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Biological Control of Parithenium Weed

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Abstract

A total of 12 fungi associated with the seeds of Parthenium were recovered. These includes severe highly plant pathogenic fungi viz. Colletotrichum,dematium,fusarium species.phoma herbarium,Dreschlera sp, Curvularia lunata,Rhizopus herbarium and Colletotrichum- dematum were also responsible for severe seedling blight in Parthenium.

Some fungi associated with externally are well known for there capacity to produce phytotoxic secondary metaboliter.Except few exception all of them significantly reduced the seed germination.

Keywords: Weed/Biological Control/Parthenium

Introduction

Parthenium (P.hysterophorus L.) is now considered as a serious weed in india and now considered as a serious weed in india and the problems due to the weed is very well documented by D.R Rajesh Garg and D.R Rajesh Singh.seeds are known to carry various types of pathogenic as well as non pathogenic fungi,some are responsible for severe seed and seedlings diseases, besides synthesizing potentially toxic secondary metabolite . therefore,the present communication deals with the incidence of seed,mycoflora and its impacts on seed germination.

Material and Methods

Fungi were isolated from infected seeds of *Parthenium* through Blotter method ISTA3 and Dilution method.Pathogenicity lest was carried out by D.R Rajesh Garg and D.R Rajesh Singh. the percent incidence of fungi and percent inhibition in seed germination were determined by using the following formula= Total no of seeds colonized by individual fungus/Total no of seeds observedx100

percent inhibition in seed germination=Germination in infected seed/Germination in controlled seedx100

All Experiments were Conducted in Triplicate

Result and Discussion

Twelve fungi were isolated from infested/infected seeds of PARTHENIUM(TABLE-1). Aspergillus Fumigatous(81.36%) was most dominant isolate which was followed by A.niger,A.flavus ,Fusarium rigidiusculum,F.oxyporum and Drechslera bisephtata. Fungal isolates recovered from significant external surface and caused reduction in germinability of seeds.significant reduction in viability and germinability due to externally associated fungi have also been recorded by many workers .this might to because of invasion of outer cover or secretion of toxic metabolities similarly some well known plant pathogenic fungi viz, Fusarium rigidiusculum, F.oxysporium phona herbarium,p. hyunmicola, Drechslera biseptata,curvularia luata and collectotrichum dematim were also found to be associated internally. Maximum inhibition in seed germination was due to C.dematium FGCC#20(78.34%).it was followed by Phoma herborum (69.94%).seed borne nature of these fungi also been recorded by some earlier workers.

On the basis of above observations it can be concluded that the seed mycoflora recorded have enormous mycoherbicidal potential against the hazaidous weed Parthenium.Further investigation are to be carried out for their large scale exploitation.

S.No.	% incidence of fungi	% inhibition of seed germination		
Blotter Melleo		Dilution in the		
1	Apergillus Niger	0.0	79.28	22.00
2	A.Fumigatour	0.0	81.36	27.77
3	A.Flovur	0.0	68.97	13.97
4	Fusurium Rigidusculum	79.69	12.22	52.49
5	Foxysporium.	72.34	14.53	57.94
6	Phoma Herbarium	75.09	00	69.40
7	P.Humicola	69.28	00	55.97
8	Drechstlera Biseptalta	15.58	6.14	59.76
9	Curvularia Lunata	18.11	13.04	36.50
10	Nigrospora Orizae	38.29	0.0	18.30
11	N.Sphaerica	0.0	13.63	36.50
12	Colletotridium Dematium	16.25	0.0	78.34

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References

1. Pandey A.K.J. Mishra, R.C Rajak,and S.K.Hasija (1996). in Herbal Medicines, Biodiversity and conservation strategies (Rajak,R.C.and Rai,M.K. eds). International Book Distributors,Dehradun: 104-138.
2. Pandey,A.K.(1999) In:microbial biotechnology. forsustainable Development and productivity. vol.1(R.C.Rajak eds)scientific Publishers,Jabalpur 85-105.
3. International seed Assoiation(1985).seed sci technol,13:299-573.
4. Neergaard,P.(197).Seed Pathology,(1and2)the Macmillan Press Ltd London.
5. Agrawal,G.P. and S.K. Hasija (1986).micro organism in the laboratory :a laboratory guide fir Mycology,Microbiology and plant Pathology.print house,lucknow (india),155.
6. Abdul Baki,A.A.,and J.D. Anderson(1972)in seed biology vol ii.(Ed., Kozlowski,T,t.) pp.283-315.,Acadmic Press New York.
7. Flannigam, B. and P.M.sellars (1977) Trans. Br. mycol. soc.,69:316-317.
8. Pandey,K.K.(1978).Acta.Mycologica14:143-149