

Detection of the desiccant and plant growth regulator chlormequat in honeybees and comb pollen

T. ERBAN^{1*}, L. TROJAKOVA², M. KAMLER³, D. TITERA³

¹Crop Research Institute, Prague, Czech Republic

²ALS Czech Republic, Prague, Czech Republic

³Bee Research Institute at Dol, Libčice nad Vltavou, Czech Republic

Electronic supplementary material (ESM)

Table S1. Values of the limit of detection (LOD) and quantification (LOQ) for glyphosate analysis in honeybee samples

Analyte	LOD [ng/ml]	LOQ [ng/ml]	Uncertainty [%]
Glyphosate	0.025	0.05	40
AMPA	0.025	0.05	40

Table S2. Values of the limit of detection (LOD) and quantification (LOQ) for quat analysis in honeybee samples

Analyte	LOD [ng/ml]	LOQ [ng/ml]	Uncertainty [%]
Diquat	0.007	0.02	30
Paraquat	0.016	0.05	30
Chlormequat	0.008	0.03	30

Table S3. Values of the limit of detection (LOD) and quantification (LOQ) for pesticide analysis in honeybee samples

Analyte	LOD [ng/ml]	LOQ [ng/ml]	Uncertainty [%]
Acetamiprid	0.002	0.005	30
Acetochlor	0.008	0.023	30
Alachlor	0.003	0.007	30
Aldicarb	0.003	0.008	30
Aldicarb sulfone	0.002	0.005	30
Aldicarb sulfoxide	0.003	0.009	30
Ametryn	0.003	0.008	30
Amidosulfuron	0.005	0.014	35
Asulam	0.004	0.012	35
Atrazine	0.002	0.004	30
Atrazine-desethyl	0.002	0.007	30
Atrazine-desisopropyl	0.004	0.011	30
Azinphos ethyl	0.009	0.026	30
Azinphos methyl	0.007	0.019	30
Azoxystrobin	0.002	0.007	30
BDMC	0.002	0.004	30
Benalaxyl	0.003	0.009	30
Bentazone	0.004	0.012	30
Bitertanol	0.007	0.019	30
Boscalid	0.004	0.012	30
Bromacil	0.002	0.006	30
Bromoxynil	0.009	0.027	35
Cadusafos	0.005	0.016	30
Carbamazepine	0.001	0.003	30
Carbaryl	0.003	0.007	30
Carbendazim	0.003	0.010	30

Carbofuran	0.002	0.006	30
Carbofuran-3-hydroxy	0.002	0.006	30
Chlorbromuron	0.004	0.011	30
Chlorfenvinphos	0.002	0.006	30
Chloridazon	0.003	0.010	30
Chloroxuron	0.006	0.017	30
Chlorsulfuron	0.003	0.009	30
Chlortoluron	0.003	0.007	30
Clodinafop	0.009	0.027	30
Clomazone	0.005	0.004	30
Clothianidin	0.003	0.008	30
Crimidine	0.003	0.009	30
Cyanazine	0.003	0.007	30
Cymoxanil	0.004	0.011	30
Cyproconazole	0.002	0.007	30
Cyprodinil	0.003	0.007	40
Desmetryn	0.002	0.005	30
Diazinon	0.003	0.008	30
Dichlormid	0.004	0.013	30
Dichlorvos	0.003	0.009	30
Diclofenac	0.009	0.026	30
Dicrotophos	0.002	0.005	30
Dimethachlor	0.005	0.013	30
Dimethenamid	0.002	0.007	30
Dimethoate	0.002	0.004	30
Dimethomorph E	0.002	0.004	30
Diuron	0.003	0.008	30
EPTC	0.005	0.015	30
Epoxiconazole	0.005	0.016	30
Ethofumesate	0.006	0.018	30
Ethoprophos	0.005	0.014	30
Fenarimol	0.002	0.007	30
Fenhexamid	0.007	0.021	30
Fenpropimorph	0.004	0.012	45
Fensulfothion	0.006	0.018	30
Fenuron	0.001	0.004	30
Florasulam	0.003	0.009	30
Fluazifop-P-butyl	0.004	0.012	35
Flusilazole	0.008	0.022	30
Haloxypop	0.006	0.018	30
Haloxypop-methyl	0.003	0.008	40
Hexaconazole	0.004	0.012	30
Hexazinone	0.002	0.006	30
Imazalil	0.004	0.011	30
Imazamethabenz-methyl	0.003	0.008	30
Imazamox	0.005	0.013	30
Imazapyr	0.007	0.020	30
Imazethapyr	0.004	0.012	30
Imidacloprid	0.003	0.007	30
Irgarol	0.003	0.008	30

Isoproturon	0.003	0.009	30
Kresoxim-methyl	0.008	0.024	30
Lenacil	0.005	0.014	30
Linuron	0.004	0.011	30
MCPA	0.006	0.018	30
Malathion	0.002	0.005	30
Mecarbam	0.003	0.007	30
Mecoprop (MCP)	0.005	0.016	30
Mefenpyr-diethyl	0.002	0.006	30
Mesotrione	0.005	0.016	40
Metalaxyl	0.002	0.006	30
Metamitron	0.003	0.008	30
Metazachlor	0.002	0.005	30
Metconazole	0.005	0.014	30
Methabenzthiazuron	0.003	0.009	30
Methidathion	0.002	0.006	30
Methiocarb	0.016	0.047	30
Methomyl	0.002	0.005	30
Methoxyfenozide	0.001	0.002	30
Metobromuron	0.003	0.010	30
Metolachlor	0.003	0.007	30
Metoxuron	0.002	0.006	30
Metribuzin	0.006	0.017	30
Metribuzin-desamino	0.002	0.007	30
Molinate	0.001	0.003	30
Monocrotophos	0.002	0.005	30
Monolinuron	0.002	0.005	30
Monuron	0.003	0.010	30
Napropamide	0.003	0.007	30
Neburon	0.005	0.016	30
Nicosulfuron	0.003	0.007	30
Nuarimol	0.004	0.011	30
Oxamyl	0.003	0.009	30
PFOA	0.005	0.014	30
Paclobutrazol	0.002	0.007	30
Penconazole	0.005	0.014	30
Phosmet	0.006	0.018	30
Phosphamidon	0.003	0.008	30
Picoxystrobin	0.003	0.008	30
Pirimicarb	0.002	0.006	30
Prochloraz	0.005	0.013	30
Profenofos	0.004	0.011	40
Prometon	0.002	0.007	30
Prometryn	0.002	0.004	30
Propachlor	0.002	0.005	30
Propazine	0.003	0.007	30
Propham	0.004	0.010	30
Propiconazole	0.004	0.010	30
Propoxur	0.003	0.009	35
Propoxycarbazone sodium	0.004	0.011	30

Propyzamide	0.002	0.006	30
Prosulfocarb	0.002	0.005	35
Pyrimethanil	0.002	0.007	30
Sebuthylazin	0.003	0.007	30
Simazine	0.004	0.010	30
Simetryn	0.002	0.005	30
Sulfamethoxazole	0.004	0.012	35
Tebuconazole	0.005	0.015	30
Tebuthiuron	0.003	0.008	30
Terbuthylazine	0.003	0.010	30
Terbuthylazine-desethyl	0.002	0.005	30
Terbutryn	0.001	0.003	30
Thiamethoxam	0.003	0.010	30
Thiobencarb	0.004	0.011	30
Triadimefon	0.003	0.009	30
Triadimenol	0.005	0.013	30
Triasulfuron	0.004	0.010	30
Triazophos	0.002	0.005	30
Triflurosulfuron-methyl	0.005	0.015	30
Triforine	0.007	0.020	30
Triticonazole	0.004	0.010	30
Warfarin	0.003	0.008	40