***Determination Pesticide residues in Mung bean***

***Bun Sreychhouk***

In Cambodia, insect damage to mung bean crops is a considerable problem. Insects have become resistant to some pesticides and so farmers have tried to use new products and sometimes over-use them without following the safety instructions. The main reason for this study was that there had been no published report about pesticide residues in mung bean in Cambodia. The objectives of this study were to determine, both qualitatively and quantitatively, pesticide residues in mung bean, and to compare this amount with the quality standards of the World Health Organization.

Samples of mung beans were collected directly from individual farmers from three different villages, Prek Samroang (Kandal province), Koh Pen(Kampong Cham province) and Bralay (Siem Reap province). Farmers were interviewed about their pesticide use and empty pesticide bottles collected. The same pesticides were bought from Oreusey market in Phnom Penh. Samples were extracted with ethyl acetate and clean-up was by SPE columns (ENV+ 200mg). All samples were analyzed by GC-MS. The method was verified with pesticide standards and recoveries were in the range 90% to 110%. Analysis of pesticides bought in the market showed that most had the same components as the ingredients on the bottles. But some pesticides contained different components than written on the label. Analysis of mung bean samples did not detect residues of any pesticide used by farmers. If present, they were below detection limits; Phenthoate, 0.14ppm; Permethrin, 0.34ppm; Chlorpyrifos, 0.41ppm; Lamda-cyhalothrin, 0.40ppm; and Cypermethrin, 0.32ppm.