

## Forewarning of incidence of *Spodoptera litura* (Tobacco caterpillar) in soybean and cotton using statistical and synoptic approach

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### ABSTRACT

A study on the effect of weather parameters on the the population dynamics of *Spodoptera litura* (*S.litura*) in soybean and cotton during *kharif* season using six years pest data (pheromone trap catches) at Niphad and Rahuri in Maharashtra showed that rainfall two weeks prior, Tmax and Tmin during the week of incidence significantly contributed towards the occurrence of *S.litura* in soybean. Maximum temperature and morning humidity during the week and one week prior were found to be favourable for the incidence of *S. litura* in cotton. Temperature (maximum: 26-27°C & minimum: 21-22°C), morning relative humidity (above 90%) and rainfall during one week prior were found to be congenial weather parameters for the outbreak of the pest in soybean. Similarly, maximum temperature around 32-33°C, minimum temperature around 22-23°C, morning relative humidity around 90 per cent, sunshine hours about 4 hrs day<sup>-1</sup> and rainfall during the previous 2 weeks favoured heavy incidence of *S.litura* in cotton crop during flowering to boll formation stages. It is also shown how the incidence of *S.litura* in soybean and cotton can be predicted well in advance using the observed relationship of the pest with weather parameters as well as weather forecast.

**Key words :** *Spodoptera litura*, soybean, cotton, weather parameters, correlation analysis and Weather forecast.