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Northern Leaf Blight of Maize

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SUMMARY

Maize, also called corn is considered as 'Queen of Cereals' as it is one of the most important cereal crops of the world and contributes to food security in most of the developing countries. Maize, distinguished botanically as Zea mays, belongs to grass family Poaceae. It is native of South America and since ancient time, it has been the basic food for the majority of the people in Mexico, Central America and Latin America. Maize was introduced to India from America at the beginning of 17th century and now it is emerging as third most important crop after rice and wheat in India. Maize has wider range of uses because of its worldwide distribution and relatively lower price. It is mainly used as human food, animal fodder, poultry feed and as raw material to large number of industrial products such as starch, food sweetners, alcoholic beverages, cosmetics, gum, textiles, package and paper industry. This disease observed in severe form at early and later stage of plants which results in premature drying of leaves and great reduction in yield. Management of disease through cultivation of resistant variety is the most economical and relevant way mainly by resource poor and marginal farmers, this disease is also effectively manage by using different fungicide, fungal antagonistics, bacterial antagonistics and plant extracts.

INTRODUCTION

In comparison with America and Europe the productivity of maize in India is low due to a number of biotic and abiotic stresses. The crop is affected by a number of fungal, bacterial and viral diseases. Among the fungal diseases turcicum leaf blight caused by *Exserohilum turcicum* (Pass.). Leonard and Suggs. is one the important foliar disease causing severe reduction in grain and fodder yield to the tune of 16 - 98% (Kachapur and Hegde, 1988). The disease was first described by Passerini (1876) from Italy and by Butler (1907) from India.

Fig: Maize field infected with NLB

In India, this disease is prevalent in Andhra Pradesh, Karnataka, Bihar, Himachal Pradesh and Maharashtra.This disease is popularly known as "Northern Corn Leaf Blight" (NCLB) in the United States of America, "White blight" and "leaf stripe". Turcicum bligh t injures or kills the leaf tissues and thereby reduces the area of green chlorophyll which manufactures food for the plant. If considerable leaf area is killed the vigour and yields are reduced. If much of the green area is killed starch formation is restricted and the kernels are chaffy. The blighted leaves are not suitable for fodder because of the lowered nutrition value. Pant *et al.*, (2001) reported about 91 per cent reduction in the rate of photosynthesis when severity of turcicum leaf blight incidence in maize exceeded 50 per cent. To know the severity of the disease, survey for disease incidence in different maize growing areas will give a definite idea about the status of the disease and its distribution. It is necessary to conduct survey and surveillance of the disease to get comprehensive information on disease distribution, level of incidence and severity. Considering the economic importance of the disease in the Marathawada region in the jalna and Aurangabad district , the article is presented on 'Northern leaf Blight of Maize Caused by *Exserohilum turcicum.*

Symptoms

The most common diagnostic symptom of the disease on maize is cigar-shaped or elliptical necrotic gray-green lesions on the leaves that range from one to seven inches long.These lesions may first appear as narrow, tan streaks that run parallel to the leaf veins. Fully developed lesions typically have a sooty appearance during humid weather, as a result of spore (conidia) formation. As the disease progresses, the lesions grow together and create large areas of dead leaf tissue. The lesions found in Northern corn leaf blight are more acute if the leaves above the ear are infected during or soon after flowering of the plant. In susceptible maize hybrids, lesions are also found on the husk of ears or leaf sheaths.

Management

- Crop rotation to reduce previous corn residues and disease inoculum.
- Tillage to help break down crop debris and reduce inoculum load.
- Fungicide application to reduce yield loss and improve harvestability.
- Consider hybrid susceptibility, previous crop, tillage, field history, application cost, corn price.

CONCLUSION

Northern leaf blight of maize caused by *Exserohilum turcicum* (Pass). is one of the important disease of maize causing greater loss in yield. Cultivation of resistance variety and integrated disease management including use fungicides is best way to manage the northern leaf blight of maize .

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