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Disease status of Northern Leaf blight in Aurangabad District

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SUMMARY

Maize is one of the world's most valuable cereal crops, contributing to food security in the majority of developing countries. Maize is widely grown throughout the world and produces the most of any cereal crop, with 972.40 MT (Anonymous FAO, 2018-19). Many biotic and abiotic stresses reduce maize production and result in significant economic losses. Northern leaf blight of maize, caused by the Deuteromycetes fungus Exserohilum turcicum (Telomorph: *Setosphaeria turcica*), is one of the most serious fungal diseases affecting maize. The disease is found in almost all maize-growing areas and causes significant yield loss. Northern leaf blight of maize is one of the most significant limiting factors of maize production in the Marathwada region's Aurangabad district. During the years 2020-2021, research at the College of Agriculture in Badnapur and the NARP in Aurangabad studied the disease status. The survey, which was conducted in major maize growing areas of the nine tehsils of Aurangabad district, namely Aurangabad, Sillod, Gangapur, Paithan, Kannad, Vaijapur, Phulambari, Khultabad, and Soegaon during Kharif 2021, revealed the disease's prevalence in all surveyed locations, with varying levels of incidence and intensity ranging from 25.0 to 57.2 % and 12.0 to 29 %..

INTRODUCTION

Maize (*Zea mays* L.) is among the most adaptable growing crops, with a wide range of adaptability under various agro-climatic conditions. Maize is regarded as the "Queen of Cereals" worldwide because it has the most significant genetic yield potential of any cereal. It is grown on about 150 million hectares in around 160 countries with diverse soil, environment, habitats, and management methods, accounting for 36 % (782 million tonnes) of the global grain supply. India's maize production is expected to be around 27.14 million tonnes (2018-19) (Anonymous FAO and Indiastat.com), with a productivity of around 25.6 q/ha (Anonymous USDA). It accounts for 9 % of the country's overall food grain intake. Maharashtra (10.5 million tonnes), Karnataka (3.3 million tonnes), Madhya Pradesh (2.6 million tonnes), Bihar (2.5 million tonnes), Telangana (1.8 million tonnes), and Uttar Pradesh (1.3 million tonnes) are the top maize growing states in India. Maize has a wider range of uses because of its worldwide distribution and relatively lower price. It is primarily used as human food, animal feed, and poultry feed, as well as a raw material in a variety of agricultural goods such as starch, food sweeteners, alcoholic drinks, cosmetics, gum, textiles, packaging and paper. TLB causes extensive leaf damage and defoliation during the grain filling period, and yield losses due to necrosis or chlorosis of leaves premature death of the leaves and loss of nutritive value even as fodder (Patil et al. 2000) has been reported. Yield losses of up to 28 to 91% due to TLB has been reported in Italy, mostly when heavy infection occurred before tasselling (FAO, 2010).

Taluka-wise per cent disease incidence and severity of Northern leaf blight of maize in major growing areas of Aurangabad district during *Kharif 2020-21.*

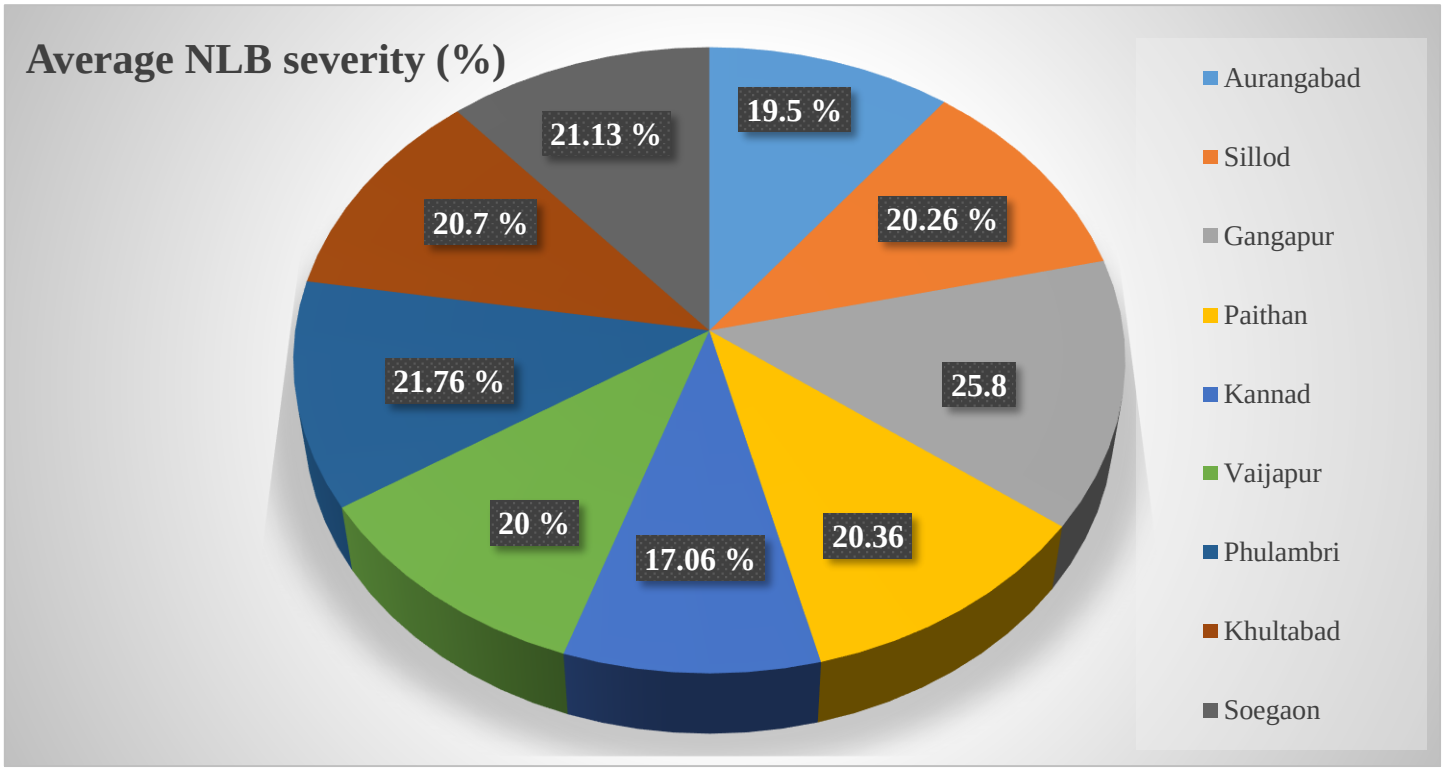
Sr. No.	Name of Taluka	Average NLB incidence (%)	Incidence Range (%)	Average NLB severity (%)	Severity Range (%)
1	Aurangabad	29.86	26.5 to 34.1	19.5	12.0 to 24.0
2	Sillod	30.26	28.1 to 32.2	20.26	19.2 to 20.9
3	Gangapur	45.4	33.1 to 53.8	25.8	19.4 to 29.1
4	Paithan	46.5	40.2 to 54.3	20.36	16.7 to 23.5
5	Kannad	46.53	38.9 to 51.2	17.01	15.94 to 18.9
6	Vaijapur	37.00	29.4 to 43.4	20.00	15.4 to 25.3
7	Phulambri	51.06	43.0 to 57.2	21.76	17.6 to 26.2

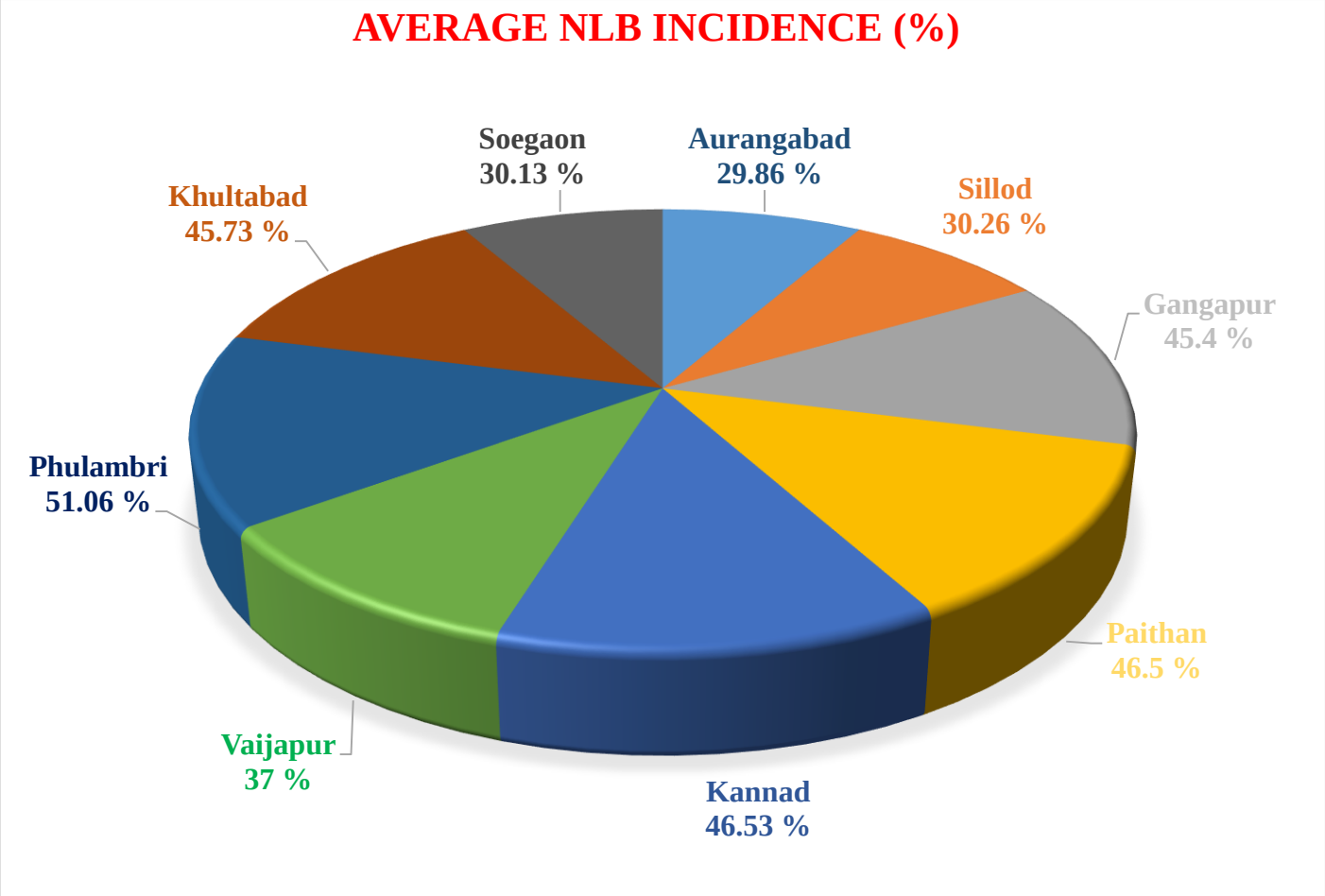
8	Khultabad	45.73	38.6 to 52.3	20.7	17.3 to 24.4
9	Soegaon	30.13	25.0 to 30.2	21.13	18.3 to 26.1
9	**Overall Average**	**40.37**	**25.0 to 57.2**	**20.72**	**12.0 to 29.1**

A. Location : Aurangabad tehsil

B. Location : Soegaon tehsil

The incidence and intensity of Northern leaf blight of maize in Aurangabad tehsil ranged from 26.5 to 34.1 % and 12.0 to 24.0 % respectively. Patoda had the highest incidence of disease (34.1 %), the highest intensity of disease (24.0 %) and Padhegaon had the lowest incidence of disease (26.5 %). The average incidence and intensity of Northern leaf blight disease were 29.86 % and 19.5 % respectively.





CONCLUSION

Northern leaf blight is present in all maize-growing areas of the Aurangabad district in varying degrees of severity. According to the survey results, Northern leaf blight disease is one of the most common and widespread diseases in all nine tehsils in the Aurangabad district during *Kharif* 2020-21. It was also discovered that the highest incidence of Northern leaf blight of maize (57.2 %) was found in Jategaon, Phulambari Tehsil, and the highest intensity of Northern leaf blight of maize (29.1 %) was found in Chinchkheda, Gangapur Tehsil, while the lowest disease incidence (26.5 %) was found in Waluj, Aurangabad Tehsil, and the lowest disease intensity of Northern leaf blight of maize (12.0 %) was found in Aurangabad tehsil.

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