



RESEARCH ARTICLE :

Monitoring of pesticide residues in okra (*Abelmoschus esculentus* L.)

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SUMMARY : The okra samples were collected from three local vegetable markets viz., Rythu bazar, Tower circle and Ramnagar of Karimnagar during 2014-15 and analyzed for residues following the validated QuChERS method. The results revealed that, monitored samples of okra contained 10 pesticide residues namely acetamiprid, flubendiamide, chlorpyrifos, profenophos, fipronil, spinosad, lambda cyhalothrin, monocrotophos, acephate and imidacloprid and the commonly detected pesticides in the three market samples were flubendiamide, lambda cyhalothrin, fipronil, profenophos, chlorpyrifos and acetamiprid. The insecticide residues detected in the okra samples collected from Rythu bazar vegetable market were flubendiamide (0.142 mg/kg), profenophos (0.042 mg/kg), acephate (0.193 mg/kg), fipronil (0.028 mg/kg), chlorpyrifos (0.275 mg/kg), lambda-cyhalothrin (0.241 mg/kg), acetamiprid (0.167 mg/kg), monocrotophos (0.011 mg/kg), and imidacloprid (0.032 mg/kg) while spinosad was not detected. The insecticide residues detected in the okra samples collected from Tower circle vegetable market were flubendiamide (0.183 mg/kg), chlorpyrifos (0.123 mg/kg), profenophos (0.065 mg/kg), acetamiprid (0.242 mg/kg), acephate (0.009 mg/kg), fipronil (0.013 mg/kg), spinosad (0.128 mg/kg), lambda cyhalothrin (0.201 mg/kg) and monocrotophos (0.022 mg/kg) while imidacloprid was not detected. The insecticide residues detected in the okra samples collected from Ramnagar vegetable market were lambda cyhalothrin (0.041 mg/kg), flubendiamide (0.168 mg/kg), chlorpyrifos (0.289 mg/kg), acetamiprid (0.142 mg/kg), profenophos (0.052 mg/kg), fipronil (0.042 mg/kg), imidacloprid (0.062 mg/kg) and acephate (0.184 mg/kg) while monocrotophos was not detected. Assessment on the permissibility of the three market samples of okra for safe consumption was also analysed. Among the samples analyzed for different insecticide residues, two of the insecticides i.e. chlorpyrifos and acetamiprid have shown above MRL value established by Codex, while the remaining insecticide residues detected in the samples were below the MRL. The chlorpyrifos residues exceeding the MRL were recorded in three markets i.e., Rythu bazar (0.275 mg/kg), Tower circle (0.346 mg/kg) and Ramnagar (0.289 mg/kg). The acetamiprid residues exceeding the MRL were recorded in two markets i.e., Rythu bazar (0.340 mg/kg) and Tower circle (0.242 mg/kg).

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