

A FIELD SURVEY ON PEST AND DISEASES OF NIGER CROP IN TRIBAL AREA OF SOUTH GUJARAT

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ABSTRACT

Niger [Guizotia abyssinica (L.f.) Cass.] is an important minor oilseeds crop of tropical and subtropical ecosystems. In India, South Gujarat heavy rainfall zone particularly comprising of Dang, Navsari and Valsad districts are very potential areas, where this crop is already being grown to some extent. Many diseases have been reported on niger. Of these, niger blight (Alternaria sp.) and leaf spot are the most serious. In the present study, field survey was undertaken in different villages of south zone of Gujarat during kharif 2011 and the data indicated the predominance of Alternaria leaf spot (0-4 grade) and Cercospora leaf spot (1-4 grade) among the major foliar diseases, whereas negligence of powdery mildew and root rot disease was noticed. The scattered and uniform pest populations were observed of white fly and hairy caterpillar, respectively, while the incidence of aphids was not recorded in any field during the survey.

KEY WORDS: *Niger [Guizotia abyssinica (L.f.)], Alternaria leaf spot, Cercospora leaf spot*

INTRODUCTION

Niger [*Guizotia abyssinica* (L.f.) Cass.] is one of the important minor oilseeds crop of India. It is known by various names like Ramtil or Kalatil in India and Noog in Ethiopia. Niger is cultivated to limited extent in Ethiopia, South Africa, East Africa and India. In India, it is mainly cultivated in tribal pockets of Orissa, Madhya Pradesh, Bihar, Maharashtra, and Karnataka, while as sizeable area in certain region of Gujarat, Uttar Pradesh, Rajasthan and Arunachal Pradesh. The South Gujarat heavy rainfall zone particularly comprising of Dang, Navsari and Valsad districts are very potential areas where this crop is already grown to some extent. Many

insect pests, fungal, bacterial and viral disorders have been recorded on niger (Rajpurohit, 2011). Of these, niger blight (*Alternaria* sp.) and *Cercospora* leaf spot (*Cercospora guizoticola*) are the most important which caused yield reduction. Therefore, in the present investigation, an extensive survey in niger growing area of South Gujarat was undertaken to find out the incidence of different diseases and the major and minor pests of niger.

MATERIALS AND METHODS

A roving survey was undertaken during *kharif* 2011 in major niger growing districts of South Gujarat, i.e. Dang, Navsari and Valsad. A total of 135 farmer's fields from 62 villages were surveyed during seedling

to seed development stage. During the survey, information on date of sowing, soil type, varieties used and observations on occurrence of the different diseases, their intensity, insects, pest and their plant protection measures followed etc. were collected.

RESULT AND DISCUSSION

The abstract of the survey has been presented in Table 1. A total of 135 farmer's fields from 62 villages of Dang, Navsari and Valsad Districts were surveyed during seedling to seed development stage. Sowing of niger crop was observed from last week of July to second fortnight of August, 2011. Most of the farmers grown the niger as rainfed crop in hilly and undulating areas with light to medium type soil. Gujarat Niger-1 and local varieties were preferred by most of farmers. In general, the season was unfavorable for the development of foliar diseases particularly, *Alternaria* leaf spot and *Cercospora* leaf spot on farmer's fields. The disease intensity of *Alternaria* leaf spot was observed in traces to 4 grade, whereas *Cercospora*

leaf spot was also noticed to the tune of 1 to 4 grade. The negligible incidence of powdery mildew and root rot disease was noticed during the survey. The major pest observed was hairy caterpillar, the population of which was heavy (5 to 15 caterpillar/plant) for late sown crop whereas scattered population was noticed for normal sown crop. Similar results were reported by Jagdale *et. al.* (1990) in safflower. The intensity of while fly was however, found scattered and recorded at moderate level. The other pests viz., aphids, semilooper etc. were not recorded in any field during the survey.

REFERENCES

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Table 1: Prevalence of Niger diseases and insect pests in South Gujarat

Particulars		Details	
Number of village surveyed	:	62	
Number of farmers field surveyed	:	135	
Dates of sowing	:	Last week of July to second fortnight of August	
Rainfed/irrigated field	:	Rainfed	
Soil Type	:	Hilly, undulating and light to medium type soil	
Varieties used	:	Gujarat Niger-1, Local varieties	
Diseases observed and their intensity	:		
a) <i>Alternaria</i> blight	:	Traces to 4 grade	
b) <i>Cercospora</i> leaf spot	:	1 to 4 grade	
Insects Pests	:	Population type	Stage of the crop
a) White fly	:	Scattered	Seedling
b) Hairy Caterpillar	:	Uniform	Vegetative & flowering
Diseases and Insect pests severity on the basis of sowing time		Diseases	Insect Pests Population
a) Normal sowing		Low	Scattered
b) Late sowing		High	Uniform & Heavy
Plant Protection against diseases and pests	:		
a) Protected fields	:	12	
b) Unprotected fields	:	123	

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