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Short communications

Survey of purple blotch of onion in Khandwa district of Madhya Pradesh

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Abstract

Onion (*Allium cepa* L.) belongs to family Liliaceae is a vegetable crop of global importance and is known as protective food because of its special nutritive value and wide spread production. A roving survey to assess the incidence of purple blotch was undertaken. The overall mean percent disease incidence was observed to be 8.72 % (range- 6.50 % to 10.10 %) indicating an alarming situation preparation of purple blotch in the vicinity of Khandwa (M.P.). The minimum Percent disease incidence and loss was recorded in Chhegaonmakhan (6.50%) whereas maximum loss were recorded at Rustampur (10.10%).

Keywords: *Allium cepa*, Survey, purple blotch

Onion (*Allium cepa*L.) belongs to family Liliaceae is a vegetable crop of global importance and is known as protective food because of its special nutritive value and wide spread production. It also owns potent medicinal value in ayurvedic and homoeopathic therapy. It is a rich source of minerals, vitamins, dietary fibers and is also regarded as anticancer food. Allyl-propyl-di-sulphide is the main ingredient responsible for pungency of it bulbs, which help to prevent cancer. The estimated production of onion was 23.610 MT with an area of 12.93 mha during 2018-19 in India (first estimate advance). In Madhya Pradesh it occupied an area of 11.82Mha with a productivity of 24.09 tons /ha. of onion (Anon 2017) ^[1]. The major onion producing states in India are Maharashtra, Gujarat, Odisha, Tamil Nadu, Karnataka, U.P., M.P. Andhra Pradesh, Bihar and Rajasthan. In Madhya Pradesh it is mostly cultivated in Nimar Valley and Malwa Plateau zones (Ujjain, Neemuch, Ratlam, Indore, Khandwa, and Mandsaur) as an important cash crop. Onion is regarded as a highly export oriented crop and earns valuable foreign exchange for the country. India produces 55 to 60 lakh tons of onion annually; 50% produce comes from *Rabi* onion harvested in April-May; 30% from late *kharif* harvested in Jan-Feb and 20% from *Kharif* onion harvested in Oct-Nov. The productivity of *kharif* onion is very low (10 to 12 t/ha). Several factors have been identified for the low productivity of onion in India. The most important factors responsible are the diseases like purple blotch, stemphylium blight, downy mildew, basal rot and storage rots and non availability of varieties resist to biotic and a biotic stresses. The economic and environmental friendly control of *Alternaria* blight is demanding in the area of east Nimar so that the epidemiological studies were taken in relation to pathogen attack, to predict the occurrence of *Alternaria* blight and can take efficient crop management practices. The fungus *A. porri* now found to be severe in all seasons in several onion fields of east Nimar and cause severe losses. This call for understanding the pathogen thoroughly for evolving effective management practices. A systematic survey was carried out for recording the incidence of purple blotch of onion on farmer's field in the vicinity of Khandwa during *Rabi* 2018 for assessment of the disease incidence for computation of the rate of disease development. For such survey three onion growing farmers were selected from each five randomly selected villages around the Khandwa. Three fields from each village were randomly selected. An area of 1 m × 1 m was marked at five randomly selected spots on each farmer's field. The numbers of diseased plants were recorded in five 1m² quadrates in each field. The quadrates were placed 10-30 m from the edge of a field, usually at each of the four corners and halfway down one side. The surveys were done by standard pattern in rectangular fields, but in all cases quadrate samples were widely dispersed in each field. The systematic survey carried out for information regarding each field were noted as incidence; sowing time and soil colour of the field. The representative disease samples were collected and dried for future studies. In each field observations were

recorded on 10 randomly selected but marked plants for each cultivator's field. The field survey was carried out in onion growing areas of Khandwa districts of Madhya Pradesh viz., Rustampur, Titiyajosi, Jaswadi, Chhegaonmakhan and, Lohari during January to March 2017-18. Survey on cultivator's field to record disease incidence of purple blotch in *kharif* onion during 2017-18. The data presented in (Table-1 and fig-1). The data reveal that the average disease incidence in Khandwa district is 8.72 % and it varies from 6.50 -10.10% from village to village while the maximum incidence was recorded in Rustampur (10.10 %) followed by Jaswadi, (9.40 %), Titiyajosi (8.95 %), Lohari (8.66 %). and Chhegaonmakhan (6.50 %). The mean disease incidence in Khandwa district was 8.72 % and it varies from 6.50 to 10.10 %. The findings is supported with the result described by Gupta *et al.*, (1981) [4] showed that the purple blotch in seed crop to be the most serious disease prevalent throughout the which country result's in total loss in certain cases. Patil (1999) [3] observed wide spread occurrence of purple blotch on garlic during both *Kharif* and *Rabi* crop in 1998-99 in Karnataka. These observations indicate that the disease is of common occurrence on garlic and onion where foliar damage causes early maturity of the crop. The present findings are in support with the earlier reports. The finding of present survey was also in accordance to John *et al.* (2018) [2] who reported 4.12-15.37 percent losses from Allahabad.

Table 1: Village wise status of purple blotch of onion in Khandwa district of Madhya Pradesh

District	Village	Percent Disease incidence
Khandwa	Rustampur	10.10
	Titiyajoshi	8.95
	Jaswadi,	9.40
	ChhegaonMakhan	6.50
	Lohari	8.66
	Mean	8.72

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