STUDIES ON FUNGAL DISEASCE OF GERBERA FROM AHMEDNAGAR AND NASHIK DISTRICT

NAVALE MAHESH B, DIVEKAR M.V, GUNJAL M.B, R.J.SAWANT, M.S.WADIKAR

Abstract: Gerbera daisy is a ornamental flowering plant , always increasing its popularity for cut flower as a landscape and potted plant .Gerbera can cultivated as commercial flowering plant now a day for different decoration it is mostly used. Firstly this plant was introduce in Asia and south Africa .Gerbera plant can grow in different climatic condition in worldwide .Gerbera belong to Asteraceae(Compositae) family .The Plant has stem ,root, leaves and with different color flowers .But now a day this plant mostly cultivated as in pollyhouse or green house. but gerbera plant is very delicate so number of fungi attack to damage plant or reduce the production of flowering so farmer go to economic loss. About 1.5 million fungal species found on earth surface .Some is directly damage the flowering plant, .in present communication we observed number of fungal damage or destroy leaf or root and some time total flower. Most of plant was attack by Fungal and Viruses, Bacterial and some powdery mildew. This investigation was done in Sangamner tehsil in Ahmednagar District.

Keywords: Gerbera, Fungi, *Alternaria, Fusarium, Bacteria*

Introduction: To cultivate the flowering plant it was old method by farmer but now a day with help of new method like polyhouse and greenhouse cultivation .Cultivation and production of flower is called Floriculture. In floriculture the production is very high and plant remain long times as compare to old method .In India we have gating self-employment among small and marginal farmers but the social and economic aspects of flower growing. The decoration of flowers on all social occasions. In recent it becomes profitable agri-business in India. To provide the other demand of flower is new task because this plant becomes attack from different fungal pathogen.

Materials and method: Air sampling is conducted from different field of gerbera from Sangamner region for various purposes it may be qualitative & quantitative in nature. In qualitative analysis one can determine the specific nature of microbes within some selected group, and other hand quantitative analysis is concentration of different microbes occurring in the sampled air can be determined. For study of fungal spore were analyses with help of PDA Media in petriplate. PDA Petriplate was kept near the gerbera plant and some time the infected plant part was collect and grow in laboratory on PDA Media .After few day fungal colony grown on Plate and observed under microscope and incubated at 28±10C for incubation period. At the end of incubation period fungal colonies are counted.

Result and Discussion: The results was come out in few day of observation in sangamner .The study was carried in 03 month using petri-plate method During present study 05 fungal species were recorded. Monthly observation was carried and it show variation and percentage contributions of the fungal species .At the time of calculation we found the gerbera plant leaf become white and show white spot it was caused by *Alternaria* so It called *Alternaria leaf spot*, we also observed some large and small spot of black colour on leaf which was irregular which caused by Bacterial leaf spot .another observation was stem root it look like blackish which caused by *Fusarium* and at lastly some powdery surface on leaf it look as powdery mildew. .

Observation table Showing monthly fungal spore and total number

	Fungal spores	June	Aug	Oct	Total
01	Deuteromycetes *Alternaria*	12	27	17	**56**
02	Bacteria *Pseudomonous cichorii*	08	14	05	**27**
03	**Ascomycota** *Fusarium solani*	03	06	08	**17**
04	**Ascomycota** *Erysiphe*	17	08	12	**37**
05	*Unidentified sp.*	-	02	03	**137**

Alternaria: Alternaria show Leaf spots on the plant I also caused damage of leaves where it show circular shaped spots or irregular shape after it become large .some time it look like a purple-brown this spot become very serious to leaf for damage of plant It is spread by the conidia and spores .which control some plant extract which present in nature so it can control the physiology activity of plant.

Bacterial :*Pseudomonas cichorii* caused Bacterial leaf spot which caused by during warm and heavy rain, it show large black spots on the plant. At time spot appear leaf become soft and dry. This infection goes from the leaf to stem. To avoide this infection plantation should be separated from each other.

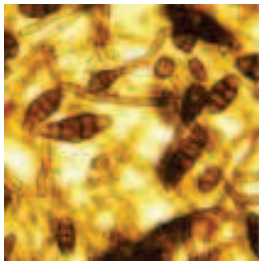
Fusarium : This fungal cause by soil infection and it goes to stem infection .which has brown in color and leaf become dead .the flowering part of plant become whites and some time it show small patch on stem .to

avoid this infection removed infected plant from field.

Powdery Mildew : Number of cultivated crop is infected with powdery mildew. and it caused mostly on which plant leaf is brode. Powdery mildew is common disease of gerbera which caused from the lower leaf and its pathogen spread with help of wind or air. At the time of summer this become inactive or we can use ash to control and some plant extract.

Photograph:

Alternaria



Bacterial leaf

Fusarium

Powdery Mildew

Conclusion: Number of fungal spores which can caused some allergenic and causing diseases to human and plant. Air borne fungal spores and soil born fungi show different variation due to environmental change and which affect to agriculture, ornamental plant at the present investigation we found different fungal which damage the commercial crop like gerbera so we can control by using different organic plant extract to control fungal diseases. and also we can do the plant calendar that can used year by year and for disease forecasting to control the plant diseases .

References:

1. Adatia, M. H., and R. T. Besford. 1986. The effects of silicon on cucumber plants grown in recirculating nutrient solution.
2. Belanger, R. R., N. Benhamou, and J. G. Menzies. 2003. Cytological evidence of an active role of silicon in wheat resistance to powderymildew
3. Bhatia H.S. and Gaur R.D., Studies on Aerobiology: Atmospheric fungal spores, New Phytologist,
4. Blaich, R. and Grundhofer, H. 1998. The influence of silica fertilization on the resistance of grapevines to powdery mildew.
5. Bowen, P., J, Menzies, D. Ehret, L. Samuels, and A. D. M. Glass. 1992. Soluble silicon sprays inhibit powdery mildew development on grape leaves.
6. Chlorothalonil on suppression of gray leaf spot and increased plant growth of St. Augustinegrass.
7. Datnoff, L. E., Brecht, M. O., Stiles, C. M. and Rutherford, B. A. 2005. The role of silicon in suppressing foliar diseases in warm season turf. International Turfgrass Society Research J.
8. Datnoff, L. E., Raid, R. N., Snyder, G. H., and Jones, D. B. 1991. Effect of calcium silicate on blast and brown spot intensities and yields of rice.
9. Datnoff, L. E., Snyder, G. H., and Korndorfer, G. H. 2001a. Silicon in Agriculture, Elseveir Science, The Netherlands
10. Khan Z .U., Madhurma Ganguar, Gaur S.N. and Randhaw H.S., Thermophlic actinomycetes in cane sugar mills: an aeromicrobiologic and seroepidemiologic study, *AntonieVan Leeuwenhoek*, 64(4), 339-344 (1994)
11. Romero, D., A. Perez-Garcia, M.E. Rivera, F.M. Cazorla, and A.D. Vicente. 2004. Isolation and evaluation of antagonistic bacteria to- wards the cucurbit powdery mildew fungus Podosphaera fusca.
12. Sawane A (2010) A survey of air borne Penicillium in different environment of Nagpur. J. Ind. Bot. Soc. 89(I&II), 149-154.
13. Schilder A.M.C., J.M. Gillett, and R.W. Sysak. 2003. Evaluation of fungicides for control of Phomopsis and powdery mildew of grapes, 2003.
14. Sconyers L.E. and M.K. Hausbeck. 2004. Evaluation of biological and biorational products in managing powdery mildew of African daisy, 2004.
15. Sharma K. 2009 Incidence of fungal allergens in the air at Raipur. Lab to land 1(3) 98-101
16. Shoda, M. 2000. Bacterial control of plant diseases. J. Bioscience and Bioengineering
17. Tilak S.T. and Babu M., Aerobiology of Pyricularia leafsport diseases of bajra in relation of weather condition,
18. Tilak S.T., Aeromycology –Aspects and Prospect: fungi and biotechnology: Recent advances, 137-156 (1991)
19. Tilak S.T., Aeromycology –Aspects and Prospect: fungi and biotechnology: Recent advances, 137-156 (1991)
20. Tiwari KL and Sahu S (1988) Studies on the leaf surface and air mycoflora of Momordica charantia L. Plant Geobiose New Rep. 7, 135-139.

21. Tjia B. and R.J. Black. 2003. Gerberas for Florida. Florida Coop. Ext. Serv., Inst. Food and Agr. Sci., University of Florida, Gainesville. Uchida, J.Y and C.Y. Kadooka. 2001. Control of powdery mildew on gerbera in Hawaii. Joint Mtg. of Amer. Phytopathol. Soc., Mycol. Soc.
22. Verma K and Chile S (1992) Fungi in the medical college of the Jabalpur city and the allergenic.

Navale Mahesh B, Divekar M.V, Gunjal M.B , R.J.Sawant , M.S.Wadikar
Sangamner Nagarpalika Arts, D.J. Malpani Commerce and B.N. Sarda Science College, Sangamner, Dist. Ahmednagar-422 605. (MS), India, Shri Muktanand College Gangapur Aurangabad, Vinayakrao Patil College Vaijapur. Aurangabad