CHAPTER 1

INTRODUCTION
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Soybean (Glycine max.) is the most ancient crop grown in China for more than 5000 years. It is richest source of protein and fats, therefore, known as the meat crop of the field, hence Motiramani (1968) has addressed it as the best and cheepest source of protein and oil. It can provide better nutrition for human and animal population. Soybean oil is also used for the production of hydrogenated fat and soybean meal after oil extraction can be used as cheep source of protein for cattle and poultry. Soybean also find a place in the production of antibiotics. As pulse crop, it also adds nitrogen and increase fertility of soil by nitrogen fixing. It is estimated as one hectare of soybean crop can in add 150 kg nitrogen in the soil from the atmosphere and it can help the country in maintaining the economy by the way of reducing import of nitrognous fertilizers and stabilizing their prices for the farmers in the country.

Soybean is the short duration crop and it can be raised in fallow lands as cash crop where no other crop can thrive well. The soybean can be intercropped with maize, sorghum, pigeonpea etc. as it is dwarf in height. In areas where monsoon recedes earlier where it is difficult to harvest groundnut the soybean can be grown efficiently.
Soybean being a legume crop does not deplete soil nutrients and it also checks the soil erosion apart from adding soil nutrients as stated by Mani and Ramanamurthi (1971).

In Madhya Pradesh, soybean is prevalent in most of its central and western parts and Madhya Pradesh is known as soybean state. It enjoys a unique position in the country in respect of absolutely free from yellow mosaic which is destructive virus of this crop in other parts of country. Chhattisgarh region has the immense possibilities of introducing soybean crop in the areas where paddy cultivation in upper unboundes remains uneconomic. The total precipitation is not sufficient for other crop in those places also soybean can be grown successfully. The area under cultivation of soybean in Raipur division is having increasing trend because the scientist of this area and extension workers are recommending soybean in the places were small millets are grown and remain uneconomic. The area under cultivation during 1962-63 was 2000 ha. Now the area under cultivation under soybean in Chhattisgarh area is around 1 lakh hectare (in the year 1997-98).

The cultivation of soybean is threatened with the invention of insect pests which may pose serious problem in its cultivation. Therefore, study of pest scenario in
relation to different weather parameters and suitable cultural biological and chemical management of insect pests is the urgent need of the day.

In an study four percent of the total pesticides are used in soybean in U.S.A. which is quite enormous and their is severe degradation of the environment and ultimately disruption of the food chain arising due to extended and sustained use of pesticides. These complexities necessitated the for most need of integrated pest management programme in place of pest control by chemicals. Pest management is the judicious combination of mechanical, cultural, biological means with the use of agrochemical.

For developing pest management programme of any crop it is very essential to work out the most potential pest of the crop with their activity period, peaks and trots along with their natural enemies with vulnerable stage to combat them. The study of seasonal incidence the nature and extent of damage period of activity and population dynamics in relation to weather parameters is most important. The extent of parasitisation and predatorisation in suppressing the major pest is also of major importance.

Soybean suffers immense damage from girdle beetle, stem fly, several defoliators, sucking pest and leaf miner etc.
To manage upon these insect pest on soybean an investigations was framed out for working out the pest scenario along with natural enemies with regard to weather parameters identifying suitable resistant varieties against the major pest and their management during kharif and rabi seasons with the following objectives:

1. Major insect pests and their natural enemies their occurance, activity periods and peak periods of activity on soybean.

2. Lossess inflected by major pests with particular reference to stem fly and girdle beetle in kharif and rabi season.

3. Correlation of weather parameters with incidence of these two major pests.

4. Screening of suitable varieties to know the relative resistance against these two pests.

5. Screening of suitable insecticides to know the relative efficacy for pest management of major insect pests of soybean.