374	in house	10	Ethyl acetate			Yes			GPC	MM-ML	ECD	MS/MS	LC/MS/MS
261	Chlorpyrifos-methyl	No	0.037	EN12393	50	Ethyl acetate						GPC	MM-ML	NPD		Two columns
261	Malathion	No	0.021	EN12393	50	Ethyl acetate						GPC	MM-ML	NPD		Two columns
262	Azoxystrobin	Yes	0.244	QuEChERS	3	Acetonitrile			Yes	No	Yes	None	MM-ML		MS/MS	LC/MS/MS
262	Bifenthrin	Yes	0.066	Ethyl acetate and GPC	6	Ethyl acetate			Yes	No	Yes	GPC	MM-ML	MSD		GC/MS
262	Iprodione	Yes	0.283	Ethyl acetate and GPC	6	Ethyl acetate			Yes	No	Yes	GPC	MM-ML	MSD		GC/MS
262	Carbendazim	Yes	0.640	QuEChERS	3	Acetonitrile			Yes	No	Yes	None	MM-ML		MS/MS	LC/MS/MS
262	Chlorpyrifos-methyl	Yes	0.128	QuEChERS	3	Acetonitrile			Yes	No	Yes	None	MM-ML		MS/MS	LC/MS/MS
262	Cypermethrin	Yes	0.104	QuEChERS	3	Acetonitrile			Yes	No	Yes	None	MM-ML		MS/MS	LC/MS/MS
262	Difenoconazole	Yes	0.175	QuEChERS	3	Acetonitrile			Yes	No	Yes	None	MM-ML		MS/MS	LC/MS/MS
262	Epoxiconazole	Yes	0.175	QuEChERS	3	Acetonitrile			Yes	No	Yes	None	MM-ML		MS/MS	LC/MS/MS
262	Malathion	Yes	0.183	QuEChERS	3	Acetonitrile			Yes	No	Yes	None	MM-ML		MS/MS	LC/MS/MS
262	Pirimicarb	Yes	0.034	QuEChERS	3	Acetonitrile			Yes	No	Yes	None	MM-ML		MS/MS	LC/MS/MS
262	Prochloraz	Yes	0.241	QuEChERS	3	Acetonitrile			Yes	No	Yes	None	MM-ML		MS/MS	LC/MS/MS
262	Spiroxamine	Yes	0.072	QuEChERS	3	Acetonitrile			Yes	No	Yes	None	MM-ML		MS/MS	LC/MS/MS
262	Trifloxystrobin	Yes	0.438	QuEChERS	3	Acetonitrile			Yes	No	Yes	None	MM-ML		MS/MS	LC/MS/MS
262	Chlormequat	Yes	0.192	Direct analysis of methanolic extract, any	5	Methanol			Yes	No	Yes	None	MM-ML		MS/MS	LC/MS/MS
263	Bifenthrin	No	0.077		5	Ethyl acetate			No	No	Yes	GPC	PS-ML	NPD		Two columns
263	Chlorpyrifos-methyl	Yes	0.088		5	Ethyl acetate			No	No	Yes	GPC	PS-ML	NPD		Two columns

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
263	Cypermethrin	No	0.094		5	Ethyl acetate			No	No	Yes	GPC	PS-ML	NPD		Two columns
263 cont.	Iprodione	Yes	0.178		5	Ethyl acetate			No	No	Yes	GPC	PS-ML	NPD		Two columns
263	Malathion	Yes	0.114		5	Ethyl acetate			No	No	Yes	GPC	PS-ML	NPD		Two columns
263	Pirimicarb	No	0.028		5	Ethyl acetate			No	No	Yes	GPC	PS-ML	NPD		Two columns
263	Azoxystrobin	No	0.211		3	Methanol			No	No	No	None	PS-ML		MS/MS	LC/MS/MS
263	Carbendazim	Yes	0.730		3	Methanol			No	No	No	None	PS-ML		MS/MS	LC/MS/MS
263	Prochloraz	No	0.170		3	Methanol			No	No	No	None	PS-ML		MS/MS	LC/MS/MS
263	Spiroxamine	No	0.050		3	Methanol			No	No	No	None	PS-ML		MS/MS	LC/MS/MS
263	Trifloxystrobin	No	0.280		3	Methanol			No	No	No	None	PS-ML		MS/MS	LC/MS/MS
264	Alpha-cypermethrin	Yes	0.067		15	Acetone	Dichloromethane	Other	No			None	MM-ML	ECD		GC/MS
264	Azoxystrobin	Yes	0.219		15	Acetone	Dichloromethane	Other	Yes			None	MM-ML		MS/MS	GC/MS
264	Bifenthrin	Yes	0.104		15	Acetone	Dichloromethane	Other	No			None	MM-ML	ECD		GC/MS
264	Difenoconazole	No	0.147		15	Acetone	Dichloromethane	Other	Yes			None	MM-ML		MS/MS	
264	Epoxiconazole	No	0.179		15	Acetone	Dichloromethane	Other	Yes			None	MM-ML		MS/MS	
264	Iprodione	Yes	0.260		15	Acetone	Dichloromethane	Other	Yes			None	MM-ML	TOF		
264	Malathion	Yes	0.098		15	Acetone	Dichloromethane	Other	No			None	MM-ML	TOF		
264	Prochloraz	No	0.238		15	Acetone	Dichloromethane	Other	Yes			None	MM-ML		MS/MS	
264	Spiroxamine	Yes	0.195		15	Acetone	Dichloromethane	Other	Yes			None	MM-ML	TOF		
264	Trifloxystrobin	No	0.367		15	Acetone	Dichloromethane	Other	Yes			None	MM-ML		MS/MS	
265	Alpha-cypermethrin	Yes	0.085	AMPRF,Min. of Health, The Haque, 1996	2	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-ML	ITD		GC/MS
265	Bifenthrin	Yes	0.108	AMPRF,Min. of Health, The Haque, 1996	2	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-ML	ITD		GC/MS
265	Chlorpyrifos-methyl	Yes	0.130	AMPRF,Min. of Health, The Haque, 1996	2	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-ML	ITD		GC/MS
265	Cypermethrin	Yes	0.148	AMPRF,Min. of Health, The Haque, 1996	2	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-ML	ITD		GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
265	Iprodione	Yes	0.317	AMPRF,Min. of Health, The Hague, 1996	2	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-ML	ITD		GC/MS
265	Azoxystrobin	Yes	0.244	J. Chromatogr. 1154(2007)3-25	2	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-ML		MS/MS	LC/MS/MS
265 cont.	Carbendazim	Yes	0.666	J. Chromatogr. 1154(2007)3-25	2	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-ML		MS/MS	LC/MS/MS
265	Difenoconazole	Yes	0.170	J. Chromatogr. 1154(2007)3-25	2	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-ML		MS/MS	LC/MS/MS
265	Epoxiconazole	Yes	0.153	J. Chromatogr. 1154(2007)3-25	2	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-ML		MS/MS	LC/MS/MS
265	Malathion	Yes	0.029	J. Chromatogr. 1154(2007)3-25	2	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-ML		MS/MS	LC/MS/MS
265	Pirimicarb	Yes	0.039	J. Chromatogr. 1154(2007)3-25	2	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-ML		MS/MS	LC/MS/MS
265	Prochloraz	Yes	0.227	J. Chromatogr. 1154(2007)3-25	2	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-ML		MS/MS	LC/MS/MS
265	Spiroxamine	Yes	0.072	J. Chromatogr. 1154(2007)3-25	2	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-ML		MS/MS	LC/MS/MS
265	Trifloxystrobin	Yes	0.433	J. Chromatogr. 1154(2007)3-25	2	Acetone	Dichloromethane	Other	Yes	No	No	None	MM-ML		MS/MS	LC/MS/MS
265	Chlormequat	Yes	0.095	CEN	25	Methanol			No	No	No	None	MM-ML		MS	LC/MS
266	Azoxystrobin	Yes	0.243		5	Acetone	Dichloromethane	Other	Yes				MM-ML		MS/MS	LC/MS/MS
266	Bifenthrin	No	0.088		5	Acetone	Dichloromethane	Other	No				MM-ML	MSD		
266	Carbendazim	Yes	0.541		5	Acetone	Dichloromethane	Other	Yes				MM-ML		MS/MS	LC/MS/MS
266	Chlorpyrifos-methyl	Yes	0.056		10	Acetone	Dichloromethane						PS-ML	FPD		Two columns
266	Difenoconazole	No	0.142		5	Acetone	Dichloromethane	Other	Yes				MM-ML		MS/MS	LC/MS/MS
266	Epoxiconazole	No	0.167		5	Acetone	Dichloromethane	Other	Yes				MM-ML		MS/MS	LC/MS/MS
266	Malathion	Yes	0.096		10	Acetone	Dichloromethane						PS-ML	FPD		Two columns
266	Pirimicarb	Yes	0.032		5	Acetone	Dichloromethane	Other	Yes				MM-ML		MS/MS	LC/MS/MS
266	Prochloraz	Yes	0.153		5	Acetone	Dichloromethane	Other	Yes				MM-ML		MS/MS	LC/MS/MS
266	Spiroxamine	Yes	0.058		5	Acetone	Dichloromethane	Other	Yes				MM-ML		MS/MS	LC/MS/MS
266	Trifloxystrobin	Yes	0.287		5	Acetone	Dichloromethane	Other	Yes				MM-ML		MS/MS	LC/MS/MS
267	Alpha-cypermethrin	No	0.065	QuEChER	5	Acetonitrile			Yes	No		DSPE	MM-SL	MSD		GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
267	Azoxystrobin	No	0.185	QuEChER	5	Acetonitrile			Yes	No		DSPE	MM-SL	MSD		GC/MS
267	Bifenthrin	No	0.065	QuEChER	5	Acetonitrile			Yes	No		DSPE	MM-SL	MSD		GC/MS
267	Chlorpyrifos-methyl	No	0.110	QuEChER	5	Acetonitrile			Yes	No		DSPE	MM-SL	MSD		GC/MS
267 cont.	Cypermethrin	No	0.110	QuEChER	5	Acetonitrile			Yes	No		DSPE	MM-SL	MSD		GC/MS
267	Difenoconazole	No	0.095	QuEChER	5	Acetonitrile			Yes	No		DSPE	MM-SL	MSD		GC/MS
267	Epoxiconazole	No	0.180	QuEChER	5	Acetonitrile			Yes	No		DSPE	MM-SL	MSD		GC/MS
267	Iprodione	No	0.105	QuEChER	5	Acetonitrile			Yes	No		DSPE	MM-SL	MSD		GC/MS
267	Malathion	No	0.145	QuEChER	5	Acetonitrile			Yes	No		DSPE	MM-SL	MSD		GC/MS
267	Pirimicarb	No	0.034	QuEChER	5	Acetonitrile			Yes	No		DSPE	MM-SL	MSD		GC/MS
267	Prochloraz	No	0.205	QuEChER	5	Acetonitrile			Yes	No		DSPE	MM-SL	MSD		GC/MS
267	Spiroxamine	No	0.083	QuEChER	5	Acetonitrile			Yes	No		DSPE	MM-SL	MSD		GC/MS
267	Trifloxystrobin	No	0.421	QuEChER	5	Acetonitrile			Yes	No		DSPE	MM-SL	MSD		GC/MS
268	Bifenthrin	No	0.067	internal method	50	Ethyl acetate						GPC	PS-ML	MSD		GC/MS
268	Chlorpyrifos-methyl	Yes	0.066	internal method	50	Ethyl acetate						GPC	PS-ML	MSD		GC/MS
268	Cypermethrin	No	0.074	internal method	50	Ethyl acetate						GPC	PS-ML	MSD		GC/MS
268	Malathion	No	0.104	internal method	50	Ethyl acetate						GPC	PS-ML	MSD		GC/MS
269	Alpha-cypermethrin	Yes	0.065	DFG-S19	20	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-SL	MSD		Other
269	Azoxystrobin	Yes	0.200	DFG-S19	20	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-SL	MSD		Other
269	Bifenthrin	Yes	0.076	DFG-S19	20	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-SL	MSD		Other
269	Chlorpyrifos-methyl	Yes	0.204	DFG-S19	20	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-SL	MSD		Other
269	Cypermethrin	Yes	0.117	DFG-S19	20	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-SL	MSD		Other
269	Difenoconazole	Yes	0.165	DFG-S19	20	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-SL	MSD		Other
269	Epoxiconazole	Yes	0.207	DFG-S19	20	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-SL	MSD		Other

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
269	Iprodione	Yes	0.184	DFG-S19	20	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-SL	MSD		Other
269	Malathion	Yes	0.178	DFG-S19	20	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-SL	MSD		Other
269	Pirimicarb	Yes	0.039	DFG-S19	20	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-SL	MSD		Other
269	Spiroxamine	Yes	0.123	DFG-S19	20	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-SL	MSD		Other
269 cont.	Trifloxystrobin	Yes	0.443	DFG-S19	20	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-SL	MSD		Other
269	Carbendazim	Yes	0.893	Quechers	2	Acetonitrile			Yes	No	pH 5	DSPE	MM-SL		MS/MS	LC/MS/MS
269	Prochloraz	Yes	0.283	Quechers	2	Acetonitrile			Yes	No	pH 5	DSPE	MM-SL		MS/MS	LC/MS/MS
269	Chlormequat	Yes	0.217	Â§6400.00-76	10	Methanol			Yes		No	None	Standard addition		MS/MS	LC/MS/MS
270	Azoxystrobin	Yes	0.342	DFG S19	12	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-ML	MSD		GC/MS
270	Bifenthrin	Yes	0.080	DFG S19	12	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-ML	MSD		GC/MS
270	Chlorpyrifos-methyl	Yes	0.158	DFG S19	12	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-ML	MSD		GC/MS
270	Cypermethrin	No	0.514	DFG S19	12	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-ML	MSD		GC/MS
270	Iprodione	Yes	0.481	DFG S19	12	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-ML	MSD		GC/MS
270	Malathion	Yes	0.189	DFG S19	12	Acetone	Cyclohexane	Ethyl acetate	Yes	No	No	GPC	MM-ML	MSD		GC/MS
271	Azoxystrobin	No	0.15	Alder et al.: JAOAC (2003) 86:1015-1037	10	Methanol	Dichloromethane		Yes	No	No	GPC	MM-SL	MSD	MS/MS	
271	Chlorpyrifos-methyl	No	0.052	Alder et al.: JAOAC (2003) 86:1015-1037	10	Methanol	Dichloromethane		Yes	No	No	GPC	MM-SL	MSD	MS/MS	
271	Difenoconazole	No	0.083	Alder et al.: JAOAC (2003) 86:1015-1037	10	Methanol	Dichloromethane		Yes	No	No	GPC	MM-SL	MSD	MS/MS	
271	Epoxiconazole	No	0.10	Alder et al.: JAOAC (2003) 86:1015-1037	10	Methanol	Dichloromethane		Yes	No	No	GPC	MM-SL	MSD	MS/MS	
271	Iprodione	No	0.047	Alder et al.: JAOAC (2003) 86:1015-1037	10	Methanol	Dichloromethane		Yes	No	No	GPC	MM-SL	MSD	MS/MS	
271	Malathion	No	0.12	Alder et al.: JAOAC (2003) 86:1015-1037	10	Methanol	Dichloromethane		Yes	No	No	GPC	MM-SL	MSD	MS/MS	
271	Pirimicarb	No	0.026	Alder et al.: JAOAC (2003) 86:1015-1037	10	Methanol	Dichloromethane		Yes	No	No	GPC	MM-SL	MSD	MS/MS	
271	Prochloraz	No	0.16	Alder et al.: JAOAC (2003) 86:1015-1037	10	Methanol	Dichloromethane		Yes	No	No	GPC	MM-SL	MSD	MS/MS	

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
271	Spiroxamine	No	0.029	Alder et al.: JAOAC (2003) 86:1015-1037	10	Methanol	Dichloromethane		Yes	No	No	GPC	MM-SL	MSD	MS/MS	
271	Trifloxystrobin	No	0.21	Alder et al.: JAOAC (2003) 86:1015-1037	10	Methanol	Dichloromethane		Yes	No	No	GPC	MM-SL	MSD	MS/MS	
271	Glyphosate	No	1.5		10	Other			Yes	Yes	Yes	Other	MM-SL		Fluorescence	None
272	Azoxystrobin	No	0.156	Rapp.ISTISAN 97/23	10	Dichloromethane			Yes			GPC	MM-ML	MSD		GC/MS
272	Bifenthrin	No	0.073	Rapp.ISTISAN 97/23	10	Dichloromethane			Yes			GPC	MM-ML	MSD		GC/MS
272 cont.	Chlorpyrifos-methyl	Yes	0.064	Rapp.ISTISAN 97/23	10	Dichloromethane			Yes			GPC	MM-ML	MSD		GC/MS
272	Cypermethrin	Yes	0.090	Rapp.ISTISAN 97/23	10	Dichloromethane			Yes			GPC	MM-ML	MSD		GC/MS
272	Iprodione	Yes	0.129	Rapp.ISTISAN 97/23	10	Dichloromethane			Yes			GPC	MM-ML	MSD		GC/MS
272	Malathion	Yes	0.095	Rapp.ISTISAN 97/23	10	Dichloromethane			Yes			GPC	MM-ML	MSD		GC/MS
272	Pirimicarb	Yes	0.025	Rapp.ISTISAN 97/23	10	Dichloromethane			Yes			GPC	MM-ML	MSD		GC/MS
272	Prochloraz	No	0.148	Rapp.ISTISAN 97/23	10	Dichloromethane			Yes			GPC	MM-ML	MSD		GC/MS
272	Spiroxamine	No	0.107	Rapp.ISTISAN 97/23	10	Dichloromethane			Yes			GPC	MM-ML	MSD		GC/MS
272	Trifloxystrobin	No	0.316	Rapp.ISTISAN 97/23	10	Dichloromethane			Yes			GPC	MM-ML	MSD		GC/MS
273	Azoxystrobin	No	0.085	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	PS-ML	MSD		GC/MS
273	Bifenthrin	No	0.034	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	PS-ML	MSD		GC/MS
273	Chlorpyrifos-methyl	No	0.108	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	PS-ML	MSD		GC/MS
273	Cypermethrin	No	0.040	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	PS-ML	MSD		GC/MS
273	Difenoconazole	No	0.193	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	PS-ML	MSD		GC/MS
273	Epoxiconazole	No	0.224	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	PS-ML	MSD		GC/MS
273	Iprodione	No	0.146	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	PS-ML	MSD		GC/MS
273	Malathion	No	0.049	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	PS-ML	MSD		GC/MS
273	Pirimicarb	No	0.030	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	PS-ML	MSD		GC/MS
273	Prochloraz	No	0.177	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	PS-ML	MSD		GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
273	Spiroxamine	No	0.096	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	PS-ML	MSD		GC/MS
273	Trifloxystrobin	No	0.417	QuEChERS	5	Acetonitrile			Yes	No	pH 5	DSPE	PS-ML	MSD		GC/MS
274	Alpha-cypermethrin	Yes	0.096		5	Ethyl acetate			Yes		Yes		MM-SL	MSD		Other
274	Azoxystrobin	Yes	0.219		5	Ethyl acetate			Yes		Yes		MM-SL	MSD		LC/MS/MS
274	Bifenthrin	Yes	0.094		5	Ethyl acetate			Yes		Yes		MM-SL	MSD		Other
274	Chlorpyrifos-methyl	Yes	0.126		5	Ethyl acetate			Yes		Yes		MM-SL	MSD		Other
274 cont.	Cypermethrin	Yes	0.124		5	Ethyl acetate			Yes		Yes		MM-SL	MSD		Other
274	Epoxiconazole	Yes	0.151		5	Ethyl acetate			Yes		Yes		MM-SL	MSD		LC/MS/MS
274	Iprodione	Yes	0.289		5	Ethyl acetate			Yes		Yes		MM-SL	MSD		Other
274	Malathion	Yes	0.177		5	Ethyl acetate			Yes		Yes		MM-SL	MSD		Other
274	Pirimicarb	Yes	0.034		5	Ethyl acetate			Yes		Yes		MM-SL	MSD		LC/MS/MS
274	Prochloraz	Yes	0.271		5	Ethyl acetate			Yes		Yes		MM-SL	MSD		LC/MS/MS
274	Spiroxamine	Yes	0.084		5	Ethyl acetate			Yes		Yes		MM-SL	MSD		LC/MS/MS
274	Trifloxystrobin	Yes	0.455		5	Ethyl acetate			Yes		Yes		MM-SL	MSD		LC/MS/MS
274	Carbendazim	Yes	0.672		10	Methanol							MM-ML		MS/MS	LC/MS/MS
274	Chlormequat	Yes	0.216		10	Methanol			Yes				MM-ML		MS/MS	LC/MS/MS
275	Azoxystrobin	No	0.154		5	Acetone			No	No	No	None	MM-ML	ECD		GC/MS
275	Bifenthrin	No	0.086		5	Acetone			No	No	No	None	MM-ML	ECD		GC/MS
275	Chlorpyrifos-methyl	No	0.051		5	Acetone			No	No	No	None	MM-ML	FPD		GC/MS
275	Iprodione	No	0.100		5	Acetone			No	No	No	None	MM-ML	ECD		GC/MS
275	Malathion	No	0.109		5	Acetone			No	No	No	None	MM-ML	FPD		GC/MS
275	Prochloraz	No	0.152		5	Acetone			No	No	No	None	MM-ML	ECD		GC/MS
275	Trifloxystrobin	No	0.383		5	Acetone			No	No	No	None	MM-ML	ECD		GC/MS

Participants	Pesticide	Accredited	Reporting level	Reference method	Sample weight	Extraction solvent 1	Extraction solvent 2	Extraction solvent 3	Water addition	Hydrolysis	pH adjusted	Clean up	Calibration	GC detector	HPLC detector	Confirmation
275	Carbendazim	No	0.378		5	Ethyl acetate			Yes		pH 7		MM-ML		MS/MS	LC/MS/MS
275	Spiroxamine	No	0.239		5	Ethyl acetate			Yes		pH 7		MM-ML		MS/MS	LC/MS/MS
276	Azoxystrobin	Yes	0.121	PN-EN 12393-1,2,3:2000	25	Acetone	Dichloromethane	Ethyl acetate	No			GPC	MM-ML	ECD		GC/MS
276	Bifenthrin	Yes	0.062	PN-EN 12393-1.2.3:2000	25	Acetone	Dichloromethane	Ethyl acetate	No			GPC	MM-ML	ECD		GC/MS
276	Chlorpyrifos-methyl	Yes	0.051	PN-EN 12393-1.2.3:2000	25	Acetone	Dichloromethane	Ethyl acetate	No			GPC	MM-ML	ECD		GC/MS
276	Iprodione	Yes	0.096	PN-EN 12393-1.2.3:2000	25	Acetone	Dichloromethane	Ethyl acetate	No			GPC	MM-ML	ECD		GC/MS
276	Malathion	Yes	0.102	PN-EN 12393-1.2.3:2000	25	Acetone	Dichloromethane	Ethyl acetate	No			GPC	MM-ML	ECD		GC/MS
276 cont.	Carbendazim	Yes	0.23	wa-wa 2002	25	Acetone	Ethyl acetate	Methanol	Yes		pH 7	None	PS-ML		UV	Other
277	Azoxystrobin	No	0.234		3	Acetonitrile			Yes	No	Yes	liq./liq part.	MM-SL		MS/MS	GC/MS
277	Spiroxamine	No	0.054		3	Acetonitrile			Yes	No	Yes	liq./liq part.	MM-SL		MS/MS	GC/MS
277	Bifenthrin	No	0.094		3	Ethyl acetate			Yes	No	No	GPC	MM-SL	TOF		GC/MS/MS
277	Carbendazim	No	0.709		3	Ethyl acetate			Yes	No	No	GPC	MM-SL		MS/MS	
277	Chlorpyrifos-methyl	No	0.141		3	Ethyl acetate			Yes	No	No	GPC	MM-SL	TOF		GC/MS/MS
277	Cypermethrin	No	0.076		3	Ethyl acetate			Yes	No	No	GPC	MM-SL	TOF		GC/MS/MS
277	Difenoconazole	No	0.171		3	Ethyl acetate			Yes	No	No	GPC	MM-SL		MS/MS	
277	Epoxiconazole	No	0.187		3	Ethyl acetate			Yes	No	No	GPC	MM-SL		MS/MS	
277	Iprodione	No	0.355		3	Ethyl acetate			Yes	No	No	GPC	MM-SL		MS/MS	
277	Pirimicarb	No	0.039		3	Ethyl acetate			Yes	No	No	GPC	MM-SL		MS/MS	
277	Prochloraz	No	0.267		3	Ethyl acetate			Yes	No	No	GPC	MM-SL		MS/MS	
277	Trifloxystrobin	No	0.432		3	Ethyl acetate			Yes	No	No	GPC	MM-SL		MS/MS	

Appendix 5 Pesticide list

Pesticides	MRRL (mg/kg)
*Alpha-cypermethrin	0.02
*Azoxystrobin	0.02
*Bifenthrin	0.02
Carbaryl	0.02
*Carbendazim	0.02
Chlormequat (expressed as cation)	0.05
Chlorothanlonil	0.05
*Chlorpyrifos	0.02
*Chlorpyrifos-methyl	0.02
*Cypermethrin	0.02
*Cyproconazole	0.05
*Deltamethrin	0.02
Diazinon	0.02
*Difenoconazole	0.05
*Endosulfan (α + ß + Sulphate expressed as Endosulfan)	0.02
- Endosulfan α	0.02
- Endosulfan β	0.02
- Endosulfan sulphate	0.02
*Epoxiconazole	0.05
Fenhexamid	0.05
*Fenpropimorph	0.02
Fluquinconazole	0.05
Glyphosate	0.05
*Imazalil	0.02
*Iprodione	0.02
*Kresoxim-methyl	0.02
*Lambda-cyhalothrin	0.02
*Lindane (gamma-HCH)	0.01
*Malathion (Malathion + Malaoxon,expressed as Malathion)	0.05
Malathion	0.05
Malaoxon	0.05
Mepiquat (expressed as cation)	0.05
Metconazole	0.05
*Methacrifos	0.02
*Methomyl (Methomyl + Thiodicarb,expressed as Methomyl)	0.05
Methomyl	0.05

Thiodicarb	0.05
*Parathion (only parent compound)	0.05
*Penconazole	0.05
*Permethrin	0.05
*Pirimicarb	0.02
*Pirimiphos-methyl	0.02
*Prochloraz (only parent compound)	0.05
*Procymidone	0.02
*Propiconazole	0.05
Spiroxamine	0.05
*Tebuconazole	0.05
*Thiabendazole	0.02
*Thiophanate-methyl	0.02
Triadimefon (Triadimefon + Triadimenol express. as Triadimefon)	0.05
Triadimefon	0.05
Triadimenol	0.05
Triazophos	0.02
*Trifloxystrobin	0.05
Vinclozolin (only parent compound)	0.05

Appendix 6 List of laboratories registered to participate in the PTC2

COUNTRY	LABORATORY NAME	REPORTED RESULTS
Austria	Lebensmittelversuchsanstalt	Yes
Austria	AGES Competence Centre for Residue Analysis[1]	Yes
Austria	Institut Dr. Wagner	Yes
Austria	AGES CC PSMR Innsbruck	Yes
Belgium	Scientific Institute of Public Health[1]	Yes
Belgium	EUROFINS ERC	Yes
Belgium	Fytolab	Yes
Bulgaria	Plant Protection Institute, National Service for Plant Protection[1]	Yes
Cyprus	State General Laboratory[1]	Yes
Cyprus	Department of Agriculture	No
Czech Republic	Czech Agriculture and Food Inspection Authority[1]	Yes
Czech Republic	Institute of Chemical Technology	Yes
Czech Republic	CISTA/NRL-RD Brno[1]	Yes
Denmark	Plantedirektoratet[1]	Yes
Denmark	Danish Vet. and Food Adm., Region East	Yes
Estonia	Agricultural Research Centre[1]	Yes
Finland	Finnish Customs Laboratory[1]	Yes
France	SCL - Laboratoire d'Ile de France - MASSY[1]	Yes
France	Laboratoire de SCL de Montpellier	Yes
Germany	Landeslabor Schleswig-Holstein	Yes

COUNTRY	LABORATORY NAME	REPORTED RESULTS
Germany	LUFA - ITL GmbH	Yes
Germany	Sächsische Landesanstalt für Landwirtschaft	Yes
Germany	Bayerisches Landesamt für Gesundheit und Lebensmittel-sicherheit	Yes
Germany	Landesanstalt für Landwirtschaft, Forsten und Gartenbau	Yes
Germany	Niedersächsisches Landesamt für Verbraucherschutz und Lebensmittelsicherheit	Yes
Germany	Federal Office of Consumer Protection and Food Safety (BVL) [1]	Yes
Germany	Landesamt für Verbraucherschutz, Sachsen-Anhalt	Yes
Germany	Thüringer Landesanstalt für Landwirtschaft	Yes
Greece	General Chemical State Laboratory[1]	Yes
Greece	Rural Centre for Crop Protection and Quality Control	Yes
Greece	Benaki Phytopathological Institute[1]	Yes
Hungary	Agricultural Office of County Fejér, Plant Protection and Soil Conservation Directorate[1]	Yes
Hungary	Agricultural Office of Somogy County, Plant Protection and Soil Conservation Directorate	Yes
Ireland	Department of Agriculture, Fisheries and Food[1]	Yes
Italy	Arpa FVG - Dipartimento di Pordenone	Yes
Italy	Arpa Marche	Yes
Italy	Arpa Regione Emilia-Romagna	Yes
Italy	Arpa Puglia - Dipartimento di Bari	Yes
Italy	Arpat - Dipartimento Provinciale di Livorno	Yes
Italy	IZS PLV Torino[1]	Yes
Italy	AUSL N.7 Ragusa Arpa Sicilia Dap Ragusa	Yes

COUNTRY	LABORATORY NAME	REPORTED RESULTS
Italy	Arpa Polo Regionale Alimenti	Yes
Italy	Arpa Trento Settore Laboratorio e Controlli	Yes
Italy	Arpa Sardegna Dipartimento Cagliari	Yes
Latvia	National Diagnostic Centre[1]	Yes
Lithuania	National Veterinary Laboratory[1]	Yes
Luxembourg	Laboratoire National de Santé[1]	Yes
Norway	Bioforsk Laboratory	Yes
Poland	Wojewodzka Stacja Sanitarno-Epidemiologiczna	Yes
Poland	Wojewódzka Stacja Sanitarno-Epidemiologiczna w Rzeszowie	Yes
Poland	Instytut Ochrony Roslin	Yes
Poland	Institute of Plant Protection, Experimental Station	Yes
Poland	Research Institute of Pomology & Floriculture	Yes
Poland	Plant of Protection Institute[1]	Yes
Poland	The Institute of Plant Protection[1]	Yes
Portugal	Direcção Regional de Agricultura e Pescas do Norte	Yes
Portugal	Instituto Nacional de Recursos Biológicos	Yes
Portugal	Direcção Regional de Agricultura e Desenvolvimento Rural[1]	Yes
Romania	Central Laboratory for Pesticides Residues Control in Plants and Vegetables[1]	Yes
Romania	Institute for Hygiene and Veterinary Public Health[1]	Yes
Slovakia	State Veterinary and Food Institute[1]	Yes
Slovenia	Institute of Public Health of the Republic of Slovenia[1]	Yes

COUNTRY	LABORATORY NAME	REPORTED RESULTS
Slovenia	Agricultural Institute of Slovenia[1]	Yes
Slovenia	Public Health Institute Maribor	Yes
Spain	Centro Nacional de Alimentacion-Aesan[1]	Yes
Spain	Laboratorio Arbitral Agroalimentario[1]	Yes
Spain	Junta de Castilla y León, Laboratorio Agrario Regional	Yes
Spain	Diputación Foral de Gipuzkoa, Laboratorio Agrario	Yes
Sweden	National Food Administration[1]	Yes
Sweden	Eurofins Sweden AB	Yes
The Netherlands	Rikilt Institute of Food Safety[1]	Yes
The Netherlands	VWA - Food and Consumer Product Safety Authority[1]	Yes
UK	Eurofins Laboratories Ltd.	No
UK	Central Science Laboratory[1]	Yes

[1] NRL

Appendix 7 List of abreviations

The following abreviations has been used in the report and in the appendices.

Abreviation	Describsion
DAD	Diode Array Detector
DSPE	Dispersive Solid Phase Extraction
ECD	Electron Capture Detector
Fluor.	Flouresence Detector
FPD	Flame Photometric Detector
GC/MS	Gas Chromatograph / Mass spectrometer
GC/MS/MS	Gas Chromatograph / Mass spectrometer / Mass spectrometer
GPC	Gel Permeation Chromatography
ITD	Ion Trap Detector
LC	Liquid Chromatography
LC/MS	Liquid Chromatography / Mass spectrometer
LC/MS/MS	Liquid Chromatography / Mass spectrometer / Mass spectrometer
liq./liq part.	Liquid / Liquid Partitioning
MM-ML	Matrix Matched Multi Level Calibration
MM-SL	Matrix Matched Single Level Calibration
MRPL	Minimum Required Performance Level
MS/MS	Mass spectrometer / Mass spectrometer
MSD	Mass Selective Detector
NPD	Nitrogen Phosphoros Detector
PS-ML	Pure solvent Multi Level Calibration
PS-SL	Pure Solvent Single Level Calibration
SPE	Solid Phase Extraction
LOD	Limit of determination
SW	Sample weight

Commission Reference Laboratory on
Cereals & Feedingstuff

Final report
October 2008

National Food Institute
Technical University of Denmark