

# Primary analysis of multi residual pesticide in Chinese herbal crude drug material

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Chinese herbal crude drug material are not only used in traditional chinese medical treatment, but also can use in food. Unfortunately, there are no any pesticide residue standard limits have ever been established. In this study, 217 kinds of pesticide residue in four Chinese herbal medicines Semen Nelumbinis (*Nelumbo nucifera* Gaertn.), Fructus Lycii (*Lycium barbarum* L.), Jelly Fungi (*Tremella fuciformis* Berk. )and Bulbus Lili (*Lilium lancifolium* Thunb.) was detected according to the method announce by Department of Health(Figure 1). Ten different batches of samples were taken from different area. As the result, Acetamiprid, Dicofol, Fenvalerate and Triadimenol were detected in more than five Fructus Lysii samples. Methamidophos was detected in eight Jelly Fungi samples(Table 1 & 2). In addition, there are other pesticides that have been detected in few times, which included fungicide, herbicide and insecticide. Therefore, these data can provide the relevant department to develop pesticide residues standard on preliminary goals and reference.

Table1 The result of detected pesticides in herbal crude medicine (Bulbus lili and Fructus lycii)

Sample name	Pesticide	Detected out of ten samples	Detected concentration (mg/kg)	Limit of detection(mg/kg)	Field of use
Bulbus Lili	Butachlor	1	0.019	0.01	Herbicide
	Carbendazim	1	0.04	0.01	Fungicide
	Procymidone	1	0.16	0.05	Fungicide
Fructus Lycii	Acetamiprid	8	0.169	0.01	Insecticide
	Aldicarb sulfoxide	1	0.04	0.01	Insecticide
	Aldicarb sulfone	4	0.19	0.01	Fungicide
	alpha-Cypermethrin	2	0.058	0.05	Insecticide
	Cyhalothrin	1	0.01	0.01	Insecticide
	Cypermethrin	3	0.059	0.02	Insecticide
	Dicofol	6	0.202	0.02	Acaricide
	Endosulfan (alpha)	1	0.024	0.005	Insecticide, Acaricide
	Endosulfan (beta)	7	0.135	0.03	Insecticide
	Fenvalerate	4	0.027	0.01	Insecticide
	Imidacloprid	2	0.061	0.03	Insecticide, Acaricide
	Pyridaben	9	0.109	0.02	Fungicide
	Triadimenol				

Table2 The result of detected pesticides in herbal crude medicine (Jelly fungi and Semen nelumbinis)

Sample name	Pesticide	Detected out of ten samples	Detected concentration (mg/kg)	Limit of detection(mg/kg)	Field of use
Jelly Fungi	Acephate	2	0.16	0.06	Insecticide
	Acetamiprid	1	0.02	0.01	Insecticide
	Allethrin	3	0.015	0.01	Insecticide
	3-OH carbofuran	1	0.02	0.01	Insecticide, Nematicide
	Chlorpyrifos	1	0.06	0.01	Fungicide
	p,p'-DDE	1	0.005	0.003	Insecticide
	Endosulfan (alpha)	1	0.06	0.005	Insecticide, Acaricide
	Endosulfan (beta)	1	0.2	0.05	Insecticide, Acaricide
	Fenpropathrin	8	0.191	0.02	Insecticide, Acaricide
	Methamidophos	1	0.05	0.02	Acaricide
	Tetradifon	2	0.065	0.01	Insecticide
	Tetramethrin	2	0.034	0.01	Insecticide, Acaricide
	Triazophos				
	Semen Nelumbinis	Alachlor	1	0.06	0.01
Allethrin		1	0.02	0.01	Insecticide
Butachlor		1	0.07	0.01	Herbicide
Chlorpyrifos		1	0.019	0.01	Fungicide



Fig.1 Pictures of four kinds of Chinese herbal medicines.(A)Fructus Lycii (B) Semen Nelumbinis (C) Jelly Fungi (D) Bulbus Lili.