

ABSTRACT

A Survey of Pesticide usage on Tomato, *Lycopersicon esculentum* in relation to food safety in Trinidad

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A survey was done on tomato farms in the counties of St. George, Caroni, Victoria and St. Patrick in Trinidad, to evaluate pesticide usage on tomato in relation to food safety for both local and export markets. A questionnaire was designed and farmers were interviewed on their farms. The survey was conducted during the months of June and July 2003 over a 5-week period. A total of forty two (42) farmers were interviewed and information on: age and education of farmers, local and export markets for produce, adherence to instructions on pesticide labels, keeping of pesticide records, training in pesticide application, awareness of Good Agricultural Practices (GAP) in the use of pesticides, pesticides used on farms and pesticide application including dosage rate and Pre-Harvest Intervals (PHI).

The results obtained indicate that sixty percent (60%) of farmers sold their tomato produce on the local market while forty percent (40%) sold to both export and local markets. Fifty percent (50%) of farmers adhered to pesticide label instructions and only fourteen percent (14%) of farmers were trained in pesticide application. None of the farmers kept pesticide records while sixty nine percent (69%) had heard of GAP. Insecticides were the most frequently used as well as the most frequently over-dosed group of pesticides. Farmers most commonly did not observe pre-harvest intervals after using insecticides.

Calculation of overdose rates and non-observance of PHI from pesticide use pattern data obtained from the survey showed that sixty four percent (64%) of farmers did not adhere to instructions on dosage rate and PHI on the pesticide labels, and thirty three percent (33%) of these farmers sold produce to the export market which represents fifty three percent (53%) of all farmers who sold produce to the export market. Sixty seven percent (67%) of farmers who did not adhere to label instructions on dosage rate and PHI, were from St. George, twenty two percent (22%) from Victoria, 7% from Caroni and 4% from St. Patrick. This improper use pattern of pesticides according to their class of toxicity indicates there's the probability that pesticide residues in these farm produce will exceed Maximum Residue Limits (MRLs). This survey identified deficiencies in Good Agricultural Practices (GAP) for pesticide use that includes adhering to label instructions, training in pesticide application and keeping pesticide records. There is need for farmer education programme on "GAP in the use of pesticides"; updating of local legislation to regulate pesticide use; post-registration monitoring of pesticide use through ongoing usage surveys which will provide information for conducting residue analysis and a trace back system on the farm origin of such produce; and the need to enhance the capability for testing of residues. For an effective pesticide management programme in the production of safe food/ produce, there is need for coordination among all stakeholders in the area of Plant Health and food safety.

KEYWORDS: Abiola Amsterdam; Survey; Pesticides; Tomato; Food Safety.