

RESEARCH ARTICLE

Survey and surveillance of soybean stem fly, *Melanogromyza sojae* (Zehntner) in Northern Karnataka

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ABSTRACT

A roving survey was undertaken in four districts of major soybean growing areas of northern Karnataka viz., Dharwad, Belgaum, Bagalkot and Bidar during *Kharif* 2006 and 2007. The average higher per cent stem fly incidence of 63.48 and 61.80 was recorded in Belgaum and Bidar districts, respectively. The lower stem fly incidence (12.67%) was recorded in Dharwad district and moderate incidence (22.91%) was noticed in Bagalkot district. The average higher per cent stem tunnelling of 29.83 and 28.69 was recorded in Belgaum and Bidar district, respectively. The moderate (10.57%) stem tunnelling was in Bagalkot district, while it was lower (8.17%) stem tunnelling in Dharwad district.

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INTRODUCTION

Soybean [*Glycine max* (L.) Merrill] is a fascinating crop with innumerable possibilities of not only improving agriculture but also supporting industries. Soybean is a major source of edible oil (20%) and high quality protein (40%). It is a rich source of amino acids, vitamins and minerals (Alexander, 1974). In Karnataka, soybean is becoming popular as an oilseed crop.

The increase in area was from 0.16 lakh ha during 1991-92 to 2.31 lakh ha with the production of 2.36 lakh tonnes and productivity of 1025 kg per ha during 2009 (Anonymous, 2009). In Karnataka, soybean is intensively cultivated in Belgaum, Bidar, Dharwad, Bagalkot and Haveri districts (Anonymous, 2004). The stem fly, (*Melanogromyza sojae* Zehntner) is considered as one of the major pests attacking the crop throughout the year causing cent per cent infestation at different growth stages (Singh and Singh, 1990). Further, it has also been reported more than 90 per cent of plants infested during *Kharif* season (Gain and Kundu, 1988). Therefore, the present investigation was carried out to survey and for surveillance of stem fly in major growing areas of Northern Karnataka.

MATERIALS AND METHODS

A roving survey was undertaken to know the status of stem fly in soybean growing areas of Northern Karnataka viz, Bidar, Bagalkot, Belgaum and Dharwad districts. Survey was undertaken during flowering and harvesting stage of soybean crop. Three talukas from each district were selected (Table A) and each in taluka five fields/villages were surveyed. In each field, ten spots were surveyed during *Kharif* 2006 and 2007.

Observations were made for stem fly incidence on ten randomly selected plants at each spot and five plants were dissected to observe the stem tunneling during flowering and harvesting. The extent of tunneling was converted to percentage by the following formula (Talekar, 1990).

$$\% \text{ Stem fly infestation} = \frac{\text{No of infested plants}}{\text{Total number of plants}} \times 100$$

$$\% \text{ Stem tunneling} = \frac{\text{Main stem length}}{\text{Affected stem length}} \times 100$$