

表 1 27 种新型杀菌剂的线性范围、相关系数、基质效应、检出限和定量限

Table 1 Linear range, correlation coefficient, matrix effect, LODs, LOQs of 27 new fungicides

Compound	Matrix	Linear range ($\mu\text{g/L}$)	R^2	Slope ratio (matrix/acetonitrile)	LOD/ ($\mu\text{g/kg}$)	LOQ/ ($\mu\text{g/kg}$)
Azoxystrobin	rice	0.05-100	1.0000	1.010	0.015	0.050
	oat	0.10-100	0.9998	1.003	0.030	0.100
	tomato	0.08-100	1.0000	0.786	0.022	0.073
	cucumber	0.17-100	0.9997	0.920	0.050	0.167
	grape	0.08-100	0.9990	0.909	0.022	0.074
	apple	0.14-100	0.9993	0.921	0.040	0.135
Benodanil	rice	1.67-100	0.9999	0.974	0.500	1.665
	oat	1.67-100	0.9995	1.004	0.500	1.665
	tomato	1.52-100	0.9996	0.812	0.455	1.514
	cucumber	0.34-100	0.9997	0.874	0.100	0.333
	grape	0.98-100	0.9999	0.954	0.294	0.978
	apple	1.61-100	0.9994	0.891	0.483	1.608
Bixafen	rice	6.66-100	0.9981	0.994	2.000	6.660
	oat	5.00-100	0.9993	1.086	1.501	5.000
	tomato	3.51-100	0.9996	0.776	1.053	3.505
	cucumber	3.00-100	0.9992	0.830	0.900	3.000
	grape	11.72-100	0.9957	0.892	3.517	11.712
	apple	14.79-100	0.9954	0.984	4.441	14.787
Boscalid	rice	5.00-100	0.9997	0.930	1.500	5.000
	oat	4.35-100	0.9990	0.999	1.304	4.343
	tomato	5.55-100	0.9999	0.790	1.667	5.550
	cucumber	5.59-100	0.9996	0.874	1.676	5.581
	grape	4.61-100	0.9987	0.893	1.383	4.604
	apple	3.13-100	0.9979	0.853	0.938	3.122
Carboxin	rice	0.20-100	0.9998	0.976	0.060	0.200
	oat	0.34-100	1.0000	0.958	0.100	0.333
	tomato	0.41-100	0.9995	0.700	0.123	0.409
	cucumber	0.36-100	1.0000	0.805	0.108	0.358
	grape	0.38-100	0.9999	0.973	0.114	0.379
	apple	0.26-100	0.9992	0.957	0.076	0.252
Coumoxystrobin	rice	0.10-100	0.9981	0.779	0.030	0.100
	oat	0.05-100	0.9990	1.262	0.015	0.050
	tomato	0.23-100	0.9986	0.887	0.069	0.228
	cucumber	0.13-100	0.9996	1.120	0.037	0.124
	grape	0.15-100	0.9998	1.013	0.044	0.145
	apple	0.16-100	0.9981	1.198	0.045	0.151
Dimoxystrobin	rice	0.04-100	1.0000	0.974	0.010	0.033
	oat	0.04-100	0.9995	1.027	0.010	0.033
	tomato	0.06-100	0.9999	0.873	0.017	0.057
	cucumber	0.04-100	0.9998	0.942	0.010	0.033
	grape	0.07-100	0.9999	1.001	0.020	0.068

Compound	Matrix	Linear range (µg/L)	R ²	Slope ratio (matrix/acetonitrile)	LOD/ (µg/kg)	LOQ/ (µg/kg)
Fenfuram	apple	0.07-100	0.9994	0.943	0.019	0.063
	rice	0.34-100	0.9997	0.939	0.100	0.333
	oat	0.17-100	1.0000	0.913	0.050	0.167
	tomato	0.62-100	0.9998	0.772	0.184	0.613
	cucumber	0.36-100	0.9999	0.864	0.107	0.357
	grape	0.56-100	0.9992	0.949	0.166	0.552
Fluopyram	apple	0.63-100	0.9992	0.906	0.188	0.626
	rice	1.00-100	0.9998	0.925	0.300	1.000
	oat	3.09-100	0.9998	0.963	0.926	3.083
	tomato	2.18-100	0.9999	0.823	0.652	2.172
	cucumber	1.90-100	0.9994	0.872	0.568	1.892
	grape	0.58-100	0.9999	0.963	0.173	0.578
Fluoxastrobin	apple	3.07-100	0.9982	0.900	0.920	3.064
	rice	0.07-100	1.0000	0.975	0.020	0.067
	oat	0.15-100	0.9991	0.992	0.045	0.149
	tomato	0.19-100	0.9998	0.850	0.056	0.187
	cucumber	0.10-100	0.9998	0.932	0.028	0.093
	grape	0.24-100	0.9996	0.953	0.070	0.232
Flutolanil	apple	0.08-100	0.9994	0.959	0.023	0.076
	rice	0.34-100	0.9999	0.971	0.100	0.333
	oat	0.47-100	0.9990	1.037	0.141	0.469
	tomato	0.29-100	0.9999	0.861	0.085	0.285
	cucumber	0.22-100	0.9999	0.913	0.064	0.213
	grape	0.58-100	1.0000	0.979	0.172	0.574
Fluxapyroxad	apple	0.54-100	0.9995	0.908	0.161	0.536
	rice	1.67-100	0.9999	0.957	0.500	1.665
	oat	1.82-100	0.9999	1.008	0.546	1.818
	tomato	3.03-100	0.9997	0.810	0.909	3.027
	cucumber	2.00-100	0.9984	0.846	0.601	2.000
	grape	1.94-100	0.9992	0.936	0.581	1.936
Furametpyr	apple	1.60-100	0.9988	0.898	0.479	1.596
	rice	0.17-100	0.9999	1.005	0.050	0.167
	oat	0.29-100	1.0000	1.048	0.086	0.285
	tomato	0.32-100	0.9998	0.899	0.094	0.312
	cucumber	0.28-100	0.9998	0.911	0.081	0.271
	grape	0.34-100	0.9999	0.930	0.100	0.333
Isopyrazam	apple	0.30-100	0.9993	0.907	0.087	0.291
	rice	0.17-100	0.9999	0.912	0.050	0.167
	oat	0.34-100	0.9994	1.075	0.100	0.333
	tomato	0.53-100	0.9997	0.848	0.159	0.530
	cucumber	0.14-100	0.9998	0.935	0.042	0.140
	grape	0.40-100	0.9991	0.957	0.120	0.400
	apple	0.40-100	0.9993	0.923	0.118	0.392

Compound	Matrix	Linear range (µg/L)	R ²	Slope ratio (matrix/acetonitrile)	LOD/ (µg/kg)	LOQ/ (µg/kg)
Kresoxim-methyl	rice	1.33-100	0.9992	0.868	0.400	1.332
	oat	2.63-100	0.9987	0.522	0.790	2.629
	tomato	1.31-100	0.9997	0.714	0.392	1.304
	cucumber	1.18-100	0.9988	0.923	0.354	1.180
	grape	2.12-100	0.9988	0.849	0.634	2.112
	apple	1.56-100	0.9983	0.779	0.468	1.559
Mepronil	rice	0.17-100	0.9996	0.937	0.050	0.167
	oat	0.09-100	0.9995	0.998	0.025	0.083
	tomato	0.16-100	0.9999	0.826	0.047	0.156
	cucumber	0.15-100	0.9999	0.883	0.045	0.148
	grape	0.25-100	0.9999	0.948	0.074	0.248
	apple	0.12-100	0.9992	0.884	0.036	0.119
Metominostrobin-(E)	rice	0.05-100	1.0000	0.982	0.013	0.042
	oat	0.05-100	1.0000	1.001	0.015	0.050
	tomato	0.03-100	0.9998	0.860	0.008	0.025
	cucumber	0.04-100	0.9998	0.913	0.012	0.040
	grape	0.07-100	0.9999	0.997	0.020	0.067
	apple	0.07-100	0.9994	0.925	0.020	0.067
Metominostrobin-(Z)	rice	0.02-100	1.0000	0.942	0.006	0.020
	oat	0.04-100	0.9999	1.031	0.010	0.033
	tomato	0.04-100	0.9999	1.029	0.011	0.036
	cucumber	0.07-100	0.9999	0.896	0.021	0.070
	grape	0.04-100	1.0000	1.021	0.010	0.032
	apple	0.04-100	0.9994	0.995	0.010	0.035
Orysastrobins	rice	0.04-100	0.9998	0.964	0.010	0.033
	oat	0.04-100	1.0000	1.040	0.012	0.040
	tomato	0.06-100	1.0000	0.844	0.017	0.056
	cucumber	0.04-100	0.9998	0.903	0.010	0.033
	grape	0.11-100	1.0000	1.520	0.033	0.110
	apple	0.09-100	0.9993	0.899	0.025	0.084
Oxycarboxin	rice	0.34-100	0.9995	1.083	0.100	0.333
	oat	0.23-100	0.9999	1.150	0.067	0.224
	tomato	0.23-100	0.9999	0.933	0.068	0.227
	cucumber	0.25-100	0.9999	1.320	0.075	0.250
	grape	0.30-100	0.9999	0.998	0.090	0.298
	apple	0.20-100	0.9991	0.960	0.060	0.199
Penflufen	rice	0.05-100	0.9999	0.948	0.013	0.044
	oat	0.05-100	1.0000	0.962	0.015	0.050
	tomato	0.09-100	0.9999	0.860	0.027	0.090
	cucumber	0.03-100	0.9995	0.900	0.008	0.027
Penthiopyrad	grape	0.08-100	0.9997	0.965	0.024	0.079
	apple	0.04-100	0.9990	0.905	0.009	0.031
	rice	0.40-100	0.9997	0.938	0.120	0.400

Compound	Matrix	Linear range (µg/L)	R ²	Slope ratio (matrix/acetonitrile)	LOD/ (µg/kg)	LOQ/ (µg/kg)
Picoxystrobin	oat	0.16-100	0.9998	1.040	0.048	0.159
	tomato	0.28-100	0.9998	0.823	0.083	0.278
	cucumber	0.23-100	1.0000	0.870	0.067	0.223
	grape	0.42-100	1.0000	0.972	0.124	0.414
	apple	0.45-100	0.9991	0.937	0.133	0.444
	rice	0.07-100	0.9999	0.950	0.020	0.067
	oat	0.05-100	0.9992	1.090	0.015	0.050
	tomato	0.07-100	0.9992	0.857	0.019	0.062
	cucumber	0.09-100	1.0000	0.933	0.027	0.089
	grape	0.03-100	1.0000	1.001	0.009	0.030
Pyraclostrobin	apple	0.05-100	0.9993	0.966	0.013	0.044
	rice	0.14-100	1.0000	0.978	0.040	0.133
	oat	0.20-100	0.9980	1.160	0.060	0.200
	tomato	0.13-100	0.9997	0.899	0.038	0.125
	cucumber	0.24-100	0.9999	0.982	0.072	0.240
	grape	0.23-100	0.9998	1.000	0.067	0.223
	apple	0.06-100	0.9989	1.008	0.016	0.053
Thiﬂuzamide	rice	55.5-200	0.9980	0.867	16.666	55.500
	oat	20.48-200	0.9981	1.010	6.148	20.471
	tomato	30.84-200	0.9975	0.911	9.259	30.833
	cucumber	31.81-200	0.9983	1.050	9.551	31.805
	grape	24.35-200	0.9986	1.140	7.310	24.342
	apple	48.57-200	0.9978	0.974	14.584	48.566
Triclopyricarbe	rice	50.00-200	0.9950	0.704	15.000	50.000
	oat	23.18-200	0.9974	0.924	6.961	23.179
	tomato	28.15-200	0.9983	5.080	8.451	28.141
	cucumber	44.70-200	0.9981	0.898	13.423	44.698
	grape	26.83-200	0.9998	0.892	8.056	26.826
	apple	20.77-200	0.9963	0.990	6.237	20.769
Trifloxystrobin	rice	0.09-100	0.9999	0.885	0.025	0.083
	oat	0.04-100	0.9975	1.200	0.010	0.033
	tomato	0.04-100	0.9980	0.822	0.012	0.038
	cucumber	0.09-100	0.9999	0.984	0.027	0.089
	grape	0.13-100	1.0000	1.020	0.037	0.125
	apple	0.04-100	0.9987	1.060	0.011	0.035

表 2 大米、燕麦、番茄、黄瓜、葡萄、苹果中 27 种新型杀菌剂的回收率和相对标准偏差 ($n=3$)

Table 2 Recoveries and relative standard deviations of 27 new fungicides in rice, oat, tamato, cucumber, grape and apple ($n=3$)

Analyte	Rice							Oat							Tomato					
	5 µg/kg		20 µg/kg		50 µg/kg			5 µg/kg		20 µg/kg		50 µg/kg			5 µg/kg		20 µg/kg		50 µg/kg	
	Rec/%	RSD/%	Rec/%	RSD/%	Rec/%	RSD/%		Rec/%	RSD/%	Rec/%	RSD/%	Rec/%	RSD/%		Rec/%	RSD/%	Rec/%	RSD/%	Rec/%	RSD/%
Azoxystrobin	80.4	5.7	82.5	3.1	77.6	5.2		82.6	1.3	92.7	6.3	87.2	11.9		89.9	4.3	90.8	1.2	90.2	2.6
Benodanil	72.6	1.6	84.1	1.9	78.4	1.9		81.9	2.1	89.1	2.0	80.2	12.4		85.8	1.7	87.0	1.5	91.7	1.8
Bixafen	76.9	18.1	102.0	10.9	79.2	3.1		71.8	3.4	91.1	14.4	84.3	14.9		85.3	3.5	86.9	10.1	86.2	0.8
Boscailid	79.3	19.4	82.5	2.6	71.1	1.5		111.9	13.6	85.6	14.2	81.9	8.7		71.7	16.5	82.7	9.6	82.5	5.2
Carboxin	73.2	2.1	84.5	3.2	79.3	2.1		71.2	2.5	90.1	2.4	74.6	2.0		87.1	7.1	85.5	2.7	85.5	5.3
Coumoxystrobin	96.2	15.6	78.5	8.5	71.5	3.4		71.8	0.0	71.3	4.4	74.5	8.0		79.0	8.8	75.3	7.8	87.0	7.4
Dimoxystrobin	76.6	2.0	85.7	2.0	77.1	4.8		70.8	1.9	93.5	4.1	76.8	11.0		89.2	2.7	87.8	1.4	89.7	1.8
Fenfuram	72.1	5.1	83.9	2.1	78.7	3.0		74.0	2.2	92.8	8.2	80.1	11.4		95.5	1.7	83.7	1.9	86.5	3.5
Fluopyram	72.8	5.2	86.3	3.5	80.4	4.7		70.7	6.4	109.3	11.3	77.8	8.2		91.0	4.3	88.6	2.2	90.3	3.3
Fluoxastrobin	76.7	2.1	84.3	2.2	77.0	4.8		71.7	0.5	93.7	5.4	78.6	9.4		93.6	3.9	84.9	1.5	86.4	7.4
Flutolanil	72.0	7.0	84.2	5.1	79.6	3.8		76.3	5.1	96.5	6.8	75.9	11.5		90.6	1.2	88.8	1.3	90.8	2.6
Fluxapyroxad	83.6	8.6	84.1	2.7	79.7	3.2		80.4	3.4	93.8	16.5	81.6	10.2		82.4	2.8	83.6	0.2	87.1	1.6

Analyte	Rice							Oat							Tomato					
	5 µg/kg		20 µg/kg		50 µg/kg			5 µg/kg		20 µg/kg		50 µg/kg			5 µg/kg		20 µg/kg		50 µg/kg	
	Rec/%	RSD/%	Rec/%	RSD/%	Rec/%	RSD/%		Rec/%	RSD/%	Rec/%	RSD/%	Rec/%	RSD/%		Rec/%	RSD/%	Rec/%	RSD/%	Rec/%	RSD/%
Furametpyr	71.5	4.6	86.8	3.4	80.8	2.2		75.3	0.4	92.8	6.4	83.4	9.3		95.1	4.0	83.4	1.8	89.6	3.5
Isopyrazam	73.0	2.6	84.8	1.2	71.3	6.5		81.5	15.9	111.2	8.9	71.0	10.4		85.8	1.3	84.6	4.4	87.8	2.5
Kresoxim-methyl	88.0	8.3	85.2	4.1	72.7	13.5		70.6	1.3	97.8	13.4	74.3	16.0		77.0	7.9	91.8	1.2	76.7	19.0
Mepronil	76.5	1.4	85.5	5.6	74.7	7.1		75.4	3.6	98.0	7.6	79.1	11.5		91.6	2.4	88.3	1.5	86.7	5.0
Metominostrobin-(E)	75.4	3.8	85.6	2.9	80.9	3.3		73.0	0.1	92.1	6.6	98.7	7.2		95.8	4.0	87.4	1.3	89.4	1.1
Metominostrobin-(Z)	81.8	4.1	94.8	3.5	90.8	3.3		81.8	5.0	80.4	7.5	81.9	9.0		89.4	2.2	80.5	4.4	89.0	4.0
Orysastrobins	75.3	1.0	85.4	3.3	81.0	2.3		77.1	1.2	92.7	6.9	84.3	9.3		91.9	2.1	88.6	0.5	90.4	0.3
Oxycarboxin	74.8	2.6	85.8	2.1	81.0	3.1		72.9	3.3	97.3	10.7	74.9	0.9		92.0	4.7	89.4	2.8	87.9	9.3
Penflufen	74.9	0.9	84.8	3.6	77.3	5.9		72.7	1.8	94.8	3.2	75.0	10.2		91.8	3.7	88.1	1.7	87.2	5.1
Penthiopyrad	74.0	6.2	85.9	5.6	75.7	4.2		70.1	1.0	101.2	7.6	74.3	11.2		84.7	2.1	88.1	2.0	85.8	2.6
Picoxystrobin	77.3	0.9	83.4	3.9	76.6	5.7		70.9	3.8	106.2	4.4	76.1	8.1		92.2	2.6	87.7	2.6	89.9	1.7
Pyraclostrobin	72.2	4.5	81.3	2.1	71.5	2.5		70.6	3.0	113.8	11.8	71.8	6.0		78.1	2.6	76.0	5.5	85.3	2.6
Thifluzamide	72.8	5.0	101.5	5.2	103.4	11.8		97.3	4.7	74.1	4.9	76.0	8.2		72.4	19.6	89.5	10.5	93.6	7.5
Triclopyricarben	70.2	8.5	82.8	8.8	97.7	3.4		103.7	19.6	93.8	6.1	71.1	5.4		81.1	6.5	70.3	15.7	92.4	3.8
Trifloxystrobin	81.3	0.3	82.6	3.7	78.0	3.1		71.1	4.2	117.6	9.8	72.3	8.6		85.5	4.5	82.7	6.8	89.1	2.6

Analyte	Cucumber						pe						Apple					
	5 µg/kg		20 µg/kg		50 µg/kg		5 µg/kg		20 µg/kg		50 µg/kg		5 µg/kg		20 µg/kg		50 µg/kg	
	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %
Azoxystrobin	100.8	4.9	85.4	2.6	73.7	0.6	100.5	16.7	96.0	6.1	85.8	1.9	95.0	4.3	88.0	2.1	87.5	0.4
Benodanil	99.9	3.0	82.9	2.1	71.4	1.2	83.1	8.8	79.8	2.7	81.2	1.3	89.2	3.6	86.3	2.6	84.9	2.4
Bixafen	79.2	14.9	78.5	9.3	71.7	8.2	99.6	16.7	85.1	1.3	75.1	1.9	85.0	16.5	97.9	11.2	80.8	3.5
Boscaillid	109.7	14.5	73.7	4.6	70.6	0.5	98.1	13.7	80.5	7.0	84.3	2.7	102.4	16.3	83.7	3.6	80.1	3.7
Carboxin	72.0	6.5	84.5	4.5	71.9	0.2	74.8	11.8	90.0	13.6	85.9	2.9	72.4	3.4	74.8	10.6	75.6	3.3
Coumoxystrobin	100.8	6.2	70.8	2.3	70.1	6.6	80.9	6.1	75.0	7.1	83.3	9.3	86.3	7.0	74.0	7.7	81.1	13.2

Analyte	Cucumber						Grape						Apple					
	5 µg/kg		20 µg/kg		50 µg/kg		5 µg/kg		20 µg/kg		50 µg/kg		5 µg/kg		20 µg/kg		50 µg/kg	
	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %
Dimoxystrobin	98.0	3.4	81.7	1.5	71.8	1.8	89.4	2.4	76.7	7.0	83.1	2.4	93.0	2.3	86.4	0.5	85.9	1.5
Fenfuram	70.9	4.7	70.8	2.6	71.1	2.2	84.8	4.1	81.4	0.8	77.7	0.9	89.8	0.2	84.9	1.8	84.7	1.4
Fluopyram	99.1	3.1	81.4	1.5	73.3	1.1	85.6	2.0	78.8	3.2	81.5	2.8	97.4	0.4	88.9	1.7	88.0	1.3
Fluoxastrobin	99.5	6.2	79.7	0.1	73.2	0.7	91.8	2.3	80.2	4.6	82.6	2.8	88.9	2.2	86.2	1.5	86.5	1.2
Flutolanil	99.9	0.9	80.4	2.0	73.0	1.9	79.9	0.3	79.1	6.6	83.2	2.9	93.5	5.0	88.2	0.7	88.0	1.9
Fluxapyroxad	88.0	3.2	83.8	2.9	73.4	1.1	88.6	5.7	82.8	6.4	83.5	3.6	99.9	8.6	86.6	3.0	88.4	3.4

Analyte	Cucumber						Grape						Apple					
	5 µg/kg		20 µg/kg		50 µg/kg		5 µg/kg		20 µg/kg		50 µg/kg		5 µg/kg		20 µg/kg		50 µg/kg	
	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %
Furametpyr	96.8	3.1	79.3	3.0	74.7	2.5	87.7	0.4	81.0	2.4	77.6	3.1	94.1	3.0	87.6	1.5	87.4	1.6
Isoprazam	96.3	4.2	78.0	5.7	70.2	0.7	81.4	4.2	80.6	6.7	84.9	4.2	89.3	2.7	81.1	5.1	86.1	5.9
Kresoxim-methyl	109.1	11.8	76.2	16.4	78.9	3.5	112.2	6.4	71.2	9.4	78.2	5.9	90.4	11.1	88.3	4.1	78.5	6.6
Mepronil	100.6	2.7	80.4	1.7	72.3	1.8	89.1	4.1	77.4	8.7	79.7	2.1	93.6	1.9	86.5	1.6	86.9	2.3
Metominostrobin-(E)	98.5	4.0	83.5	1.2	73.2	1.6	89.5	3.1	80.7	3.1	82.3	1.8	95.2	2.6	87.5	0.9	86.7	1.3
Metominostrobin-(Z)	98.6	6.0	78.1	4.1	78.3	2.9	80.4	4.6	74.9	4.4	77.3	1.3	95.1	1.7	83.2	7.8	70.6	15.2

Analyte	Cucumber						Grape						Apple					
	5 µg/kg		20 µg/kg		50 µg/kg		5 µg/kg		20 µg/kg		50 µg/kg		5 µg/kg		20 µg/kg		50 µg/kg	
	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %
Orysastobin	99.1	3.0	83.4	1.6	73.7	1.6	89.0	2.3	80.3	2.4	82.1	1.3	93.5	2.8	87.7	0.5	86.2	1.9
Oxycarboxin	93.8	0.6	81.8	4.4	74.6	2.2	92.3	2.2	81.9	5.0	78.7	3.4	96.9	0.4	88.9	0.5	88.2	2.0
Penflufen	97.7	3.3	81.0	1.6	73.0	2.0	88.1	1.6	78.2	6.1	82.7	2.4	92.1	2.1	87.2	0.8	86.0	1.4
Penthiopyrad	106.6	6.0	79.6	3.4	72.9	2.4	82.9	5.0	76.6	10.4	84.2	3.9	86.7	1.7	87.5	3.2	86.5	2.4
Picoxystrobin	96.1	1.9	82.4	3.0	71.0	2.5	88.3	1.6	74.5	16.0	82.2	3.1	93.2	1.9	87.7	1.3	88.3	1.7
Pyraclostrobin	87.2	3.2	70.7	4.8	71.3	4.1	80.0	2.7	78.2	7.2	78.1	5.3	83.1	3.0	75.6	2.8	78.8	4.3

Analyte	Cucumber						Grape						Apple					
	5 µg/kg		20 µg/kg		50 µg/kg		5 µg/kg		20 µg/kg		50 µg/kg		5 µg/kg		20 µg/kg		50 µg/kg	
	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %	Rec/ %	RSD/ %
Thiﬂuzamide	92.3	14.5	88.8	1.8	75.1	13.2	104.0	2.7	80.8	17.9	72.9	6.9	111.8	11.3	70.0	16.0	77.7	3.2
Triclopyricarbo	72.7	15.0	92.1	3.6	70.8	18.3	85.5	16.5	78.9	2.5	76.1	1.8	80.3	9.9	75.8	7.0	83.7	6.3
Trifloxystrobin	92.6	5.7	71.4	4.2	71.1	6.0	82.3	9.5	79.9	7.9	78.4	7.2	92.9	3.8	81.6	3.7	85.2	3.6

