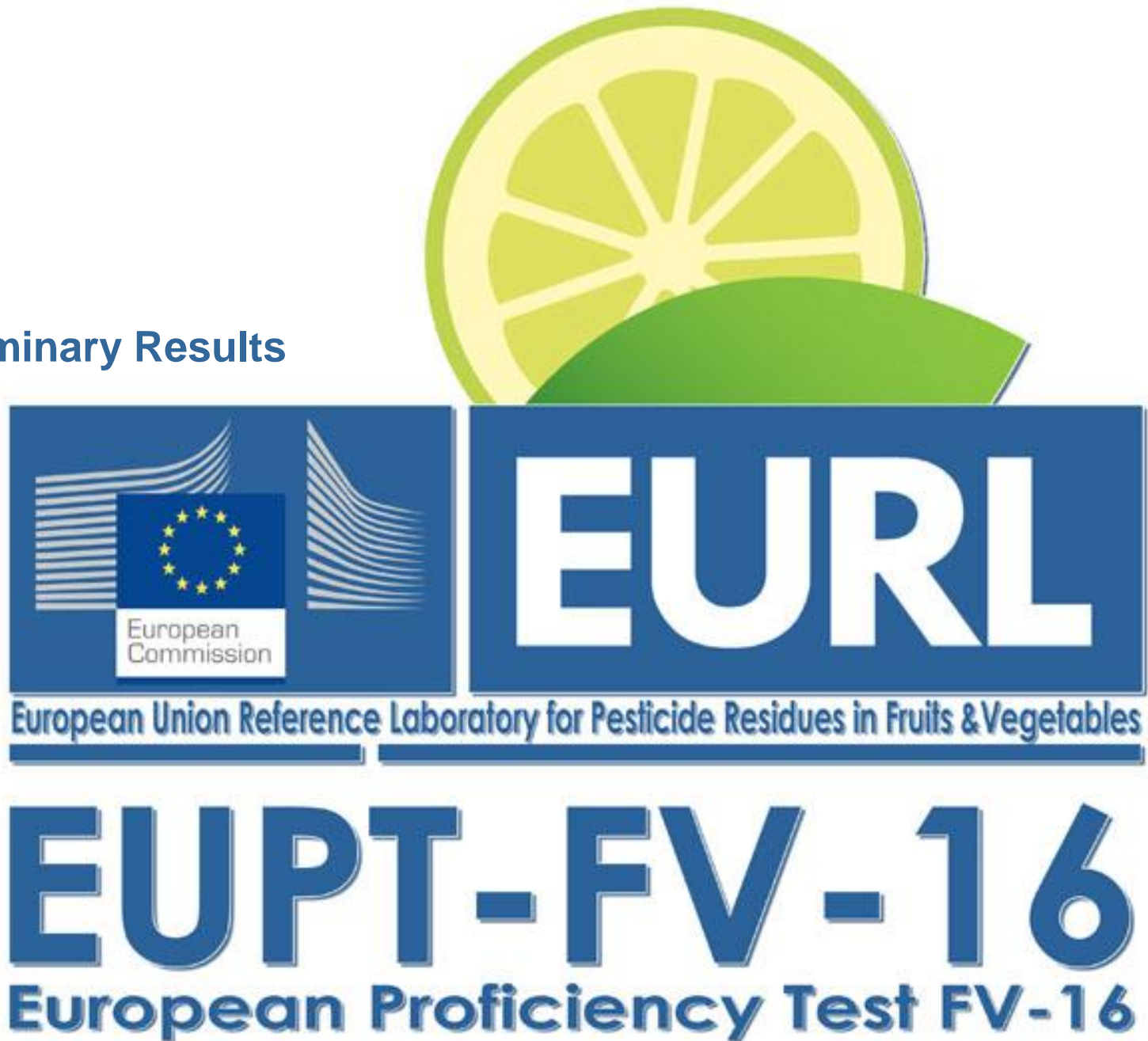


Preliminary Results



DG SANCO

Mrs. Almut Bitterhof

Mrs. Veerle Vanheusden

ORGANISING GROUP

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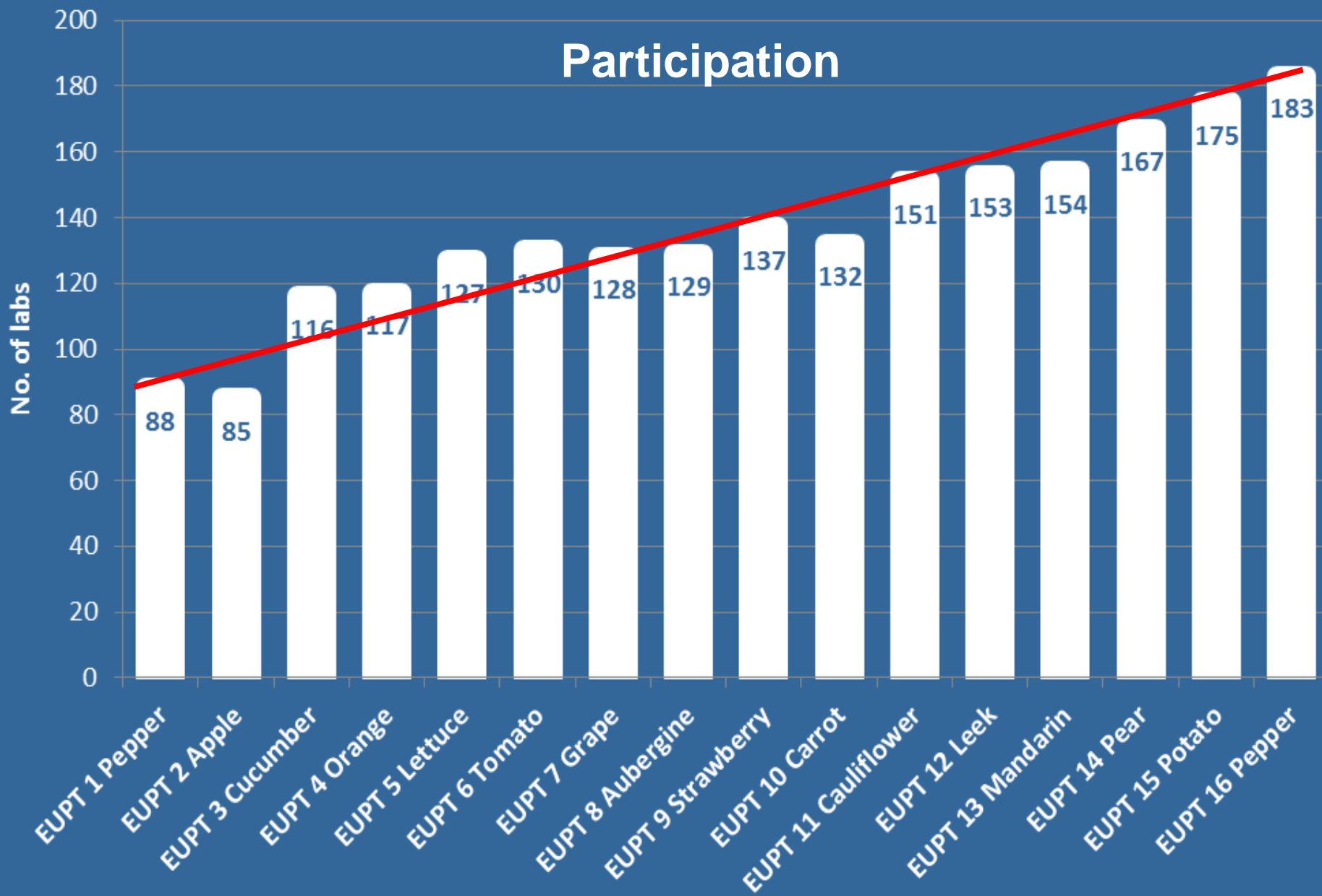
Dr. Sonja Masselter

Dr. Tuija Pihlström

Dr. Mette Erecius Poulsen

Dr. Darinka Stajnbaher

30th April 2014



30th April 2014

| Country | No. of Labs | Country | No. of Labs | Country | No. of Labs |
|----------------|-------------|--------------|-------------|--|-------------|
| Austria | 2 | Hungary | 4 | Serbia | 1 |
| Belgium | 3 | Iceland | 1 | Singapore | 1 |
| Brazil | 2 | Ireland | 1 | Slovakia | 2 |
| Bulgaria | 2 | Israel | 1 | Slovenia | 3 |
| China | 2 | Italy | 23 | Spain | 32 |
| Croatia | 7 | Kenya | 1 | Sweden | 2 |
| Cyprus | 1 | Latvia | 1 | Switzerland | 3 |
| Czech Republic | 3 | Lithuania | 1 | Thailand | 1 |
| Denmark | 2 | Luxembourg | 1 | The Netherlands | 4 |
| Egypt | 1 | Norway | 1 | Turkey | 1 |
| Estonia | 2 | Peru | 1 | United Kingdom | 4 |
| Finland | 2 | Poland | 10 | Uruguay | 1 |
| France | 8 | Portugal | 2 | Total No. of Labs = 183 Total No. of Non-EU countries Labs = 14 Total No. of Countries = 43 EU countries, EFTA countries, 3 rd countries | |
| Germany | 28 | Romania | 4 | | |
| Greece | 10 | Saudi Arabia | 1 | | |

Participation

Total No. of Labs = 183

EU/EFTA Labs = 169

Other countries Labs = 14

Total No. of Countries = 43

EU/EFTA countries = 31

Other countries = 12

(28 EU + 3 EFTA + 3 Candidate countries + 9 other countries)

30th April 2014

175 pesticides

| | | | |
|-------------------------|-------------------------|---------------------------|-------------------|
| Clofentezine | Fenarimol | Lambda-Cyhalothrin | Phosmet oxon |
| 3-hydroxy-carbofuran | Fenazaquin | Linuron | Phoxim |
| Acephate | Fenbuconazole | Lufenuron | Pirimicarb |
| Acetamiprid | Fenhexamid | Malaoxon | Pirimiphos-methyl |
| Acrinathrin | Fenitrothion | Malathion | Prochloraz |
| Aldicarb | Fenoxycarb | Mepanipyrim | Procymidone |
| Aldicarb Sulfone | Fenpropathrin | Metaflumizone* | Profenofos |
| Aldicarb Sulfoxide | Fenpropimorph | Metalaxyl and metalaxyl-M | Propargite |
| Amitraz | Fenthion | Metconazole | Propiconazole |
| Azinphos-methyl | Fenthion oxon | Methamidophos | Propyzamide |
| Azoxystrobin | Fenthion oxon sulfone | Methidathion | Prothioconazole |
| Benfuracarb | Fenthion oxon sulfoxide | Methiocarb | Prothiofos |
| Bifenthrin | Fenthion sulfone | Methiocarb sulfone | Pyraclostrobin |
| Bitertanol | Fenthion sulfoxide | Methiocarb sulfoxide | Pyridaben |
| Boscalid | Fipronil | Methomyl | Pyrimethanil |
| Bromopropylate | Fludioxonil | Methoxyfenozide | Pyriproxyfen |
| Bromuconazole | Flufenoxuron | Monocrotophos | Quinoxifen |
| Bupirimate | Fluopicolide* | Myclobutanil | Spinosad |
| Buprofezin | Fluquinconazole | Omethoate | Spirodiclofen |
| Cadusafos* | Flusilazole | Orthophenylphenol | Spiroxamine |
| Captan | Flutolanil* | Oxadixyl | Tau-Fluvalinate |
| Carbaryl | Flutriafol | Oxamyl | Tebuconazole |
| Carbendazim | Folpet | Oxydemeton-methyl | Tebufenozide |
| Carbofuran | Fosthiazate | Paclobutrazole | Tebufenpyrad |
| Carbosulfan | Hexaconazole | Paraoxon-methyl | Teflubenzuron |
| Chlorfenapyr | Hexythiazox | Parathion-ethyl | Tefluthrin |
| Chlorfenvinphos | Imazalil | Parathion-methyl | Tetraconazole |
| Chlorobenzilate* | Imidacloprid | Penconazole | Tetradifon |
| Chlorothalonil | Indoxacarb | Pencycuron | Thiabendazole |
| Chlorpropham | Iprodione | Pendimethalin | Thiacloprid |
| Chlorpyrifos | Iprovalicarb | Phenthoate | Thiamethoxam |
| Chlorpyrifos-methyl | Isofenphos-methyl | Phosalone | Thiodicarb |
| | Kresoxim-methyl | Phosmet | |

***Not in the coordinated
multiannual control programme**

Pesticides used for the treatment

| | |
|------------------|--------------------|
| Acetamiprid | Endosulfan beta |
| Acrinathrin | Fenamiphos |
| Buprofezin | Fenhexamid |
| Captan | Fludioxonil |
| Chlorothalonil | Lambda-Cyhalothrin |
| Chlorpyrifos | Methoxyfenozide |
| Cypermethrin | Pirimicarb |
| Cyprodinil | Pyridaben |
| Diazinon | Spinosad |
| Difenoconazole | Tetraconazole |
| Endosulfan alpha | Total: 21 |

ALL INCLUDED IN MACP

COMMISSION IMPLEMENTING REGULATION (EU)
 No 788/2012 of 31 August 2012
 concerning a coordinated multiannual control
 programme of the Union for 2013, 2014 and 2015 to
 ensure compliance with maximum residue levels of
 pesticides and to assess the consumer exposure
 to pesticide residues in and on food of plant and
 animal origin .

CALENDAR

| ACTIVITY | DATE |
|--|---|
| - Publishing the Target Pesticide List, Calendar and Matrix on the Web page. | 15 th November 2013 |
| - Receiving Application Form from invited laboratories. | 23 rd Dec 2013 – 31 st Jan 2014 |
| - Specific Protocol published on the Web site. | 3 rd Feb 2014 at the latest |
| - Deadline for receiving Laboratory scope: Form 0 | 3 rd -14 th February 2014 |
| - Sample distribution. | 24 th February 2014 |
| - Deadline for receiving sample acceptance: Form 1 | 28 th February 2014 |
| - Deadline for receiving results: Forms 2, 3 and 4 | 17 th March 2014 |
| - Filling in Form 5 | 24 th -28 th March 2014 |
| - Preliminary Report: only results, no statistical treatment. | End of April 2014 |
| - Final Report distributed to the Laboratories. | November 2014 |

EUPT-FV-16

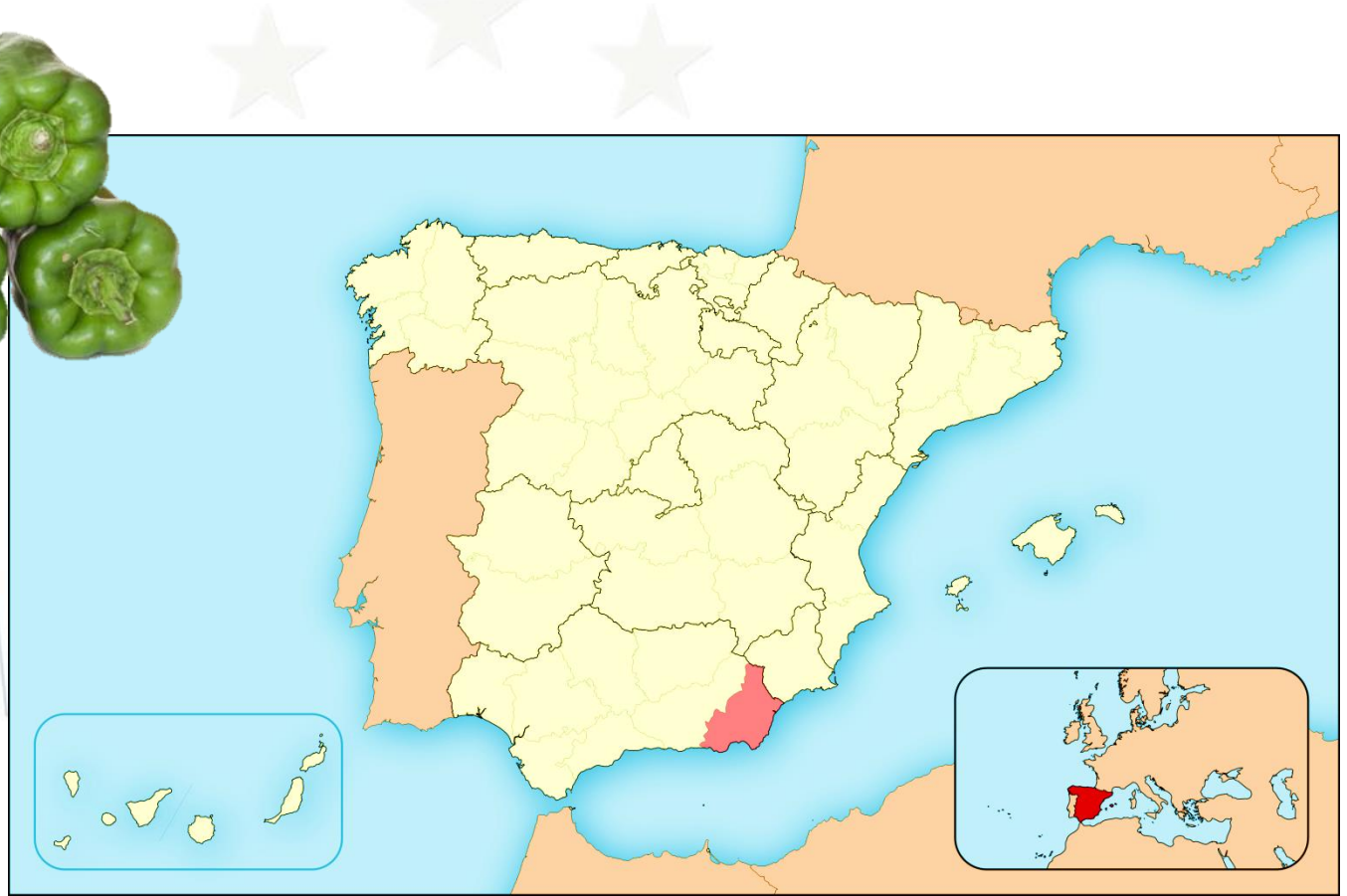
European Proficiency Test FV-16



Pepper



Organic peppers were grown in the EURL-FV greenhouse in Almería, Spain.





Before harvest, the peppers were treated with commercial formulations



| Pesticide | Type | Commercial Product |
|--------------------------|------------------------|----------------------|
| Acetamiprid | Commercial Formulation | Epik 20SG (20%) |
| Acrinathrin | Commercial Formulation | Jokari (7.5%) |
| Buprofezin | Commercial Formulation | Geiser (25%) |
| Captan | Commercial Formulation | Merpan 50 (50%) |
| Chlorothalonil | Commercial Formulation | Daconil 50 SC (50%) |
| Chlorpyrifos | Commercial Formulation | Clorifos 48 EC (48%) |
| Cypermethrin | Commercial Formulation | Citron (10%) |
| Cyprodinil + Fludioxonil | Commercial Formulation | Switch (37.5%+25%) |
| Diazinon | Commercial Formulation | Fegazinogole (60%) |
| Difenoconazole | Commercial Formulation | Core (25%) |
| Endosulfan a y β | Commercial Formulation | Sulfanex 35 EC (35%) |
| Fenamiphos | Commercial Formulation | Nemacur 40LE (40%) |
| Fenhexamid | Commercial Formulation | Teldor (50%) |
| Lambda Cyhalothrin | Commercial Formulation | Karate Zeon (1.5%) |
| Methoxyfenozide | Commercial Formulation | Runner (24%) |
| Pirimicarb | Commercial Formulation | Aphox (50%) |
| Pyridaben | Commercial Formulation | Sanmmite 20% (20%) |
| Spinosad | Commercial Formulation | Spintor 480 SC (48%) |
| Tetraconazole | Commercial Formulation | Eminent (10%) |



Homogeneity

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



-The sampling standard deviation of all the pesticides must be lower than the critical value.

$$S_{\text{sample}}^2 < c$$

All the pesticides passed the homogeneity test

Stability

1st Analysis - prior to the sample shipment

2nd Analysis - after the deadline for reporting results

| FEBRUARY 2014 | | | | | | |
|---------------|-----|-----|-----|-----|-----|-----|
| SUN | MON | TUE | WED | THU | FRI | SAT |
| | | | | | | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | |

| MARCH 2014 | | | | | | |
|------------|-----|-----|-----|-----|-----|-----|
| SUN | MON | TUE | WED | THU | FRI | SAT |
| 30 | 31 | | | | | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |

All the pesticides passed the stability test

Stability

Additionally:

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

| FEBRUARY 2014 | | | | | | |
|---------------|-----------|-----------|-----------|-----------|-----------|-----------|
| SUN | MON | TUE | WED | THU | FRI | SAT |
| | | | | | | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | |



Results



Acetamiprid **Endosulfan beta** Acrinathrin **Fenamiphos**
 Buprofezin Fenhexamid Captan Fludioxonil
 Chlorothalonil Lambda-Cyhalothrin Chlorpyrifos
 Methoxyfenozide Cypermethrin **Pirimicarb** Cyprodinil
 Pyridaben Diazinon Spinosad Difenoconazole
 Tetraconazole **Endosulfan alpha**



- **Endosulfan sulfate**
- **Fenamiphos sulfone and Fenamiphos sulfoxide**
- **Pirimicarb-desmethyl**
- **Propiconazole**
- **Tebuconazole**



| Pesticides | Robust mean (mg/kg) |
|----------------------|---------------------|
| Endosulfan sulfate | 0,011 |
| Propiconazole | 0,011 |
| Tebuconazole | 0,020 |
| Desmethyl-pirimicarb | 0,027 |

| Pesticides | Robust mean (mg/kg) |
|----------------------|---------------------|
| Lambda-Cyhalothrin | 0,078 |
| Diazinon | 0,083 |
| Spinosad | 0,098 |
| Tetraconazole | 0,105 |
| Fenamiphos sulfone | 0,109 |
| Captan | 0,132 |
| Pyridaben | 0,149 |
| Methoxyfenozide | 0,170 |
| Fludioxonil | 0,244 |
| Acrinathrin | 0,262 |
| Buprofezin | 0,469 |
| Cypermethrin | 0,527 |
| Cyprodinil | 0,588 |
| Acetamiprid | 0,636 |
| Pirimicarb | 0,730 |
| Fenhexamid | 0,855 |
| Difenoconazole | 0,945 |
| Endosulfan beta | 0,963 |
| Endosulfan alpha | 1,149 |
| Chlorothalonil | 2,181 |
| Chlorpyrifos | 3,667 |
| Fenamiphos sulfoxide | 6,641 |
| Fenamiphos | 7,277 |



| Pesticides | Robust mean (mg/kg) |
|----------------------|---------------------|
| Endosulfan sulfate | 0,011 |
| Propiconazole | 0,011 |
| Tebuconazole | 0,020 |
| Desmethyl-pirimicarb | 0,027 |

0.011-0.027 mg/kg

0.078-0.100 mg/kg

| Pesticides | Robust mean (mg/kg) |
|----------------------|---------------------|
| Lambda-Cyhalothrin | 0,078 |
| Diazinon | 0,083 |
| Spinosad | 0,098 |
| Tetraconazole | 0,105 |
| Fenamiphos sulfone | 0,109 |
| Captan | 0,132 |
| Pyridaben | 0,149 |
| Methoxyfenozide | 0,170 |
| Fludioxonil | 0,244 |
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| Chlorothalonil | 2,181 |
| Chlorpyrifos | 3,667 |
| Fenamiphos sulfoxide | 6,641 |
| Fenamiphos | 7,277 |

0.078-0.100 mg/kg

0.100-0.500 mg/kg

| Pesticides | Robust mean (mg/kg) |
|----------------------|---------------------|
| Lambda-Cyhalothrin | 0,078 |
| Diazinon | 0,083 |
| Spinosad | 0,098 |
| Tetraconazole | 0,105 |
| Fenamiphos sulfone | 0,109 |
| Captan | 0,132 |
| Pyridaben | 0,149 |
| Methoxyfenozide | 0,170 |
| Fludioxonil | 0,244 |
| Acrinathrin | 0,262 |
| Buprofezin | 0,469 |
| Cypermethrin | 0,527 |
| Cyprodinil | 0,588 |
| Acetamiprid | 0,636 |
| Pirimicarb | 0,730 |
| Fenhexamid | 0,855 |
| Difenoconazole | 0,945 |
| Endosulfan beta | 0,963 |
| Endosulfan alpha | 1,149 |
| Chlorothalonil | 2,181 |
| Chlorpyrifos | 3,667 |
| Fenamiphos sulfoxide | 6,641 |
| Fenamiphos | 7,277 |

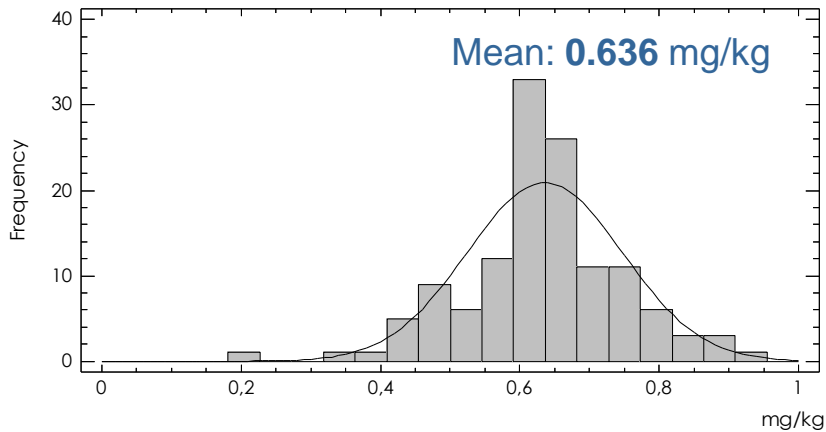
0.078-0.100 mg/kg

0.100-0.500 mg/kg

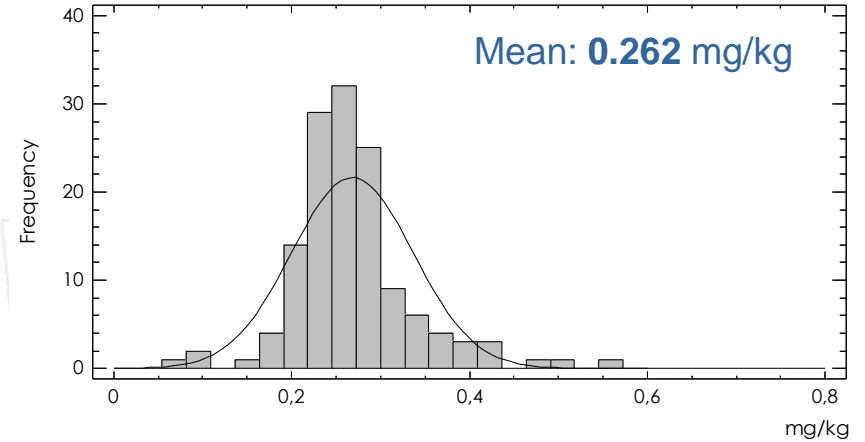
> 0.500 mg/kg

Distribution of data-Histograms

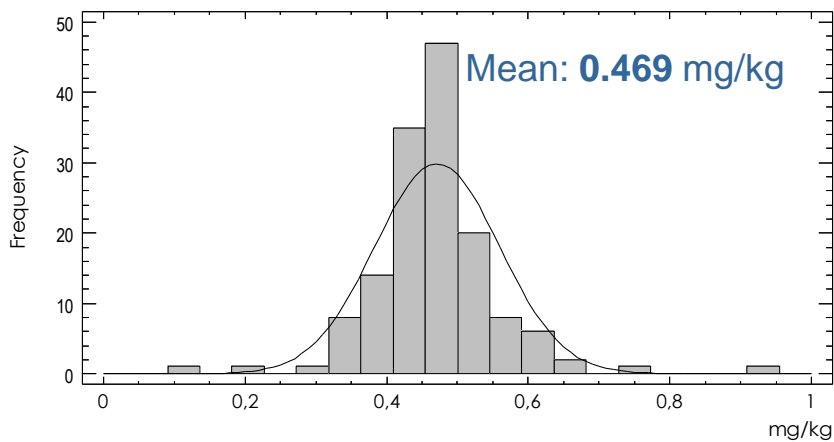
Acetamidrid



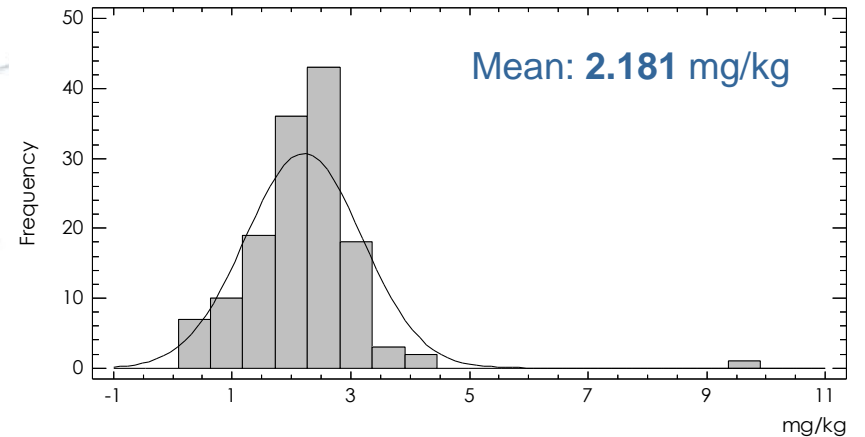
Acrinathrin



Buprofezin

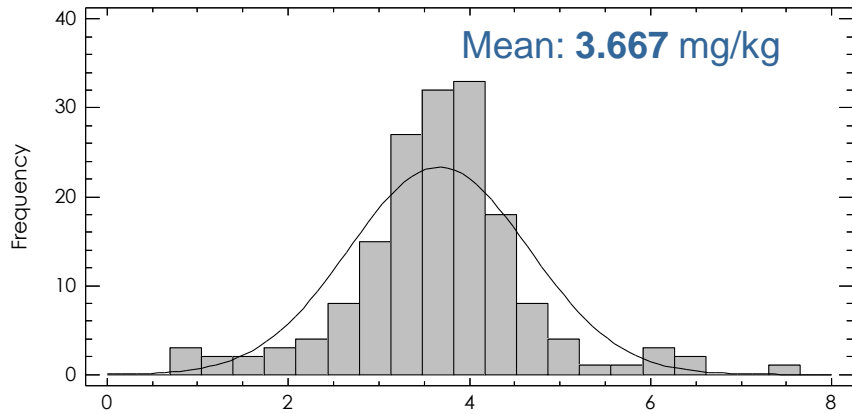


Chlorothalonil

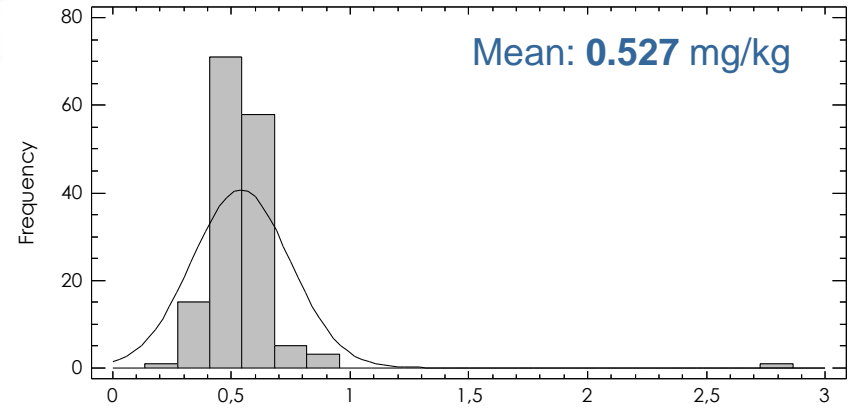


Distribution of data-Histograms

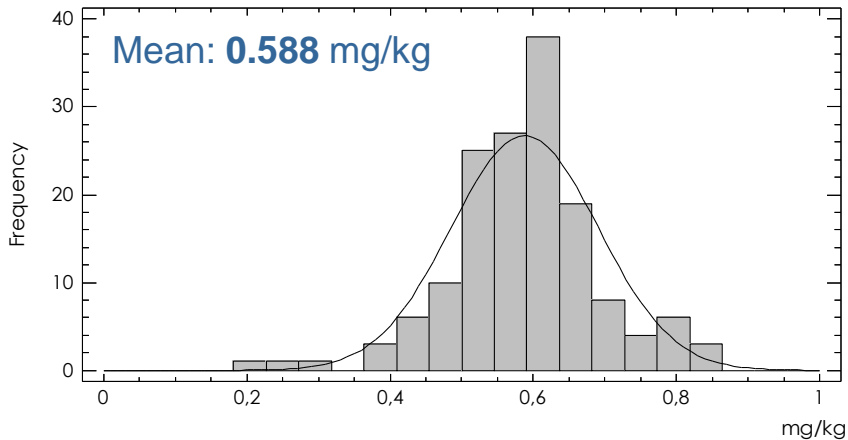
Chlorpyrifos



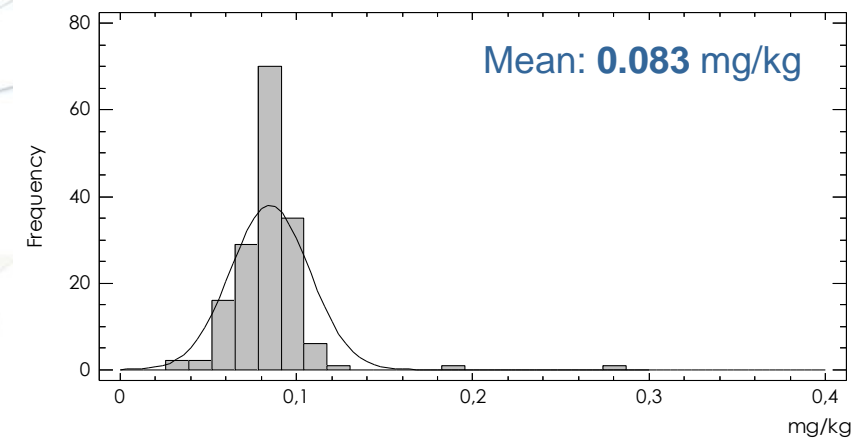
Cypermethrin



Cyprodinil

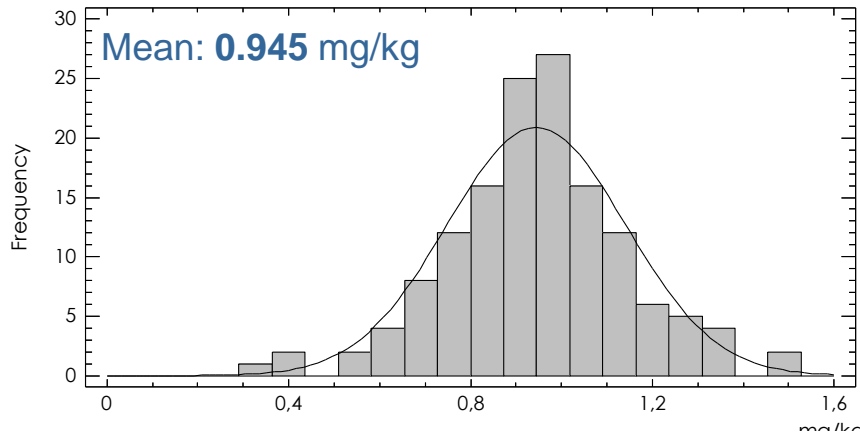


Diazinon

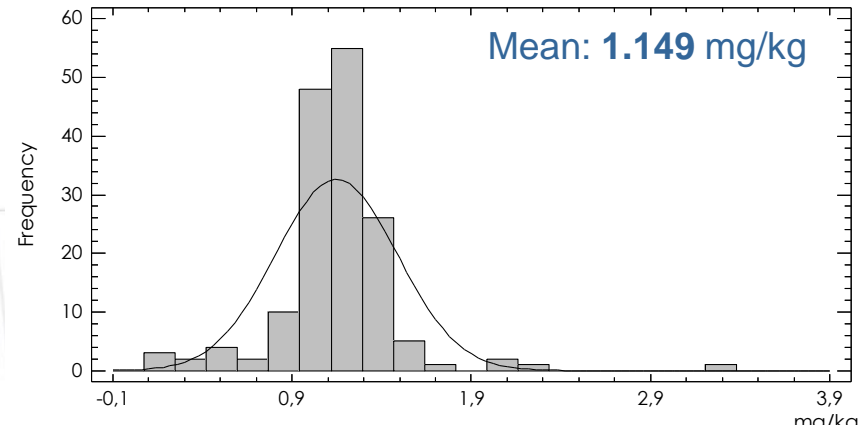


Distribution of data-Histograms

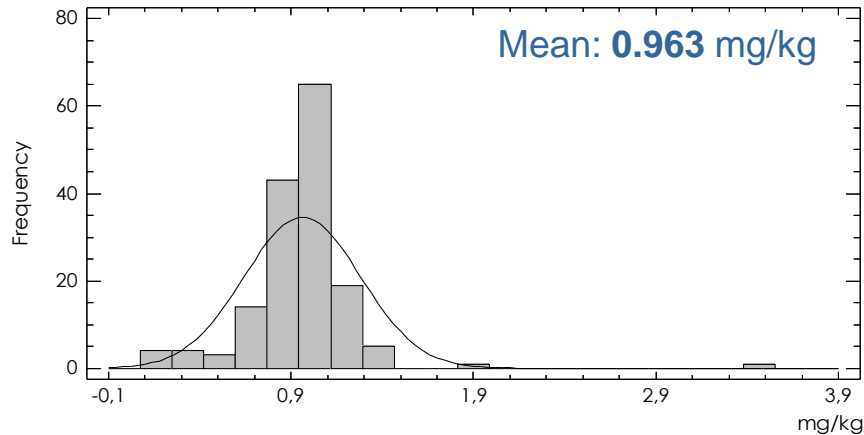
Difenoconazole



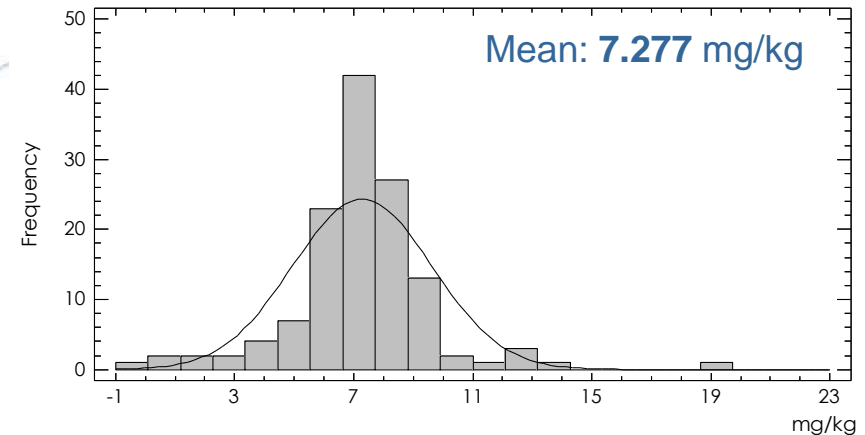
Endosulfan alpha



Endosulfan beta

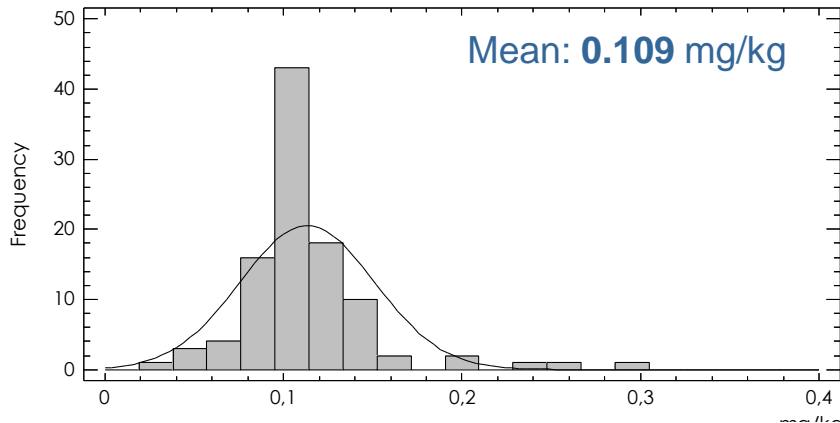


Fenamiphos

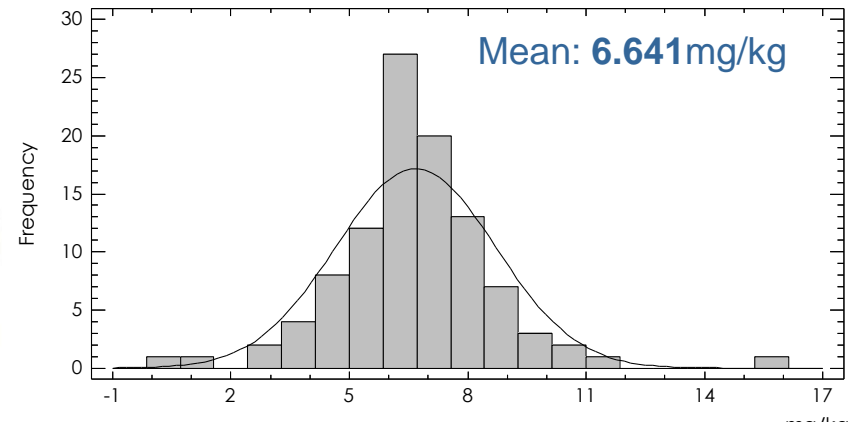


Distribution of data-Histograms

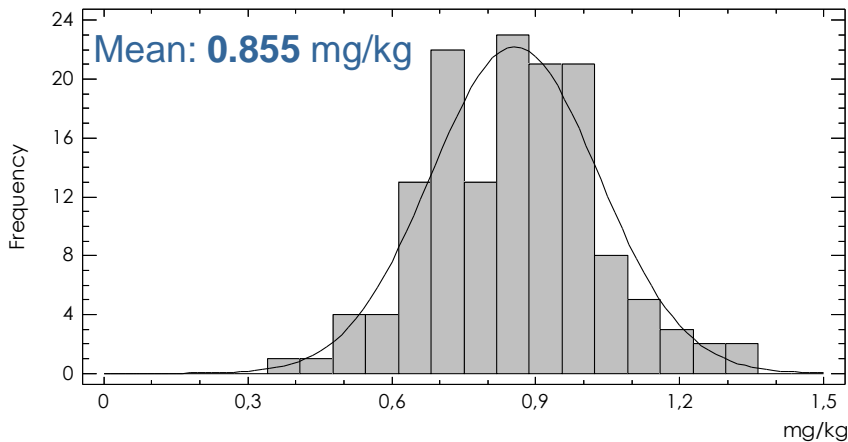
Fenamiphos sulfone



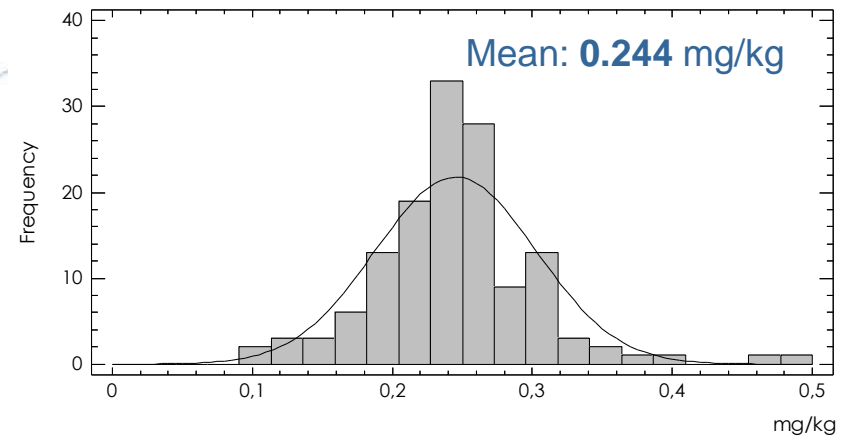
Fenamiphos sulfoxide



Fenhexamid

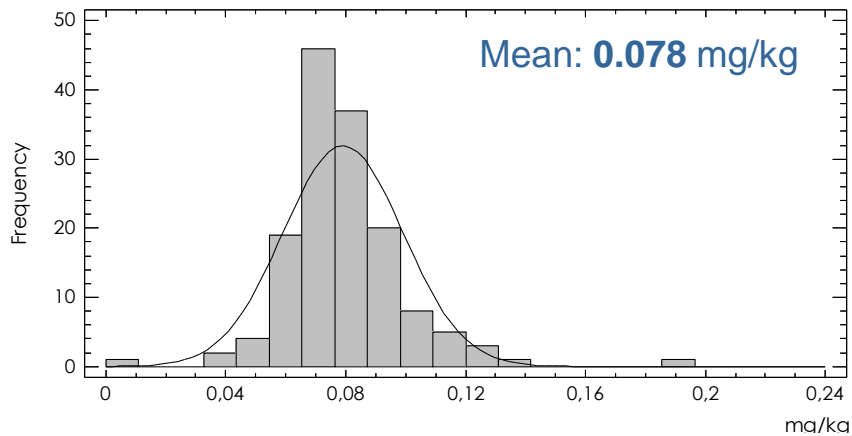


Fludioxinil

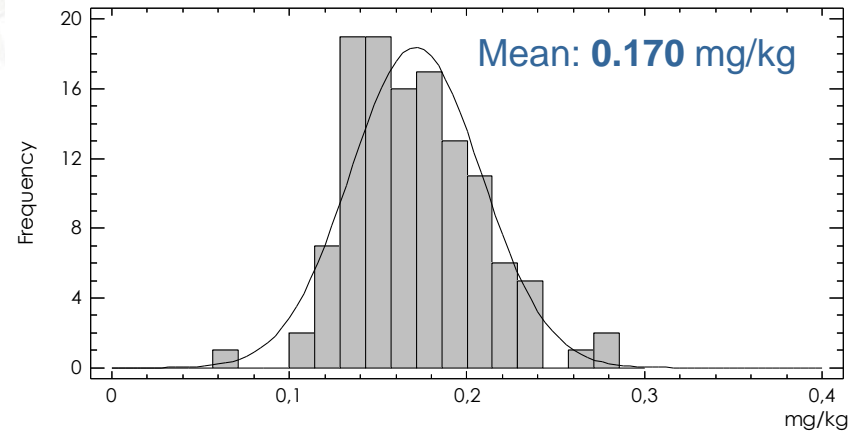


Distribution of data-Histograms

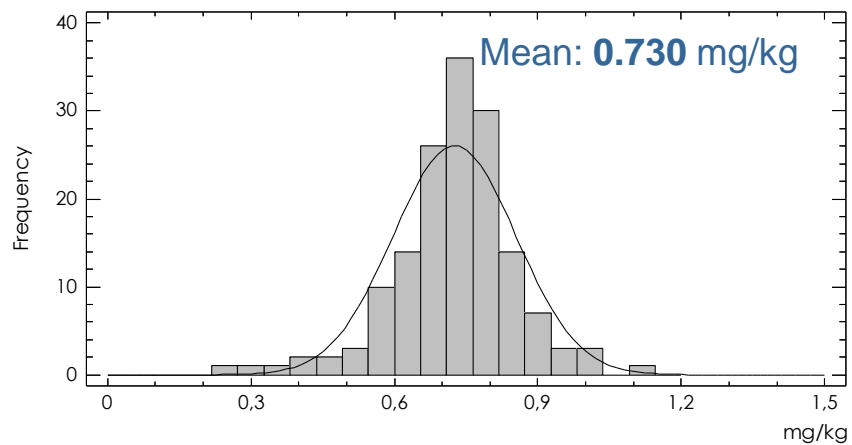
Lambda-cyhalothrin



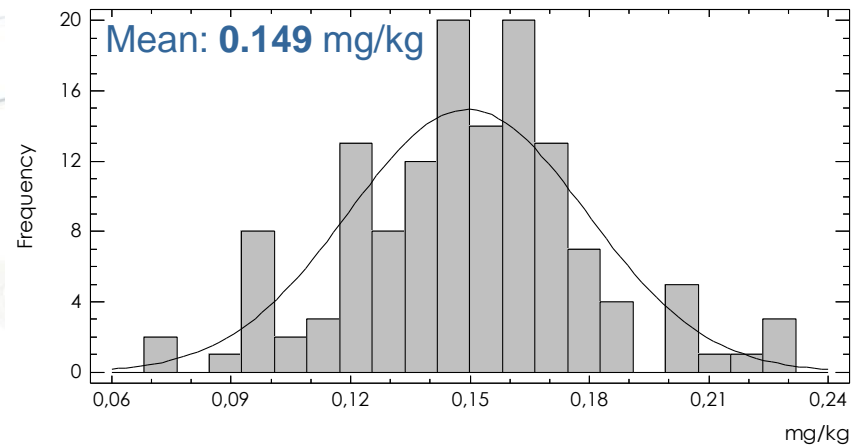
Methoxyfenozide



Pirimicarb

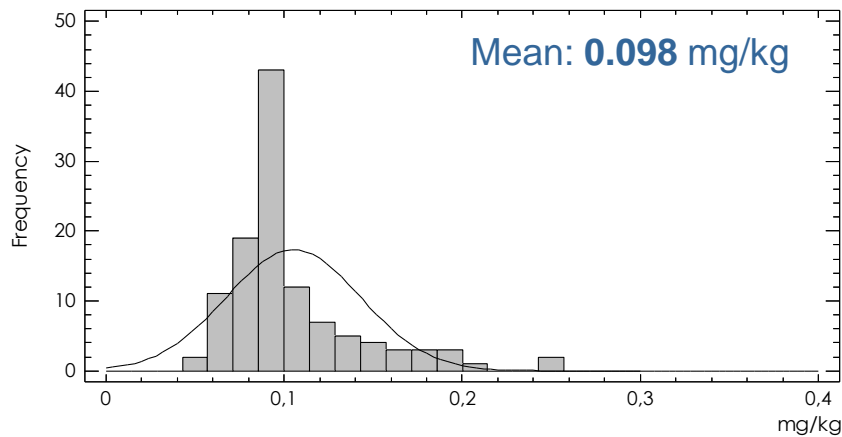


Pyridaben

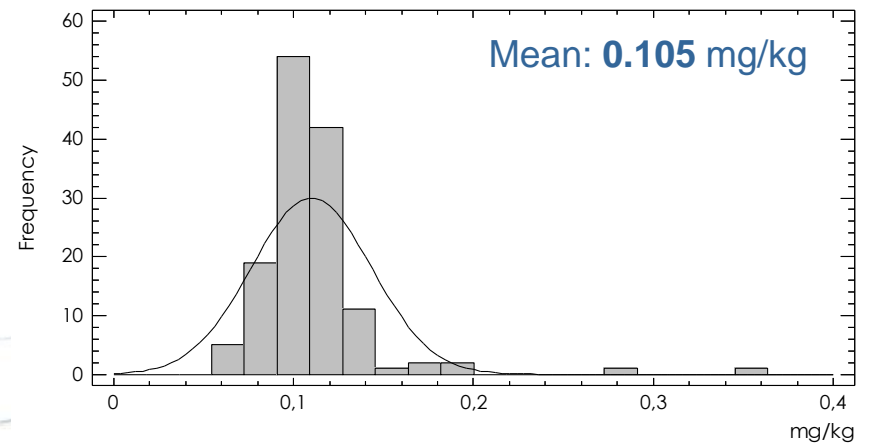


Distribution of data-Histograms

Spinosad (sum of spinosyn A and spinosyn D, expr. as spinosad)

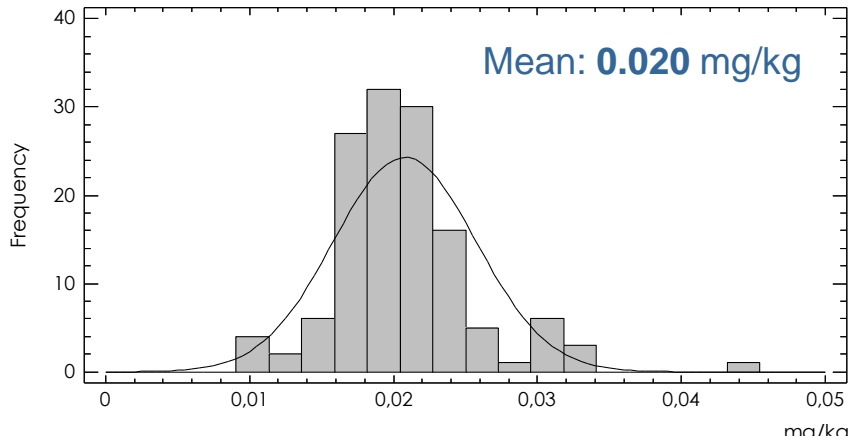


Tetraconazol

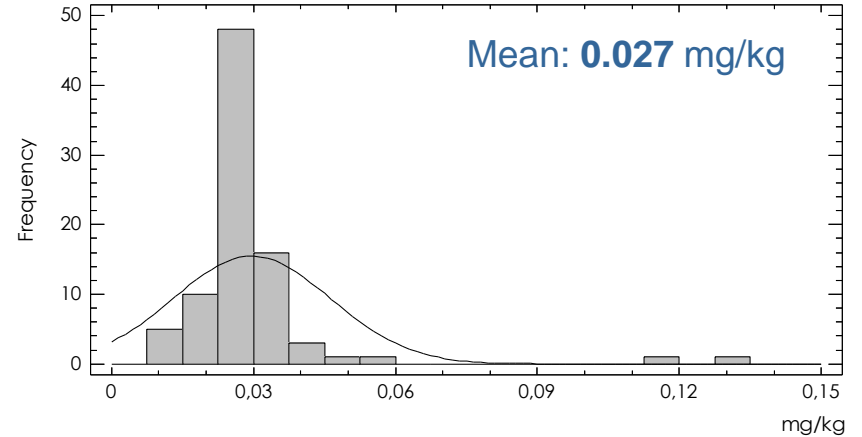


Distribution of data-Histograms (special cases)

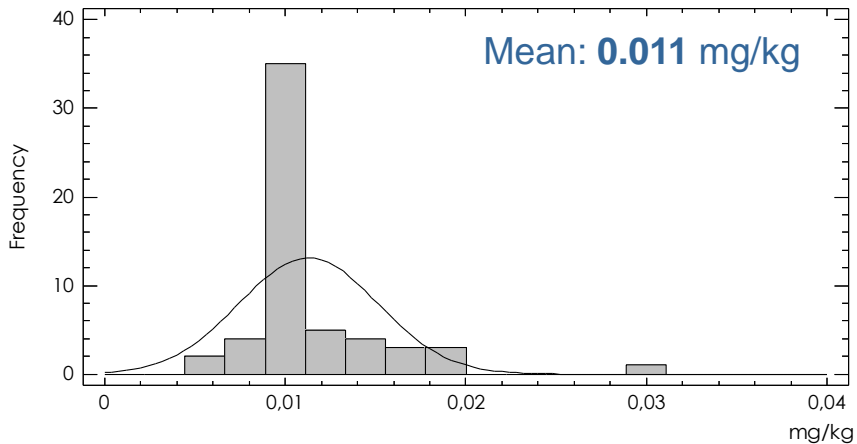
Tebuconazole



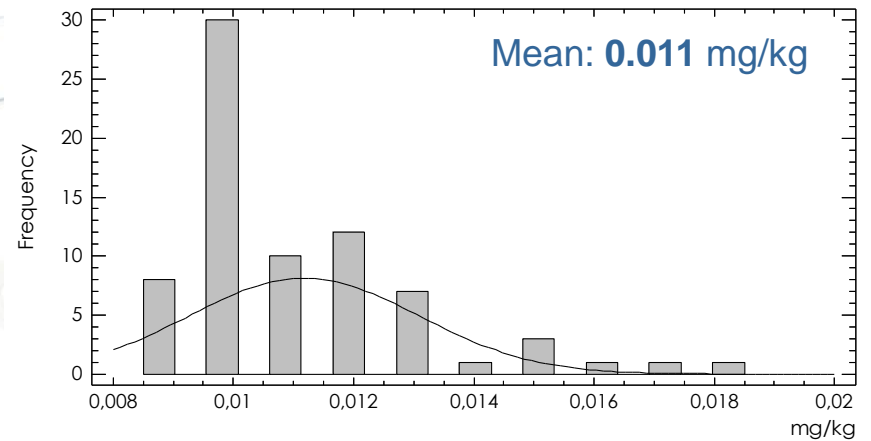
Desmethyl-pirimicarb



Endosulfan sulfate

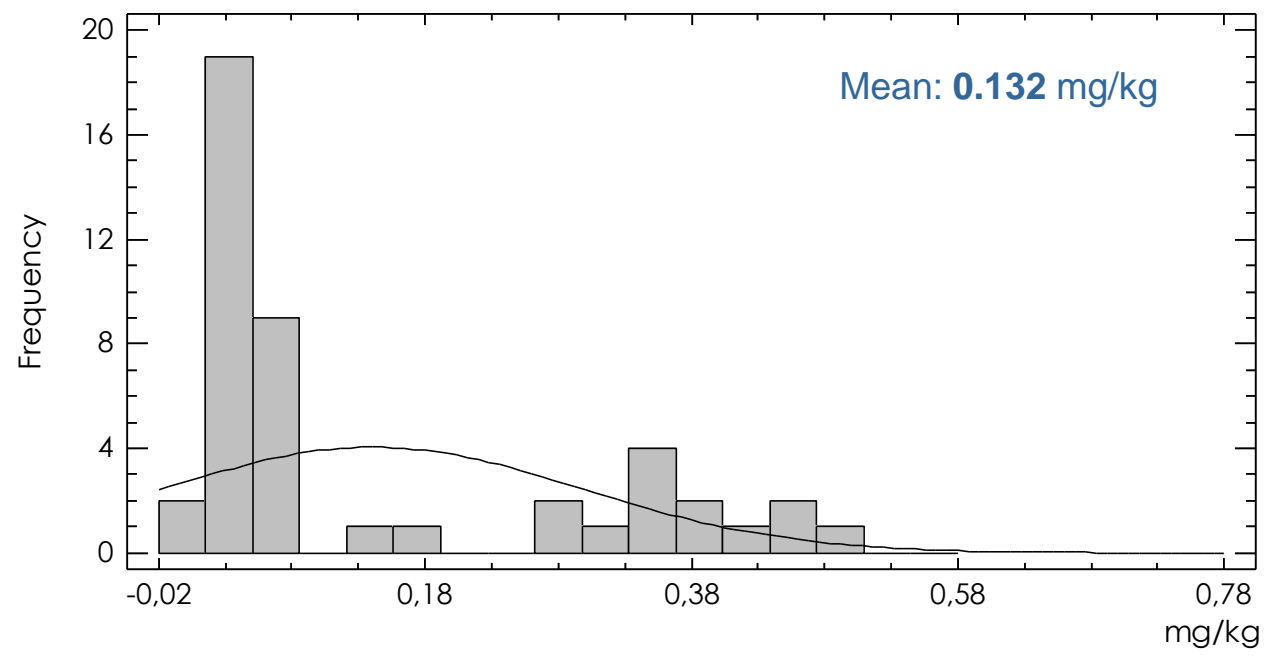


Propiconazole



Distribution of data-Histograms (special cases)

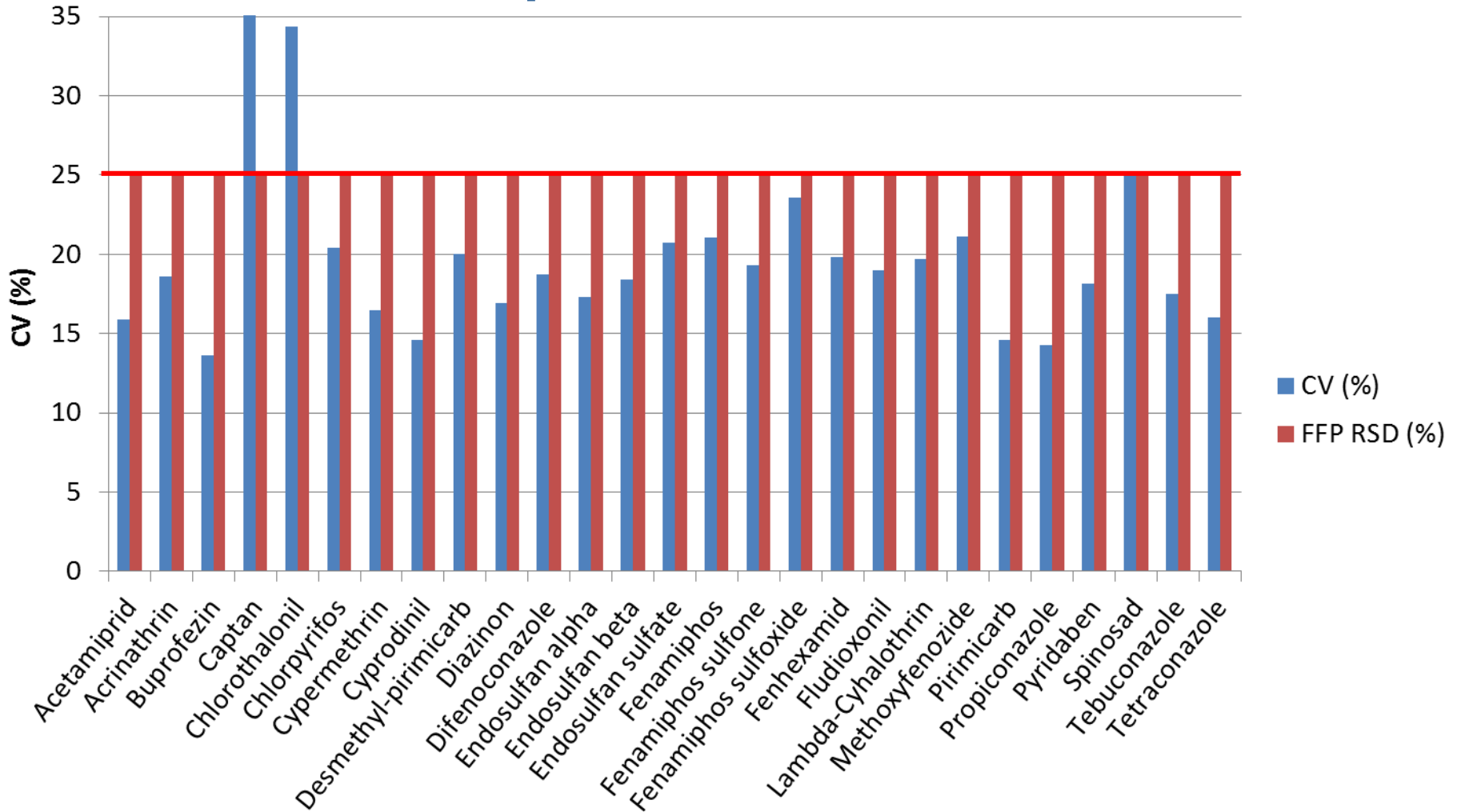
Captan



| Pesticides | MRRL (mg/kg) | Robust mean (mg/kg) | CV (%) |
|----------------------|--------------|---------------------|--------|
| Acetamiprid | 0.01 | 0,636 | 15,89 |
| Acrinathrin | 0.01 | 0,262 | 18,62 |
| Buprofezin | 0.01 | 0,469 | 13,61 |
| Captan | 0.01 | 0,132 | 120,09 |
| Chlorothalonil | 0.01 | 2,181 | 34,39 |
| Chlorpyrifos | 0.01 | 3,667 | 20,40 |
| Cypermethrin | 0.01 | 0,527 | 16,45 |
| Cyprodinil | 0.01 | 0,588 | 14,63 |
| Desmethyl-pirimicarb | 0.01 | 0,027 | 20,02 |
| Diazinon | 0.01 | 0,083 | 16,92 |
| Difenoconazole | 0.01 | 0,945 | 18,71 |
| Endosulfan alpha | 0.01 | 1,149 | 17,30 |
| Endosulfan beta | 0.01 | 0,963 | 18,42 |
| Endosulfan sulfate | 0.01 | 0,011 | 20,71 |
| Fenamiphos | 0.01 | 7,277 | 21,03 |
| Fenamiphos sulfone | 0.01 | 0,109 | 19,33 |
| Fenamiphos sulfoxide | 0.01 | 6,641 | 23,57 |
| Fenhexamid | 0.01 | 0,855 | 19,84 |
| Fludioxonil | 0.01 | 0,244 | 18,96 |
| Lambda-Cyhalothrin | 0.01 | 0,078 | 19,72 |
| Methoxyfenozide | 0.01 | 0,170 | 21,15 |
| Pirimicarb | 0.01 | 0,730 | 14,57 |
| Propiconazole | 0.01 | 0,011 | 14,27 |
| Pyridaben | 0.01 | 0,149 | 18,17 |
| Spinosad | 0.01 | 0,098 | 25,18 |
| Tebuconazole | 0.01 | 0,020 | 17,50 |
| Tetraconazole | 0.01 | 0,105 | 16,02 |

| Pesticides | MRRL (mg/kg) | Median (mg/kg) | Qn (%) |
|----------------------|--------------|----------------|--------|
| Acetamiprid | 0.01 | 0,632 | 15,10 |
| Acrinathrin | 0.01 | 0,261 | 18,75 |
| Buprofezin | 0.01 | 0,467 | 13,78 |
| Captan | 0.01 | 0,044 | 51.03 |
| Chlorothalonil | 0.01 | 2,230 | 32.25 |
| Chlorpyrifos | 0.01 | 3,680 | 21,11 |
| Cypermethrin | 0.01 | 0,528 | 16.81 |
| Cyprodinil | 0.01 | 0,591 | 15,03 |
| Desmethyl-pirimicarb | 0.01 | 0,027 | 24.67 |
| Diazinon | 0.01 | 0,084 | 15.86 |
| Difenoconazole | 0.01 | 0,953 | 19,33 |
| Endosulfan alpha | 0.01 | 1,160 | 17.22 |
| Endosulfan beta | 0.01 | 0,975 | 18,00 |
| Endosulfan sulfate | 0.01 | 0,010 | 22.20 |
| Fenamiphos | 0.01 | 7,385 | 21.43 |
| Fenamiphos sulfone | 0.01 | 0,110 | 20.18 |
| Fenamiphos sulfoxide | 0.01 | 6,635 | 24.39 |
| Fenhexamid | 0.01 | 0,861 | 20,37 |
| Fludioxonil | 0.01 | 0,241 | 18.46 |
| Lambda-Cyhalothrin | 0.01 | 0,077 | 20.18 |
| Methoxyfenozide | 0.01 | 0,165 | 22,87 |
| Pirimicarb | 0.01 | 0,731 | 15,18 |
| Propiconazole | 0.01 | 0,010 | 22,20 |
| Pyridaben | 0.01 | 0,151 | 17,70 |
| Spinosad | 0.01 | 0,094 | 23.62 |
| Tebuconazole | 0.01 | 0,020 | 22.20 |
| Tetraconazole | 0.01 | 0,104 | 17.08 |

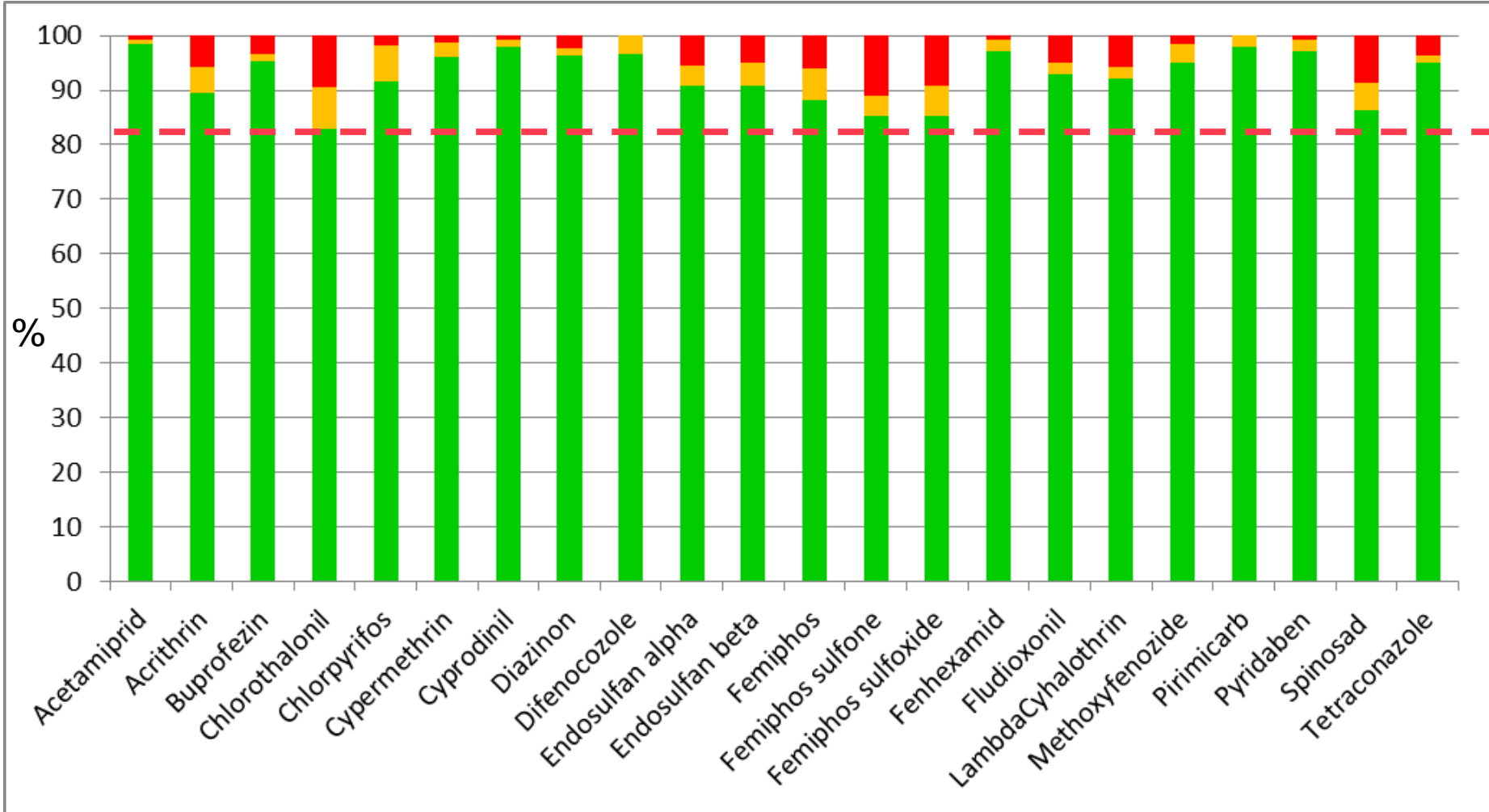
Dispersion of Results



| Pesticides | No. of Reported Results | No. of False Negative Results | No. of Not Analysed Results | Percentage of Reported Results (out of 169) |
|----------------------|-------------------------|-------------------------------|-----------------------------|---|
| Acetamiprid | 129 | 1 | 39 | 76 |
| Acrinathrin | 136 | 5 | 28 | 80 |
| Buprofezin | 145 | 3 | 21 | 86 |
| Chlorothalonil | 139 | 8 | 22 | 82 |
| Chlorpyrifos | 167 | 0 | 2 | 99 |
| Cypermethrin | 154 | 1 | 14 | 91 |
| Cyprodinil | 152 | 1 | 16 | 90 |
| Diazinon | 164 | 1 | 4 | 97 |
| Difenoconazole | 142 | 0 | 27 | 84 |
| Endosulfan alpha | 160 | 2 | 7 | 95 |
| Endosulfan beta | 159 | 2 | 8 | 94 |
| Fenamiphos | 131 | 3 | 35 | 78 |
| Fenamiphos sulfone | 102 | 7 | 60 | 60 |
| Fenamiphos sulfoxide | 102 | 7 | 60 | 60 |
| Fenhexamid | 143 | 1 | 25 | 85 |
| Fludioxonil | 138 | 5 | 26 | 82 |
| Lambda-Cyhalothrin | 147 | 6 | 16 | 87 |
| Methoxyfenozide | 119 | 2 | 48 | 70 |
| Pirimicarb | 154 | 0 | 15 | 91 |
| Pyridaben | 138 | 1 | 30 | 82 |
| Spinosad | 115 | 1 | 53 | 68 |
| Tetraconazole | 139 | 1 | 29 | 82 |

z-Scores

z-Scores classification



Acceptable

Questionable

Unacceptable

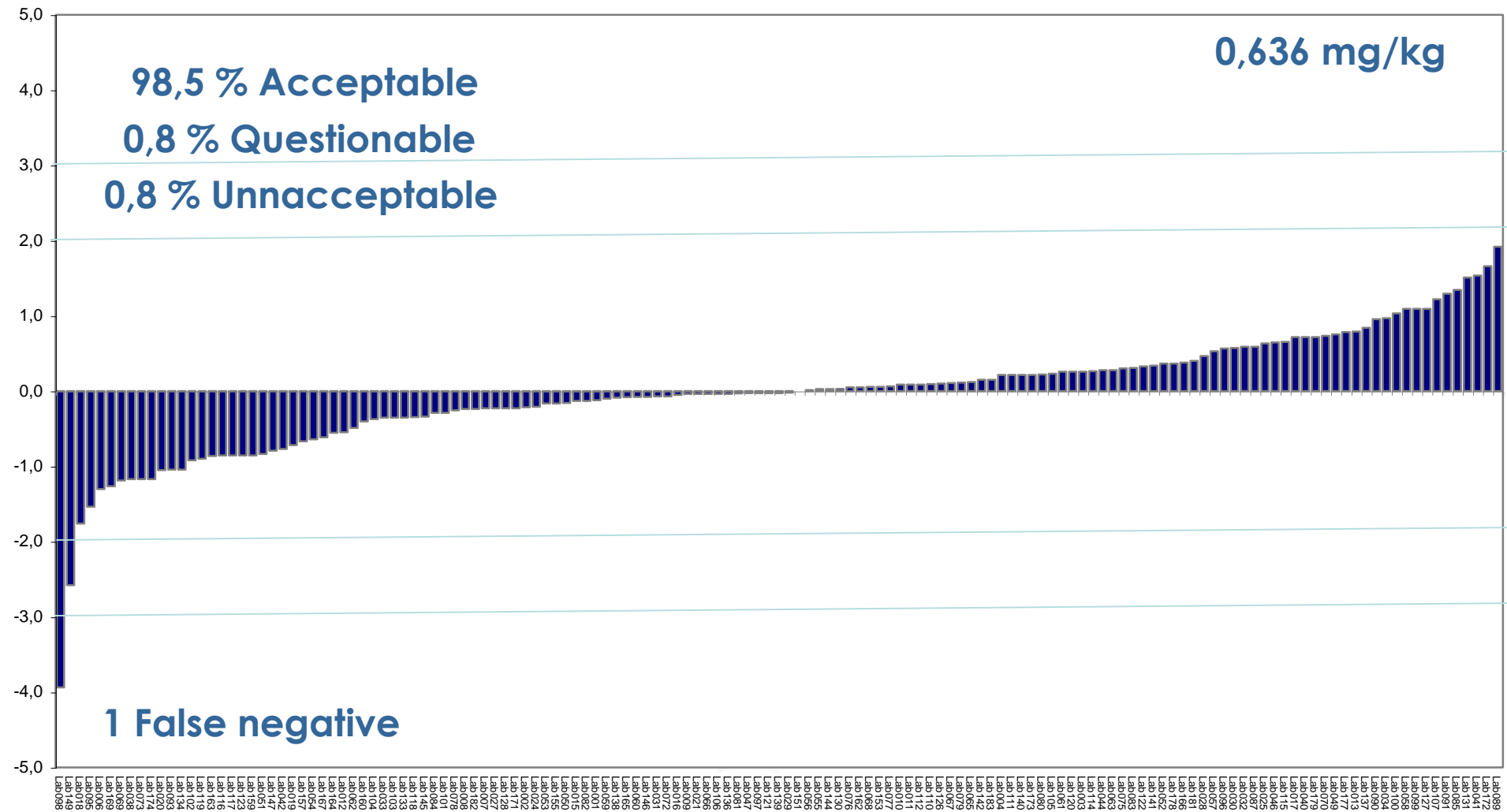
| Pesticides | Robust Mean (mg/kg) | % Acceptable z-scores | % Questionable z-scores | % Unacceptable z-scores |
|----------------------|---------------------|-----------------------|-------------------------|-------------------------|
| Acetamiprid | 0,636 | 98,5 | 0,8 | 0,8 |
| Acrinathrin | 0,262 | 89,4 | 5,0 | 5,7 |
| Buprofezin | 0,469 | 95,3 | 1,4 | 3,4 |
| Chlorothalonil | 2,181 | 83,0 | 7,5 | 9,5 |
| Chlorpyrifos | 3,667 | 91,6 | 6,6 | 1,8 |
| Cypermethrin | 0,527 | 96,1 | 2,6 | 1,3 |
| Cyprodinil | 0,588 | 98,0 | 1,3 | 0,7 |
| Diazinon | 0,083 | 96,4 | 1,2 | 2,4 |
| Difenoconazole | 0,945 | 96,5 | 3,5 | 0,0 |
| Endosulfan alpha | 1,149 | 90,7 | 3,7 | 5,6 |
| Endosulfan beta | 0,963 | 90,7 | 4,3 | 5,0 |
| Fenamiphos | 7,277 | 88,1 | 6,0 | 6,0 |
| Fenamiphos sulfone | 0,109 | 85,3 | 3,7 | 11,0 |
| Fenamiphos sulfoxide | 6,641 | 85,3 | 5,5 | 9,2 |
| Fenhexamid | 0,855 | 97,2 | 2,1 | 0,7 |
| Fludioxonil | 0,244 | 93,0 | 2,1 | 4,9 |
| Lambda-Cyhalothrin | 0,078 | 92,2 | 2,0 | 5,9 |
| Methoxyfenoziide | 0,170 | 95,0 | 3,3 | 1,7 |
| Pirimicarb | 0,730 | 98,1 | 1,9 | 0,0 |
| Pyridaben | 0,149 | 97,1 | 2,2 | 0,7 |
| Spinosad | 0,098 | 86,2 | 5,2 | 8,6 |
| Tetraconazole | 0,105 | 95,0 | 1,4 | 3,6 |

Acetamiprid

0,636 mg/kg

98,5 % Acceptable
0,8 % Questionable
0,8 % Unacceptable

1 False negative

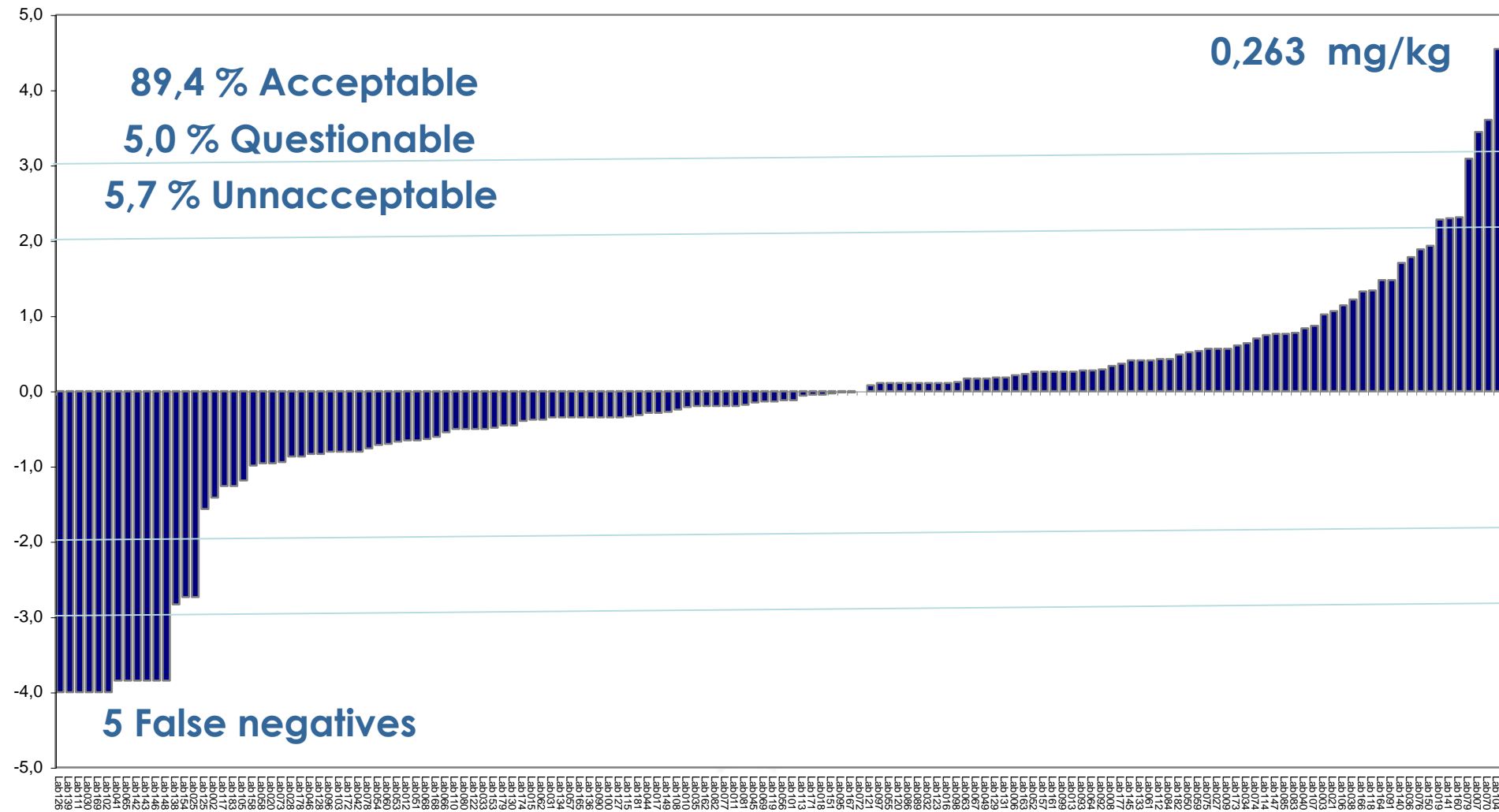


Acrinathrin

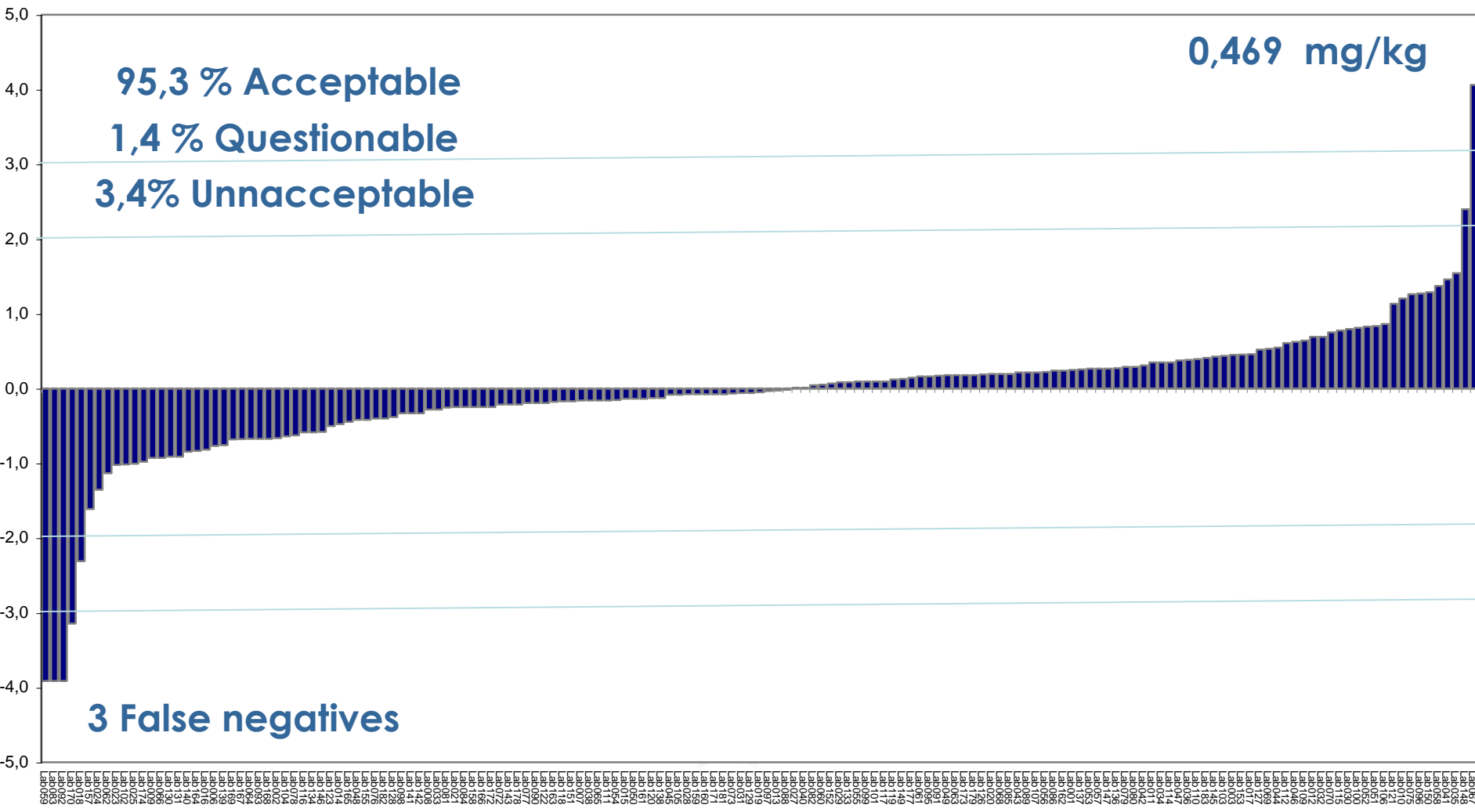
0,263 mg/kg

89,4 % Acceptable
5,0 % Questionable
5,7 % Unacceptable

5 False negatives



Buprofezin



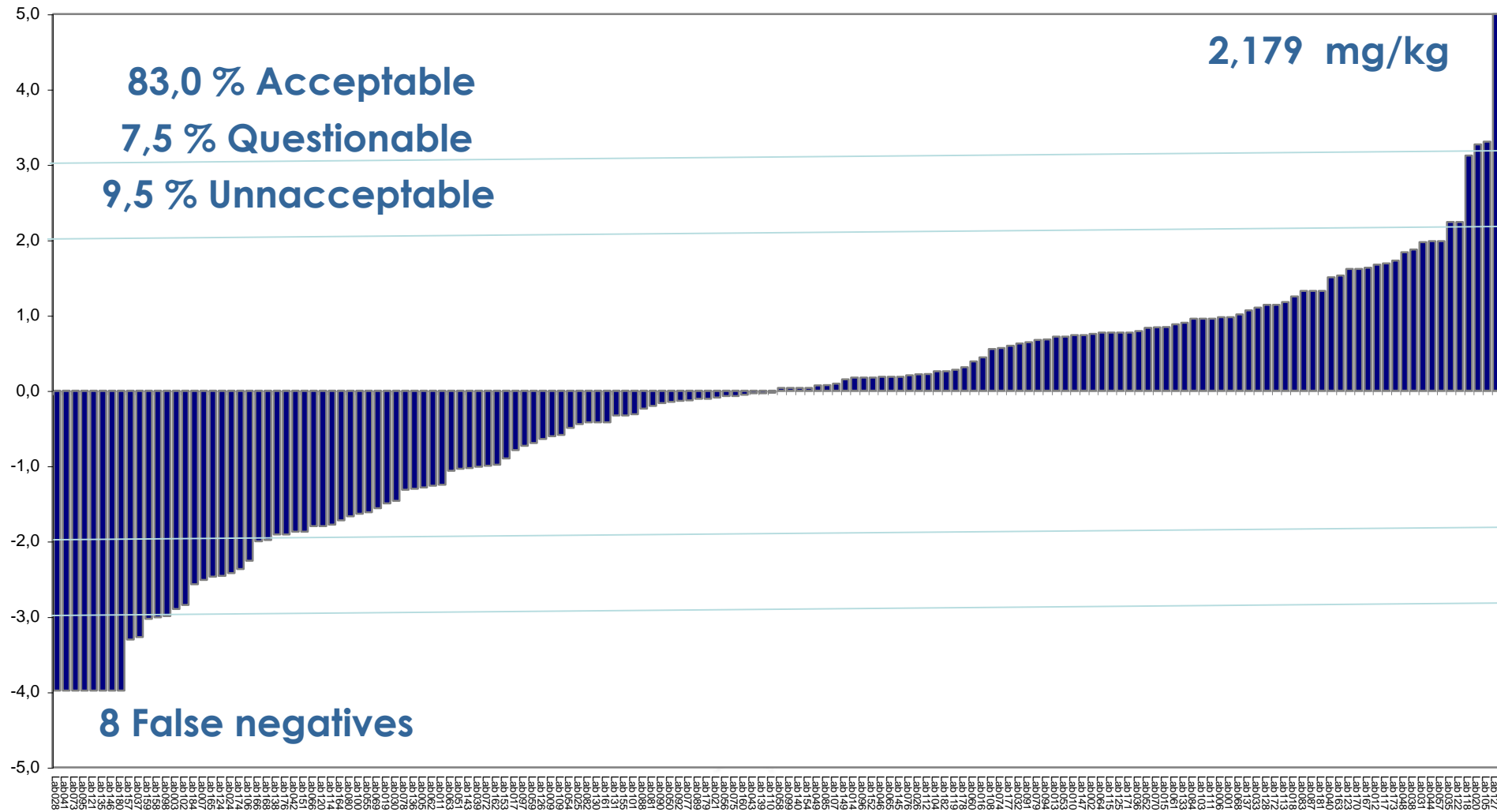


Chlorothalonil

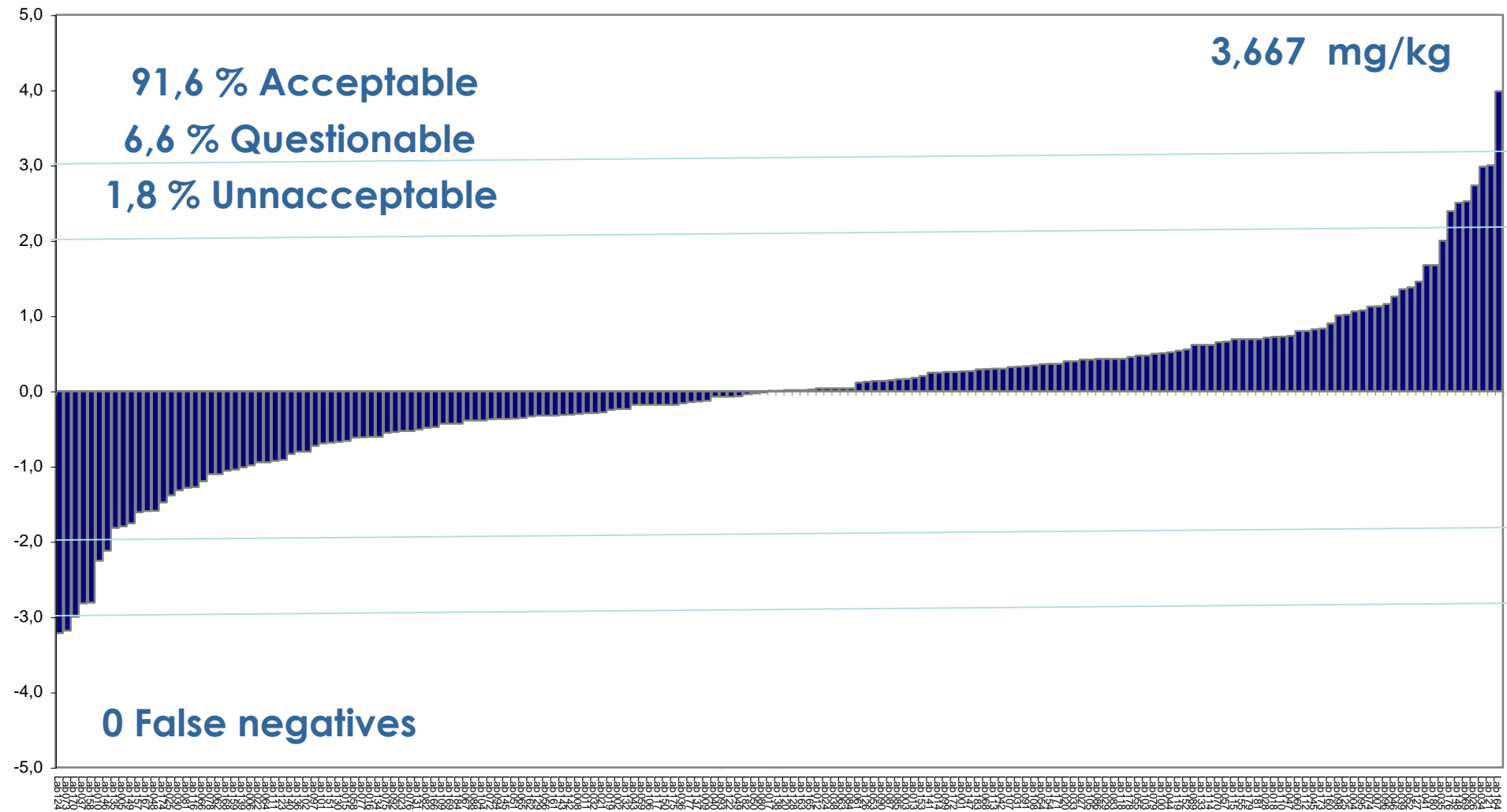
2,179 mg/kg

83,0 % Acceptable
7,5 % Questionable
9,5 % Unacceptable

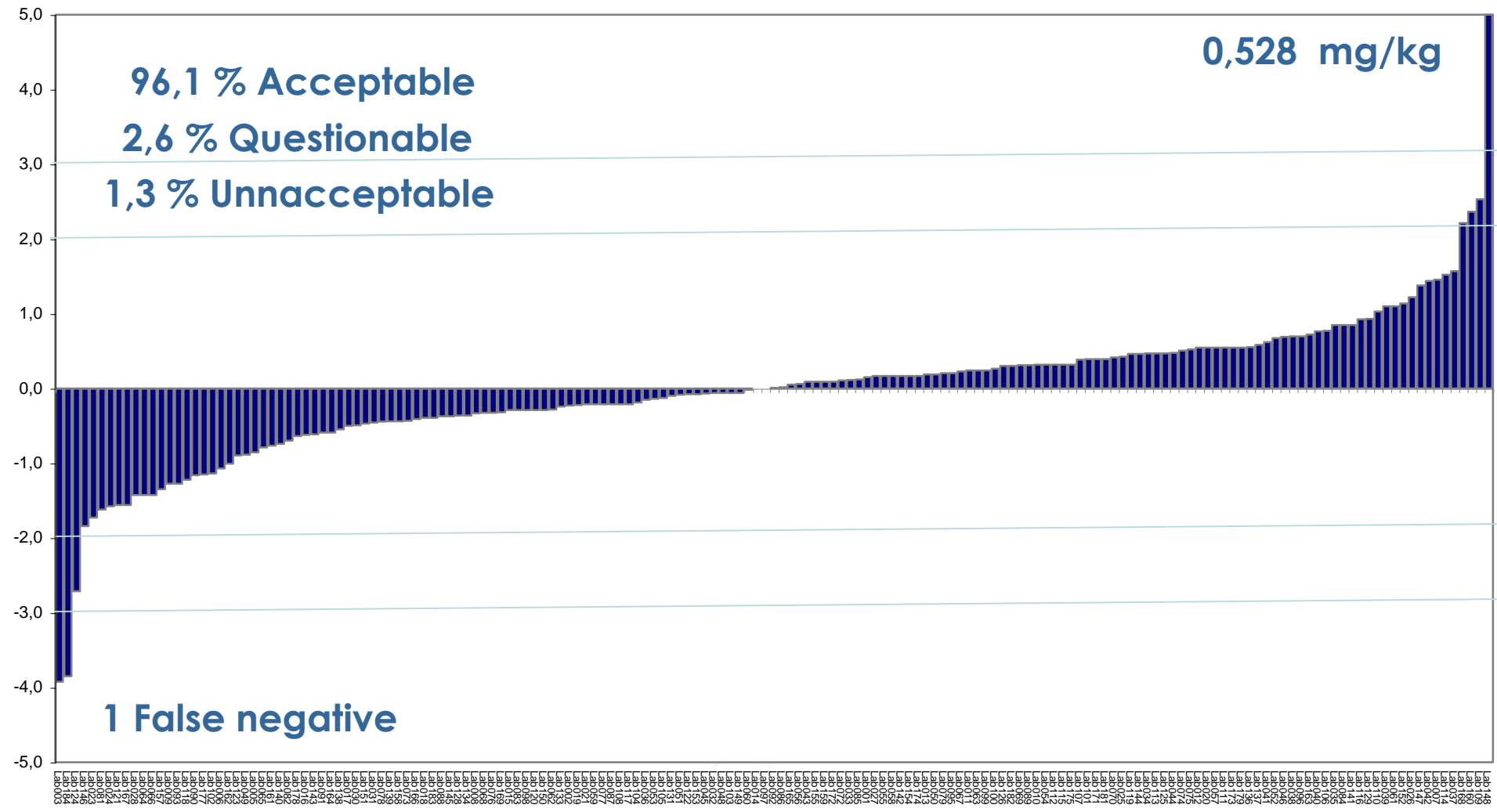
8 False negatives



Chlorpyrifos

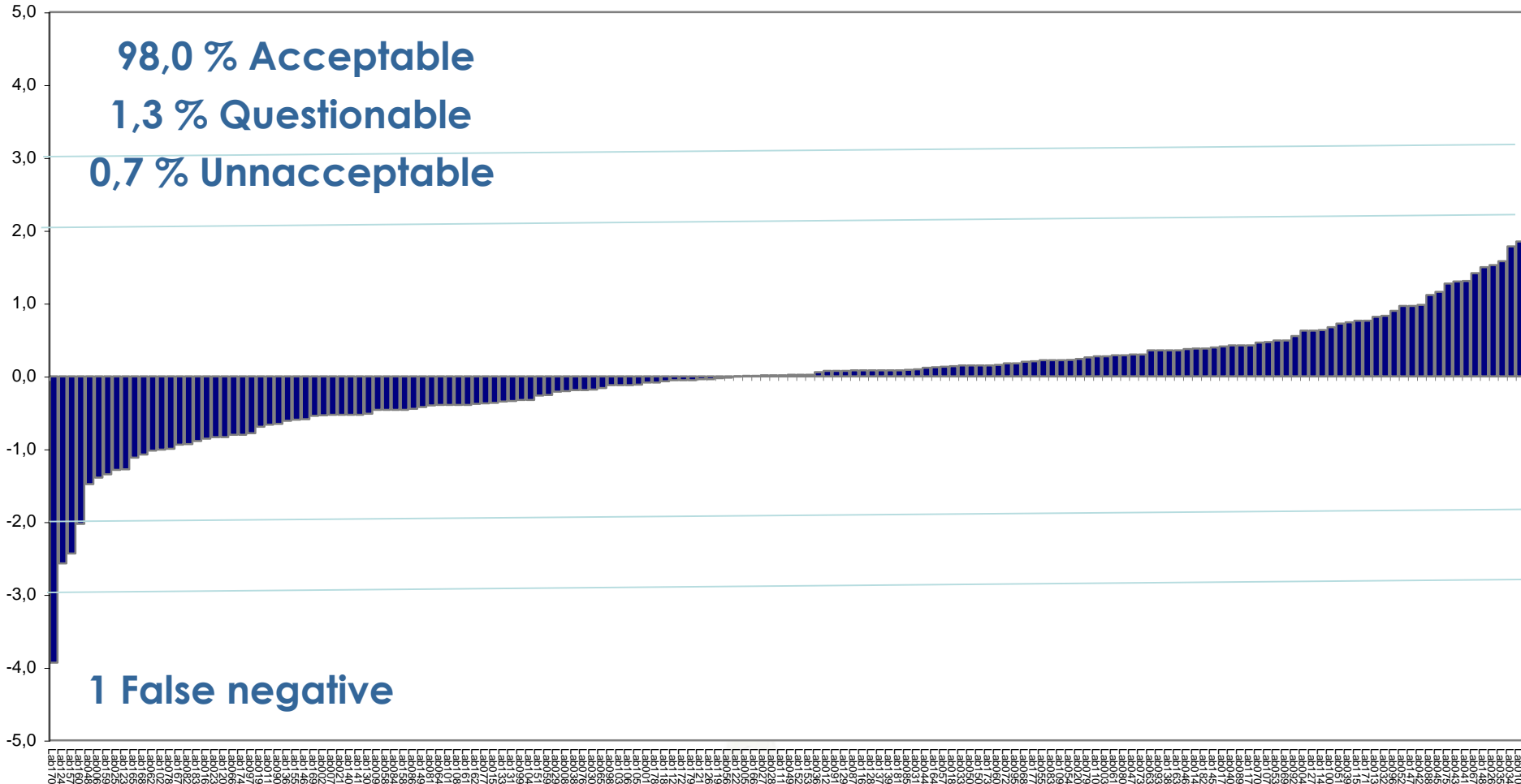


Cypermethrin



Cyprodinil

0,588 mg/kg



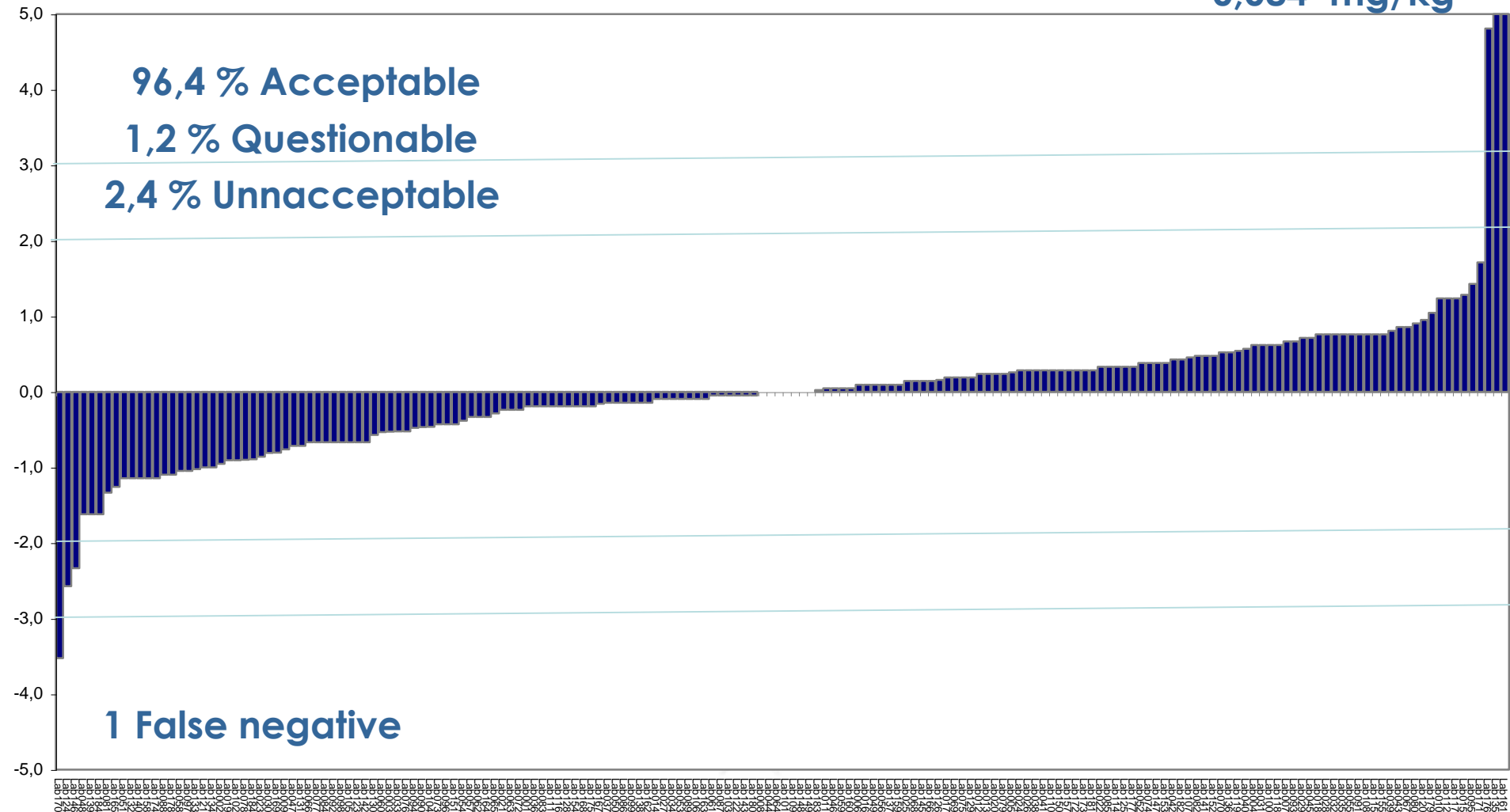


Diazinon

0,084 mg/kg

96,4 % Acceptable
1,2 % Questionable
2,4 % Unacceptable

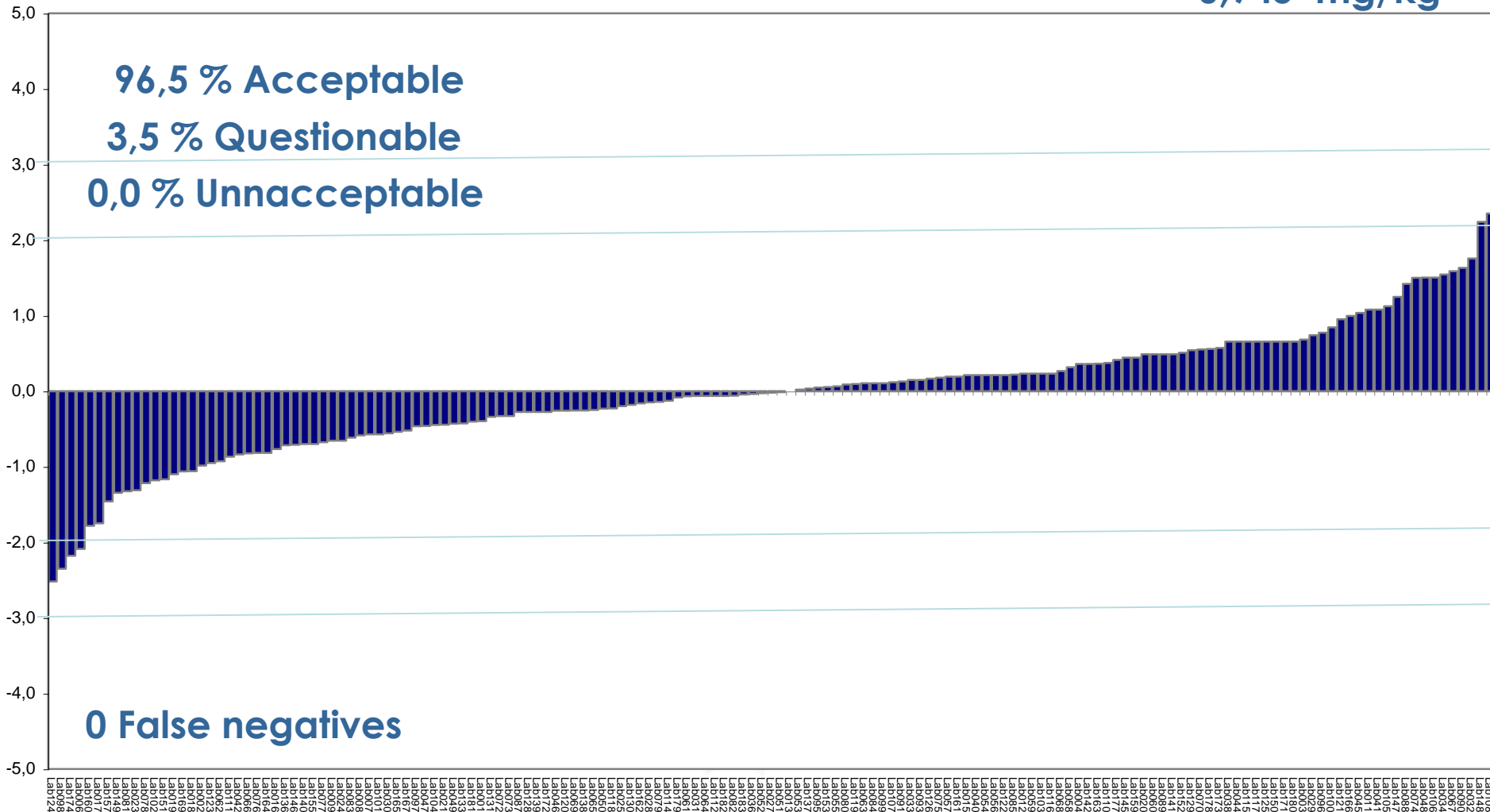
1 False negative





Difenoconazole

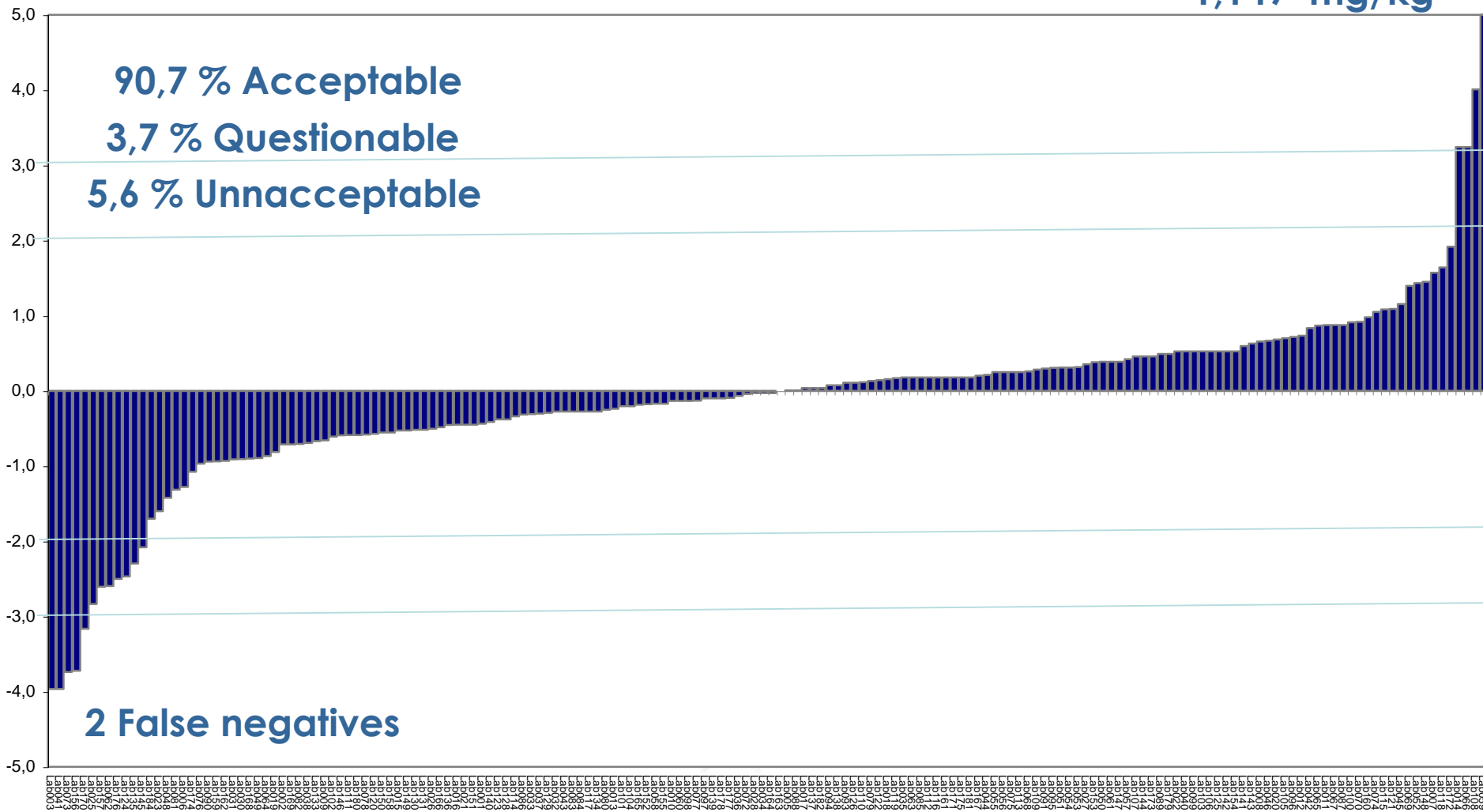
0,945 mg/kg





Endosulfan alpha

1,149 mg/kg



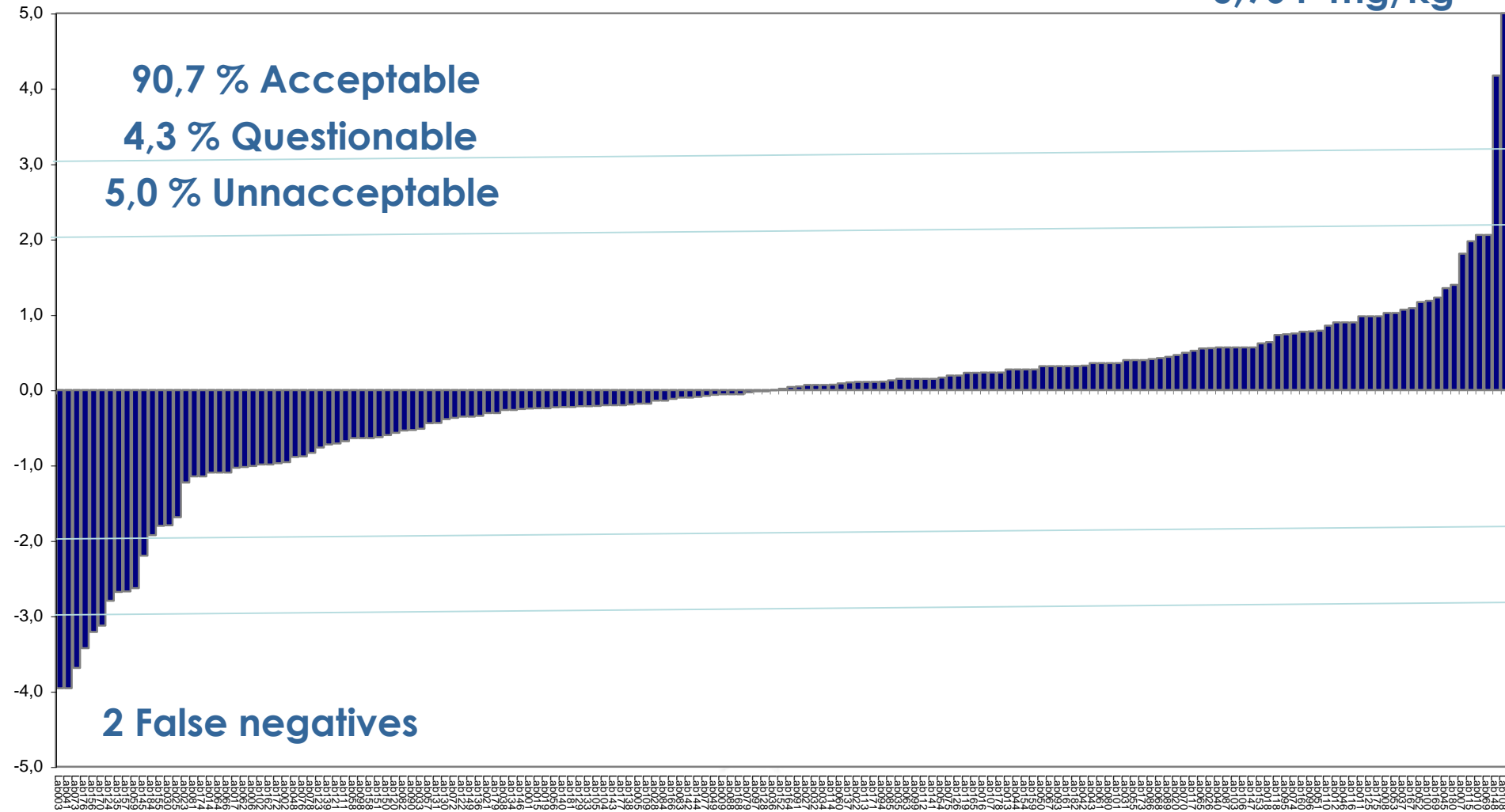


Endosulfan Beta

0,964 mg/kg

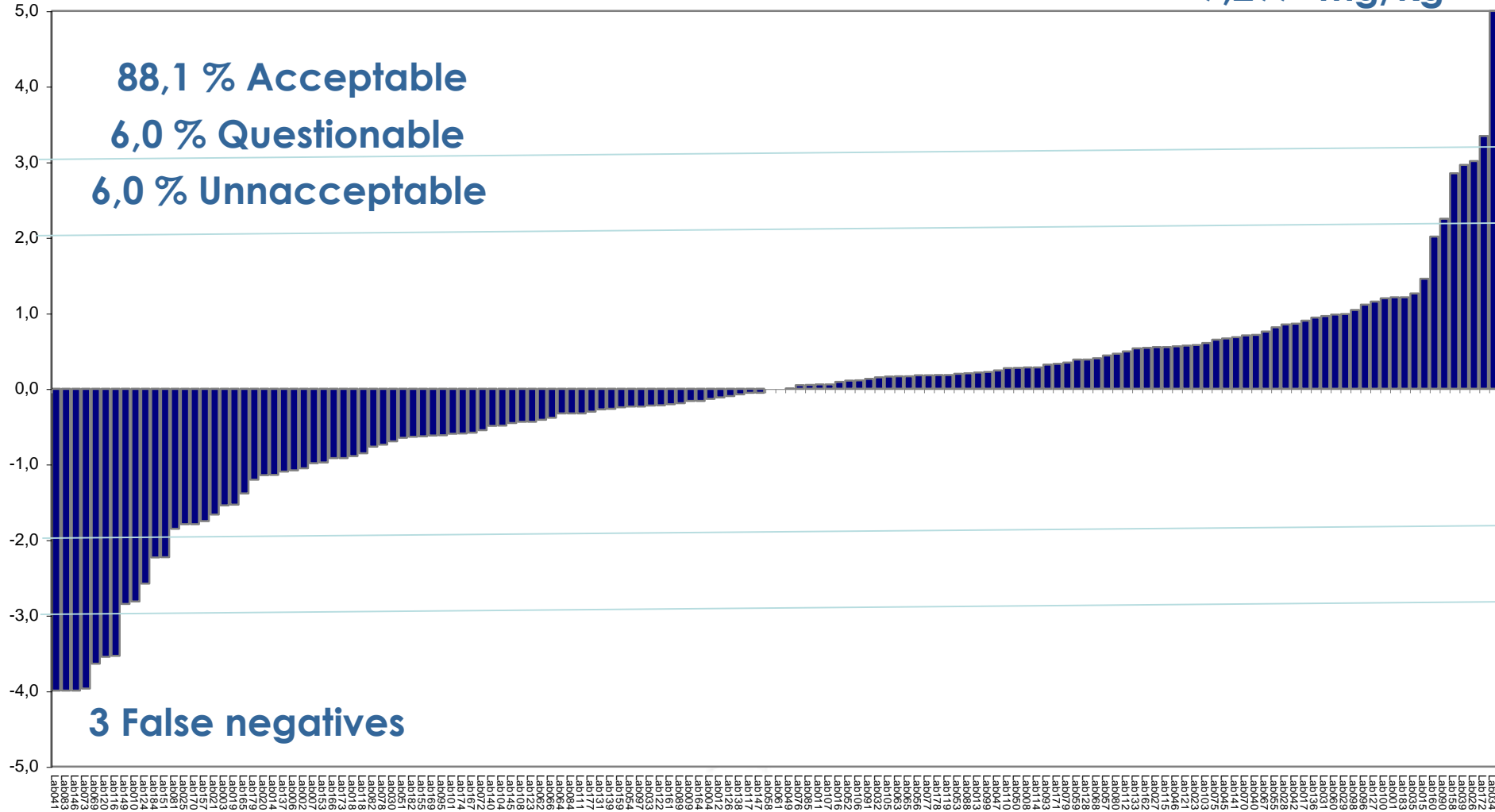
90,7 % Acceptable
4,3 % Questionable
5,0 % Unacceptable

2 False negatives



Fenamiphos

7,297 mg/kg



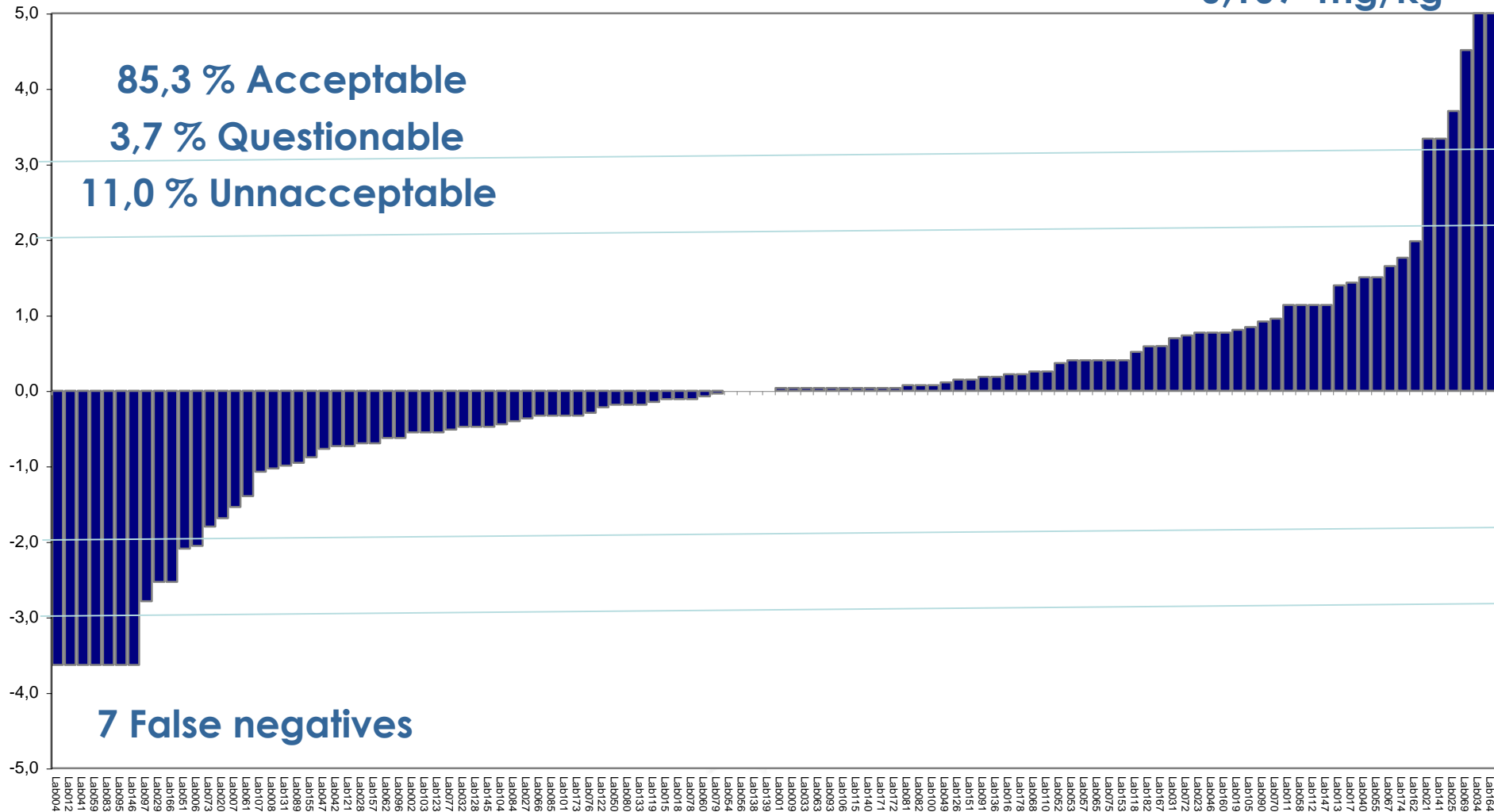


Fenamiphos sulfone

0,109 mg/kg

85,3 % Acceptable
3,7 % Questionable
11,0 % Unacceptable

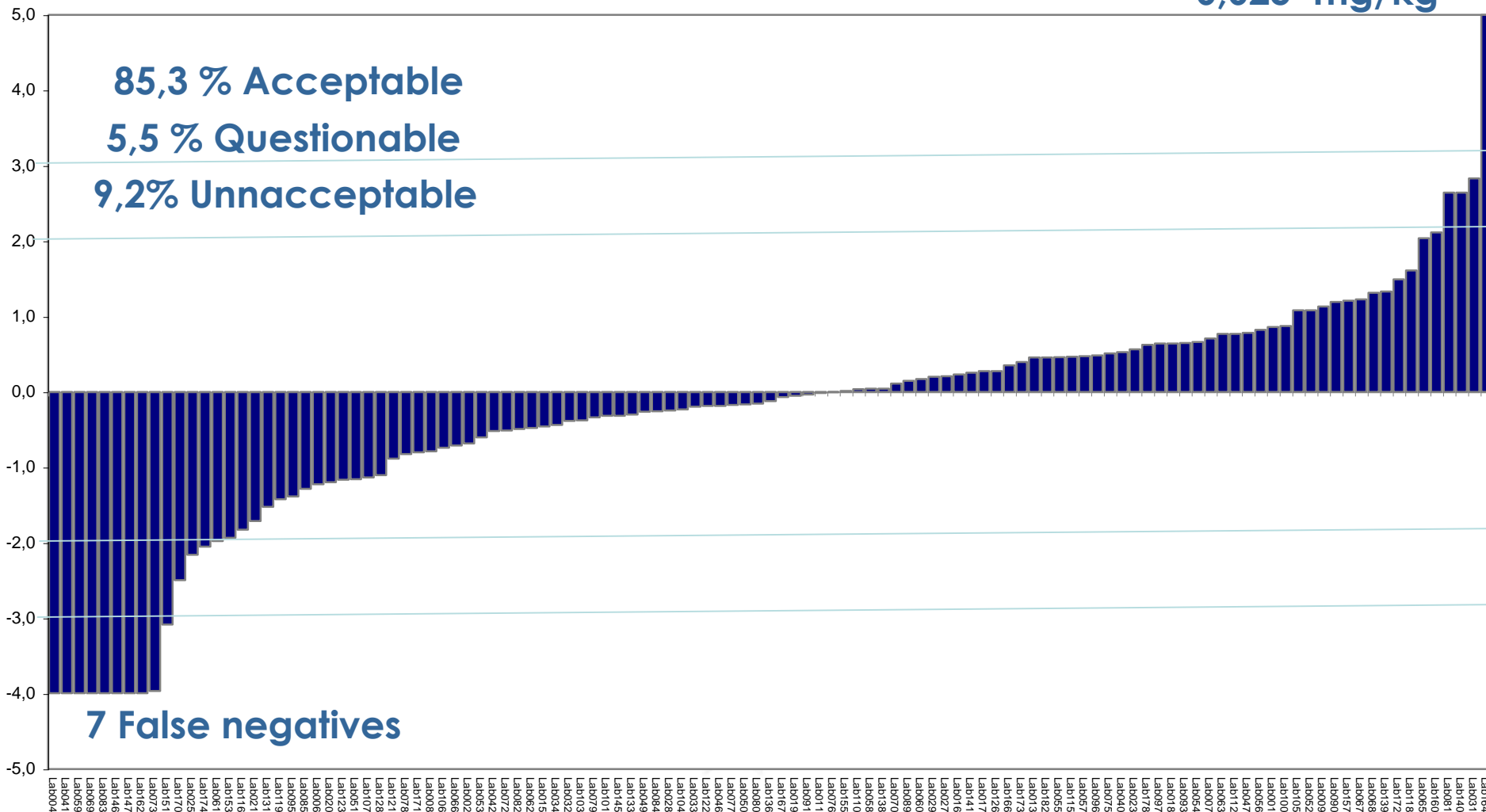
7 False negatives





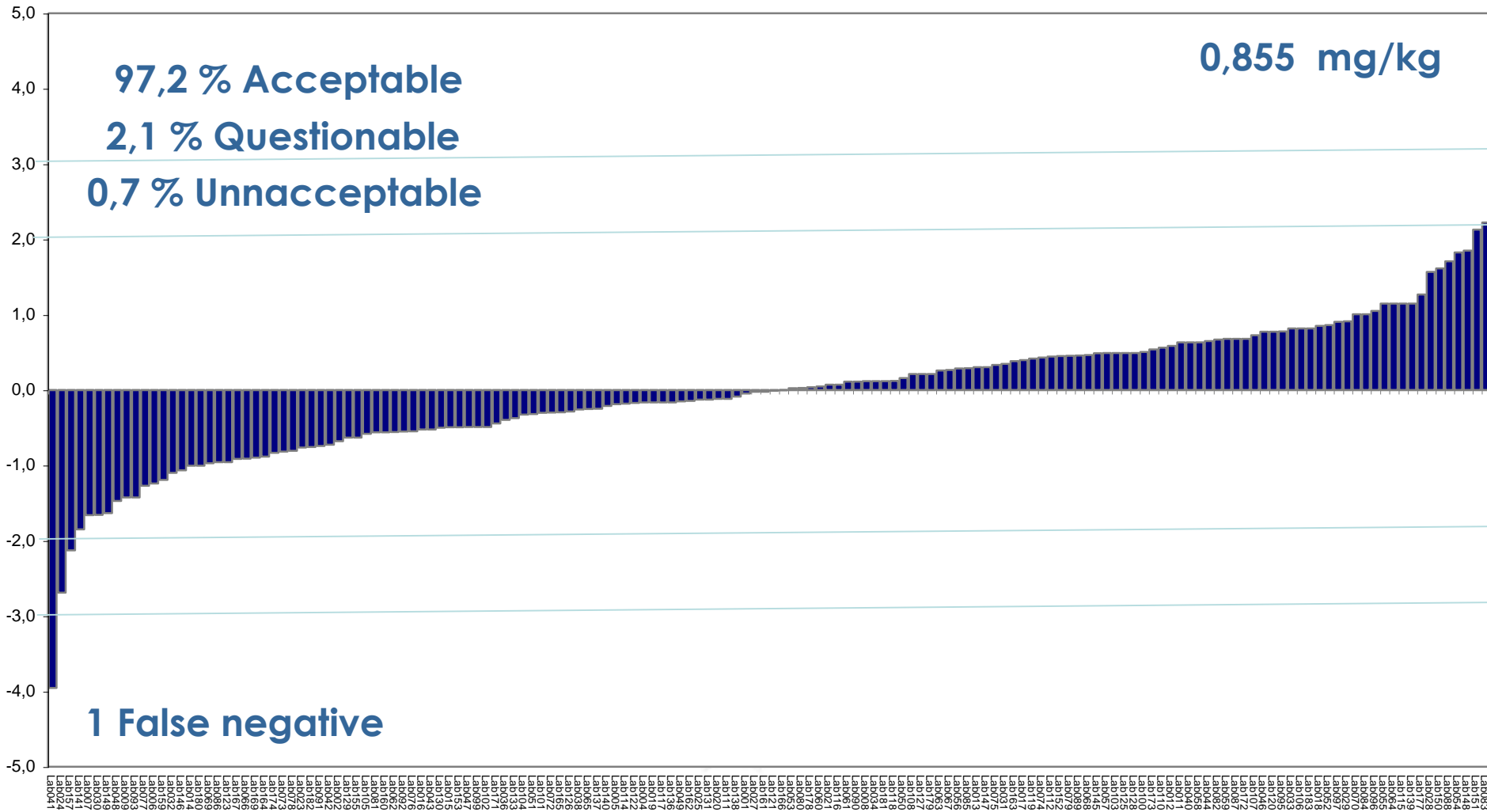
Fenamiphos sulfoxide

6,625 mg/kg





Fenhexamid



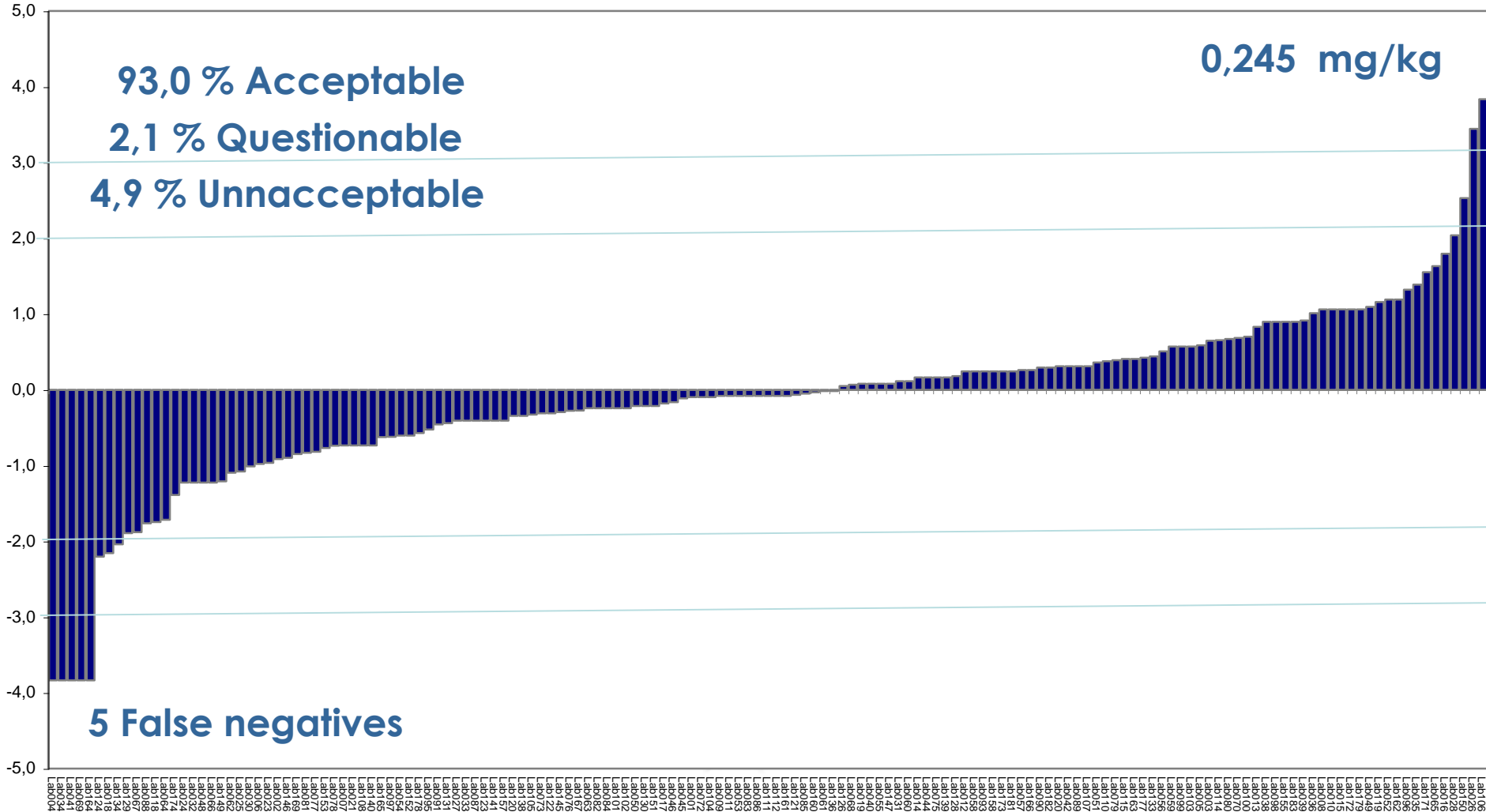


Fludioxonil

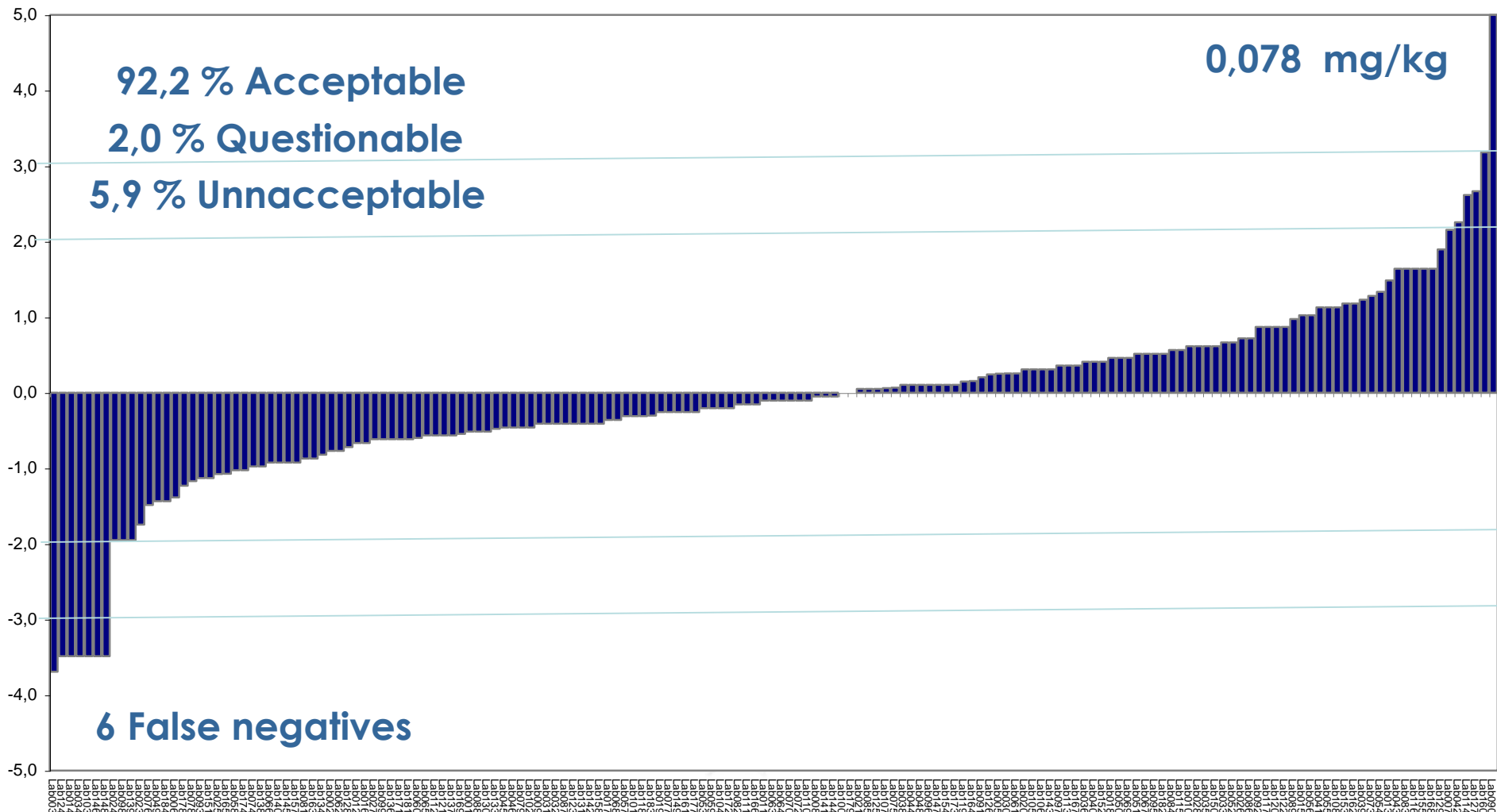
0,245 mg/kg

93,0 % Acceptable
2,1 % Questionable
4,9 % Unacceptable

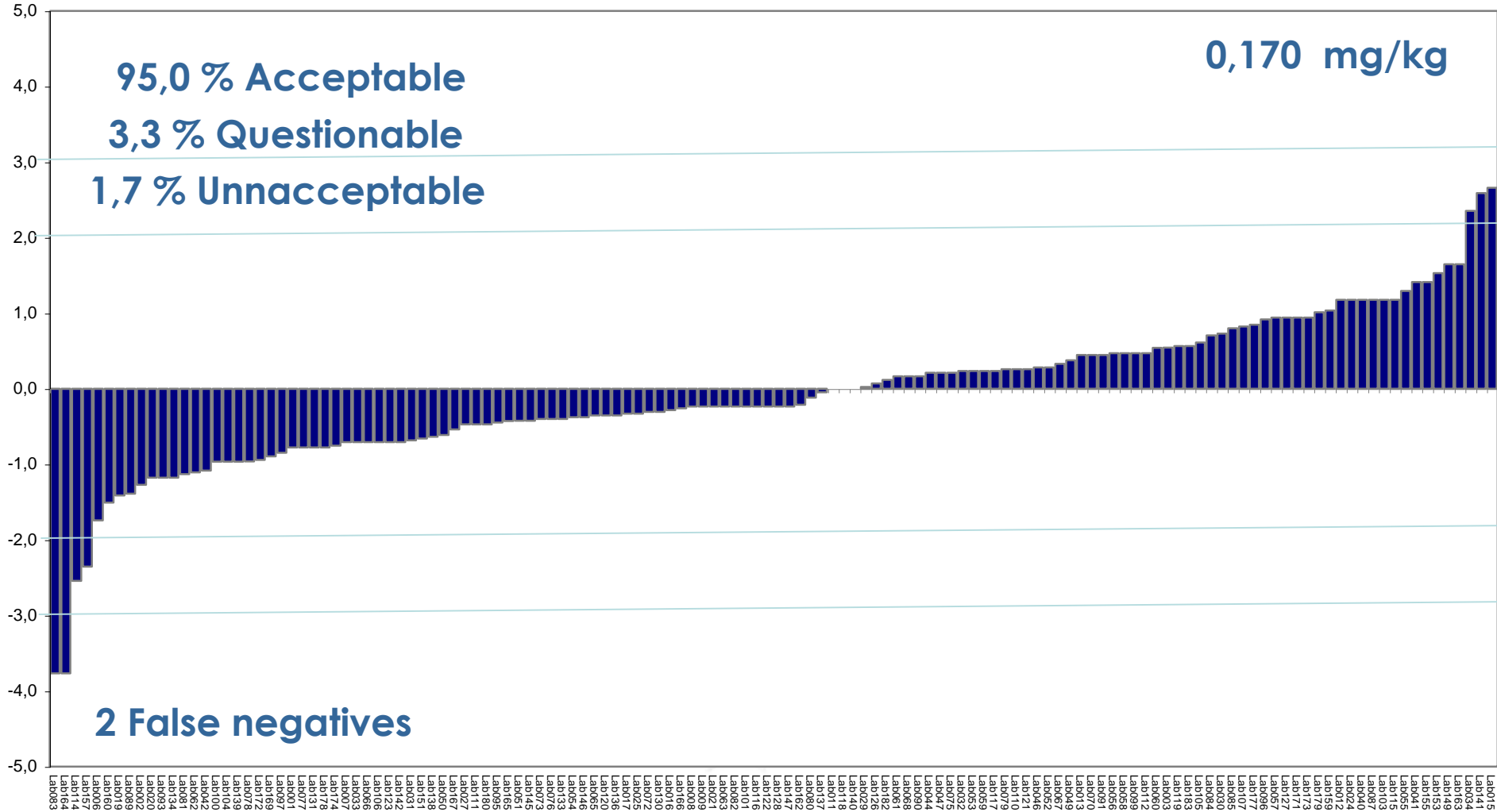
5 False negatives



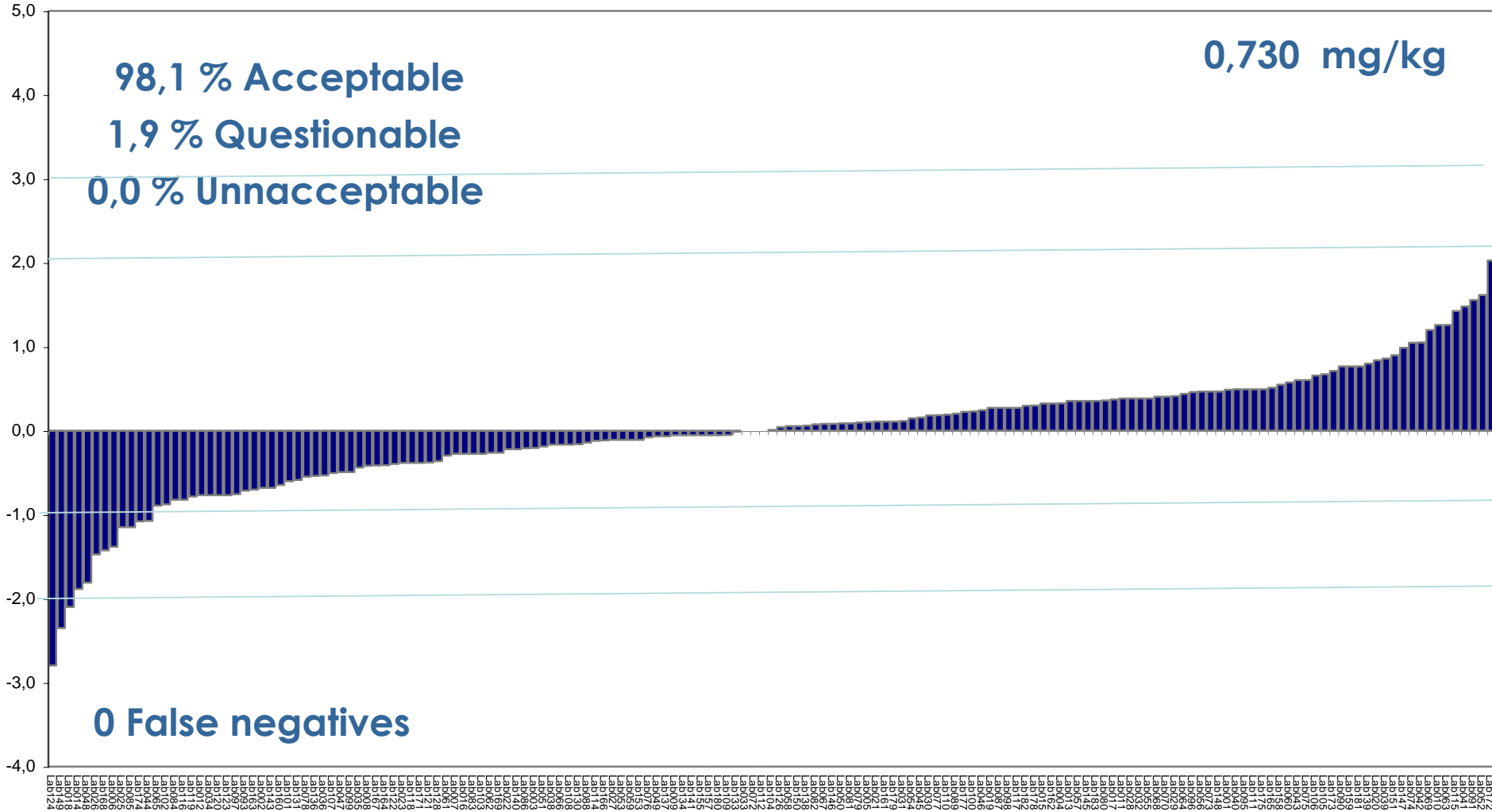
Lambda-Cyhalothrin



Methoxyfenozide

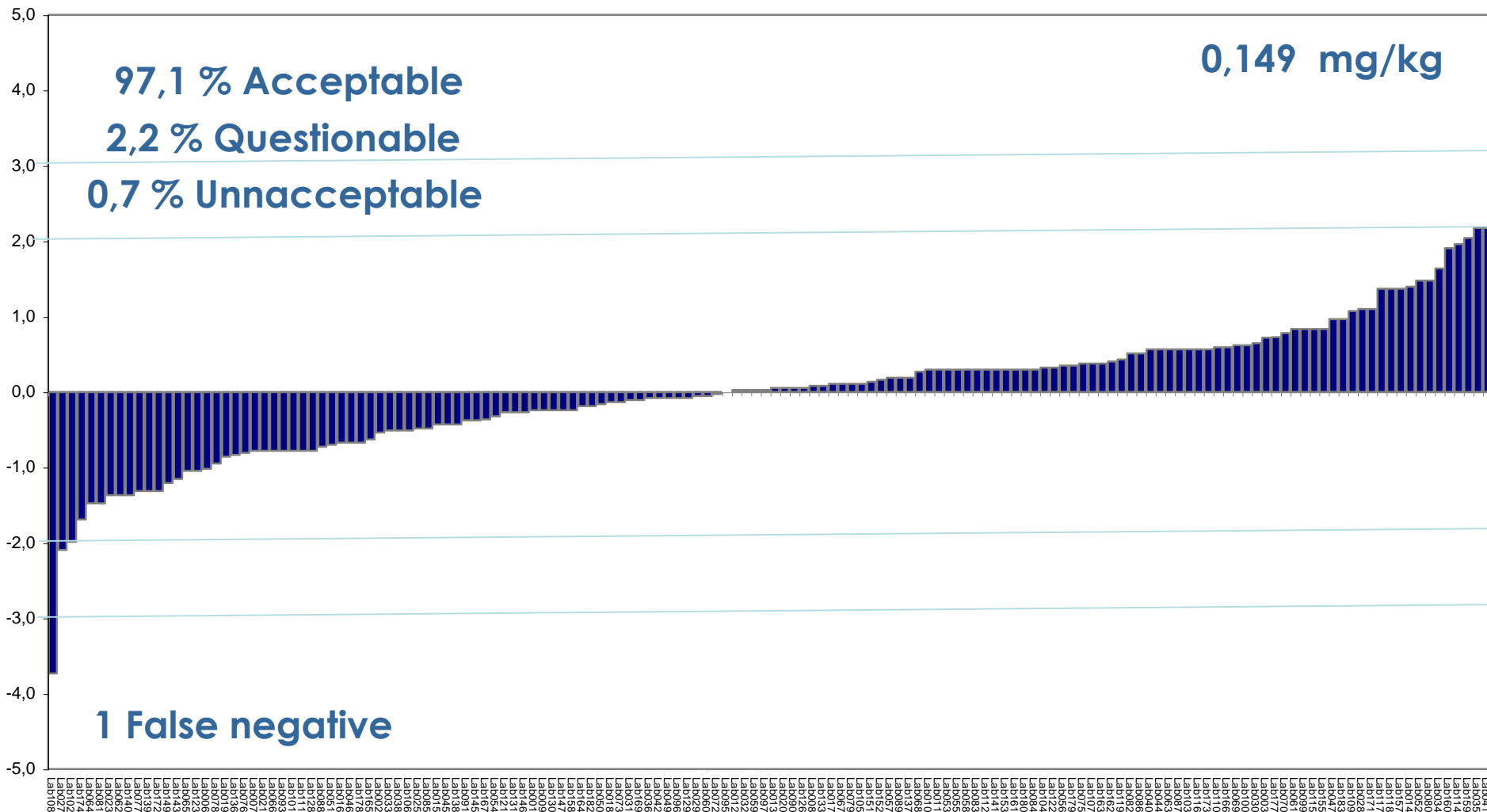


Pirimicarb

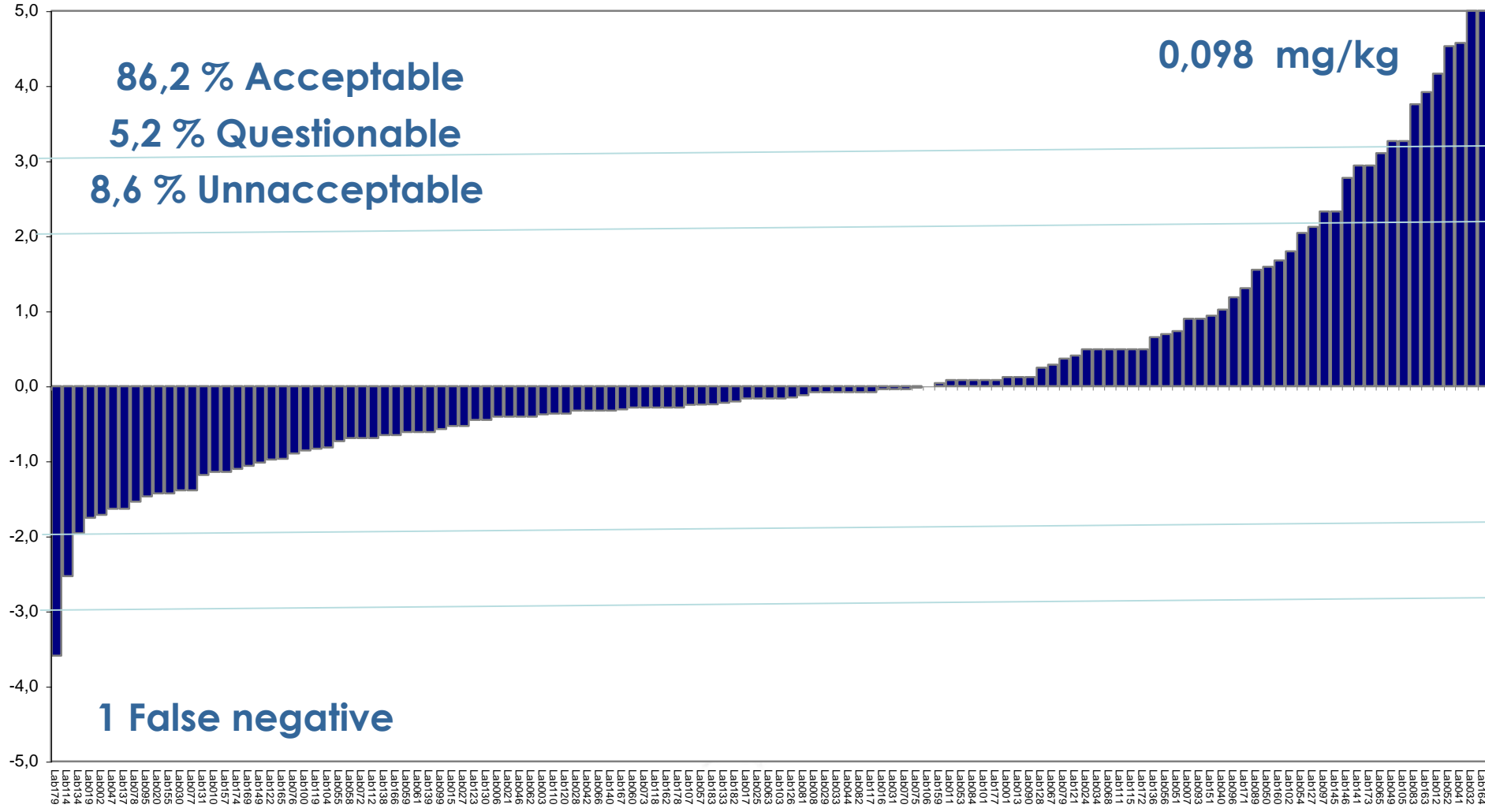




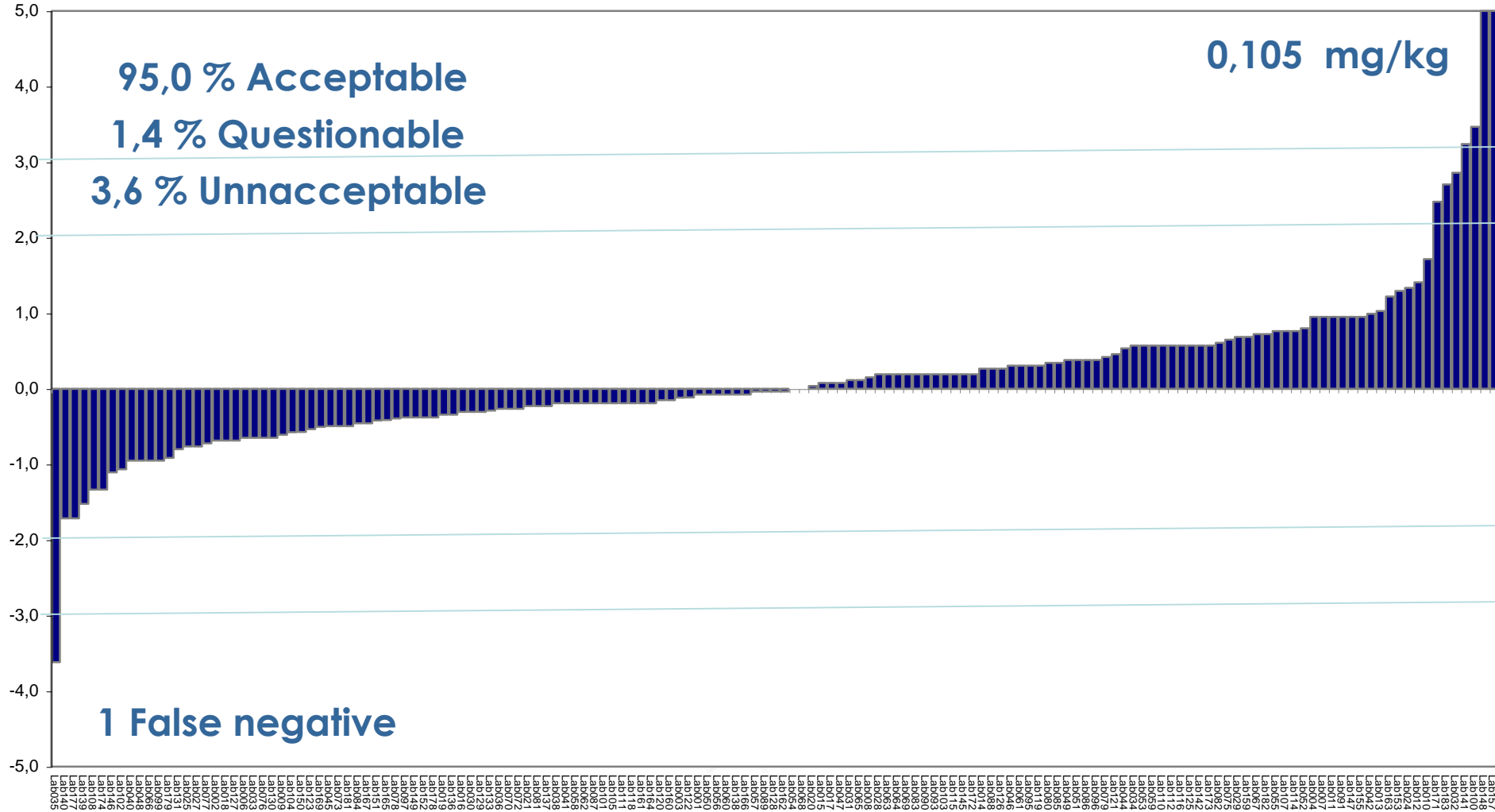
Pyridaben



Spinosad (sum of spinosyn A and spinosyn D, expr. as spinosad)



Tetraconazole





Combined z-Scores



Average of Squared z-Scores

$$AZ^2 = \frac{\sum_{i=1}^n |z_i| |z_i|}{n}$$

| | |
|-------------------|----------------|
| $AZ^2 \leq 2$ | Good |
| $2 < AZ^2 \leq 3$ | Satisfactory |
| $AZ^2 > 3$ | Unsatisfactory |



AZ² Representation

EU/EFTA Laboratories

92 % Good

5 % Satisfactory

3 % Unsatisfactory

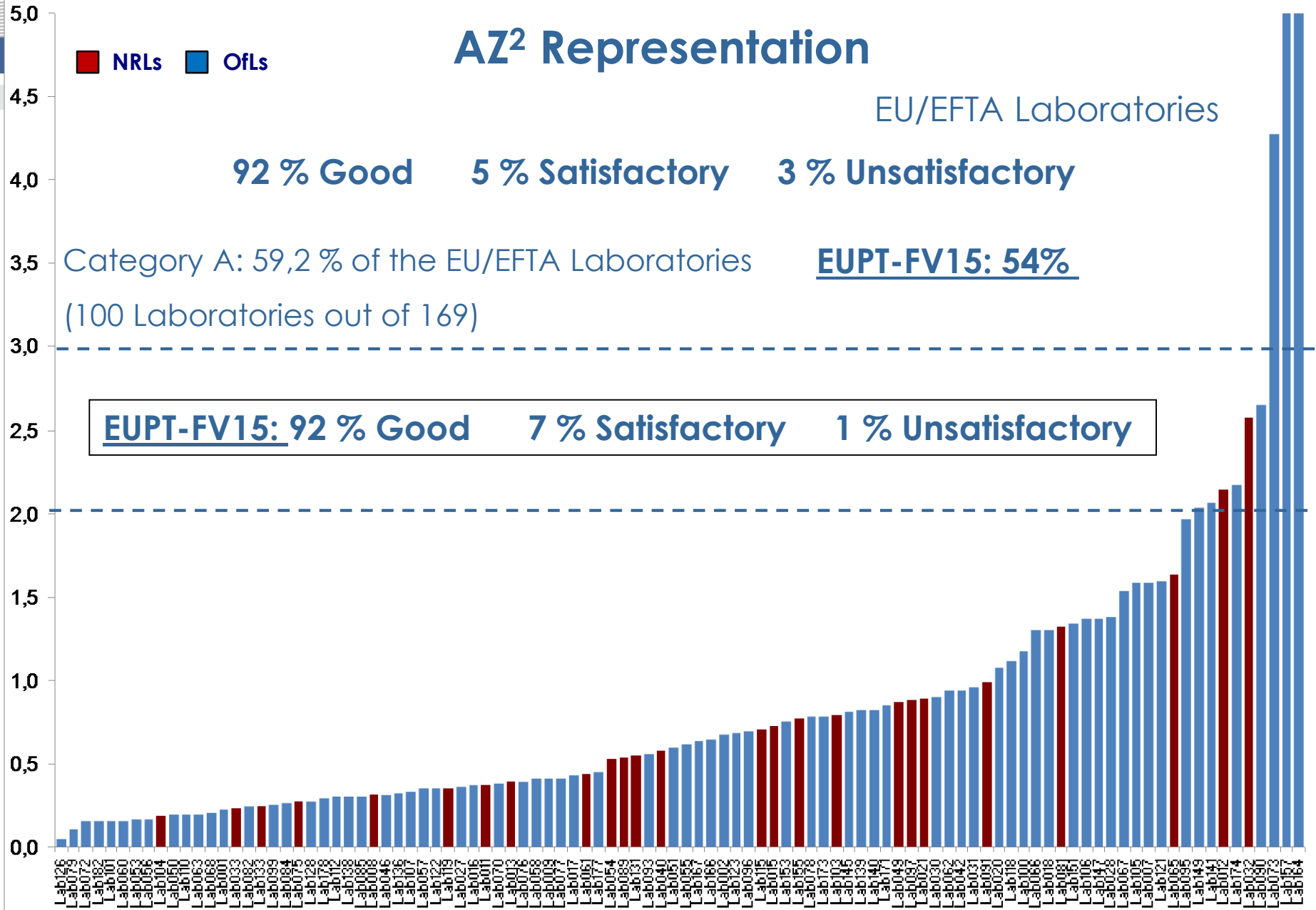
Category A: 59,2 % of the EU/EFTA Laboratories
(100 Laboratories out of 169)

EUPT-FV15: 54%

EUPT-FV15: 92 % Good

7 % Satisfactory

1 % Unsatisfactory





False Positives

5 different laboratories from EU/EFTA countries reported 5 pesticides as false positives



False Positives

| Laboratory Code | Pesticide | Concentration (mg/kg) | Determination Technique | RL (mg/Kg) | MRRL (mg/Kg) |
|-----------------|------------------------------------|-----------------------|-------------------------|------------|--------------|
| Lab059 | Fenpropathrin | 0,980 | LC-MS/MS (ESI+) | 0.01 | 0,01 |
| Lab160 | Folpet | 0,240 | GC-MS/MS (EI) | 0.02 | 0.01 |
| Lab172 | Mepanipyrim (only parent compound) | 0,019 | LC-MS/MS (ESI+) | 0.01 | 0.01 |
| Lab024 | Metalaxyl and metalaxyl-M | 0,010 | LC-MS/MS (ESI+) | 0.01 | 0.01 |
| Lab003 | Tefluthrin | 0,012 | GC-ECD | 0.01 | 0.01 |



False Positives

GC-ECD or GC-MS/MS

Folpet

Tefluthrin

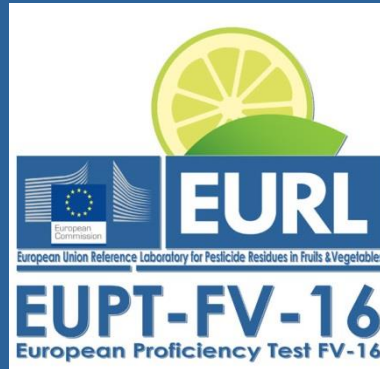
LC-MS/MS

Fenpropathrin

Mepanipyrim

Metalaxyl and metalaxyl-M





**Thank You
for Your Attention**



EURL EUROPEAN
UNION
REFERENCE
LABORATORY