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ORIGINAL ARTICLE

Efficacy Of Some Botanicals Against Seeding Rot Of Oil Yielding Plants.

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Abstract:
The antifungal effectiveness of the plant extract of selected locally available plant on fungi Rhizohus stolonifer is tested in this present study. Five different plants used in Indian medicine were examined against Rhizohus stolonifer. The alcoholic extract of five plant, viz of Azadirachta indica, Ocimum sanctum,Oocimum basilicum, Lantana camara and Alov vera exhibited varing degrees of inhibition activity against the fungi. All selected five plants shows antifungal activity in different percentage out of these five plant. Azadiruchta indica, Ocimum sanctum and Alov vera shows almost total inhibition plant exhibits antifungal activity. While Ocimum basilicum and Lantana camara extract shows against fungal growth in significantly variable activity rangeing from 75 – 85 % reduction in Rhizohus stolonifer.

The concentrated fresh leaves alcoholic extract of neem, Alove vera and Ocimum sanctum completely inhibited the growth of fungi.

The alcoholic extract of selected plant was most effective in comparison to aqueous extract to retording the growth of Rhizohus stolonifer.

KEYWORDS - Rhizohus stolonifer, Antifungal plant extract.

INTRODUCTION:-

Rhizohus stolonifer is one of the pathogenic fugal from on the many seed and vegetables. It causes the disease seedling rot to oil yielding plant. Large number of chemicals and fungicides have been developed for the control of plant diseases. But due to over growing awareness of the hazardous side effect of these chemical, more and more emphasis is being given to the use of bio control agent.

Therefore to introduce some eco friendly and safe alternative control strategies for agriculture , which led researchesrs to turn their attention to plant plants. As a source of ecofrienelty bio control agen, Neem has already emerged at the top of the list of plant which has highest potential . Along with neem there are, some other medicinal plant also have a antifungal properties. Medicinal plant represent a rich sources of antimicrobial agent (Mahesh and satish, 2008) many plant material used in traditional medicine are readily available in rural areas and relatively cheaper than modern synthetic medicine (Mann et al 2008).

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Evaluation of antifungal effect of Zataria essence in vivo and occurance of resistance to the essence showing effect on zygomycotic fungi (Abdulgaffar Ownagh et al 2011), the lcoholic extract of neem leaf was most effective in comparision to aquous extract for retarding the growth of Rhizopus (Mandali N.K. et al 2009) , Head rot caused by Rhizohus stolonifer reduces sunflower seed yield and quality(Ismet yildirim 2010).

Plant product contain the principal source of pharmaceutical agent used in traditional medicine (Ibrahim 1997, Ogundipe et al 1998) plant produces many secondary metabolities which has a microbicides, pesticides and antifungal activity. The effect of plant extract on bacteria have been studied by large number of researchers in different part of world (Reddy et al 2001, Ateb and Erdoural 2003) . A indica contains at least 35 bilogically active principals of which Nimbin and azadirchtin (T.D.Pennigton et al 1981) much work has been done on ethnomedicinal plant in india (Mahesh wari et al 1986, Negi et al 1993).

Plants are the source of natural pesticides that make excellent leads for new pesticide development (Arokiyaraj et al 2008, Gangadevi et al 2008, Satich et al 2008, Brida et al 2009, Jagdish et al 2009, Millind Pande et al 2009, Shanmugavalli et al 2009, Vetrivel Rajan et al 2009, Swarna Latha and Neelakanta Reddy 2009). Antifungal activities and chemical characterization of Neem leaf extract on growth of Rhizohus stolonifer ((Modali et al 2009).

Rhizopus were studied and subswquent chemical characterlization of the need of leaf extract were evaluated for its antifungal activity.

MATERIALAND METHODS

1.PLANT MATERIALAND EXTRACT PREPARATION

The plant material of five plant species like Azadirachita indica, Ocimum sanctum, Ocimum basilicum, Lantana camara and Alov vera were collected from different local places in Buldhana districts Maharashtra. The collected plant used for the preparation of botanicals.

The selected part of different plants were cut into small pieces and shade aried at room temperature for fifteen day and finely powdered plant materials were successively extracted with solvent alcohol using soxhlet apparatus. Alcoholic extract of fresh leaves of plant also prepared. 5 gm of leaves of each plant washed with distilled water and 10 ml alcohol is added to it. Then griend in morter and pestel and plan extract were collected. Along with alcoholic extract aqueous extract is also been prepared.

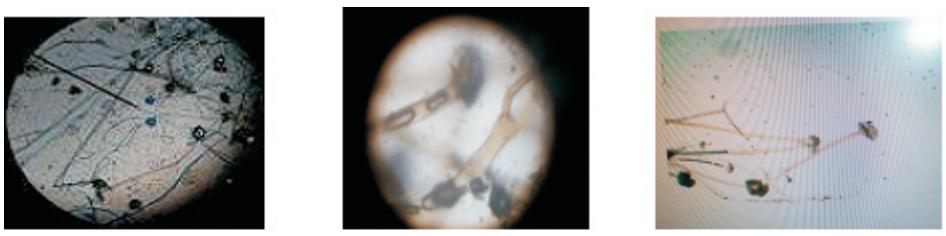
The collected extract of all five plant were first of all surface sterilized and then examined inhibition of fungi Rhizohus stolonifer growth of these herbals to find the antifungal activity.

Rhizohus stolonifer was grown on PDA culture at room temperature. The PDA culture were used for inoculation of fungal strain on PDA plants. The fungus inoculums was introduced to molten PDA and poured in to a petridish by pour plate technique and after 48 hours for observation of antifungal activity of plant extract. The antifungal activity was evaluated by measuring the radial mycelia growth of fungi. The complete antifungal analysis was carried out under strict aseptic condition. The radial mycelia growth were recorded.

The current study evaluates the effect of dry powder leaf extract and fresh leaves extract of selected plants on growth of mycellum of Rhizohus stolonifer.

DISCUSSION AND CONCLUSION

Seedling rot disease caused by Rhizohus stolonifer to plant due to which it causes great loss in yield hence different botanicals has been tested as a antifungal agent against this disease. These different plants was tested against the Rhizohus stolonifer all plants Azadirachita indica, Ocimum sanctum, Ocimum basilicum, Lantana camara and Alov vera inhibited the mycellial growth of fungi with varing degree of sensitivity. The antifungal activity of the screened plants against the Rhizophous stolonifer is shown in the table.



Rhizopus stolonifer

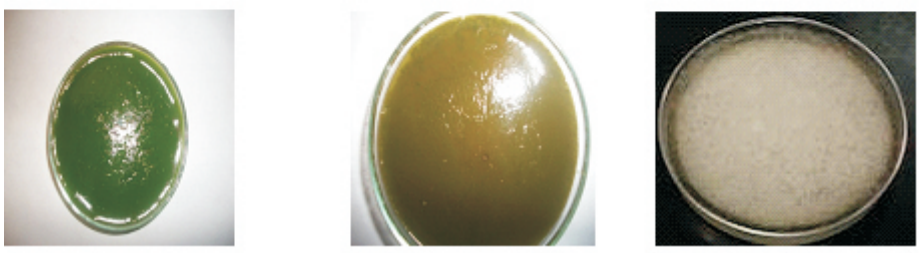


Plate A Plate B Plate C

Inhibitory effect of name extract on growth Rhizopus sotolonifer

A – Growth of Rhizopus sotolonifer in alcoholic neem extract + PDA
B - Growth of Rhizopus sotolonifer in water neem extract + PDA
C - Growth of Rhizopus sotolonifer in control

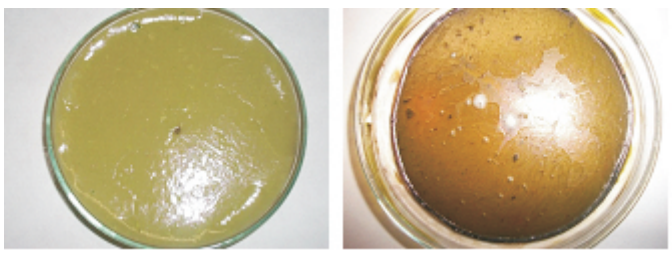
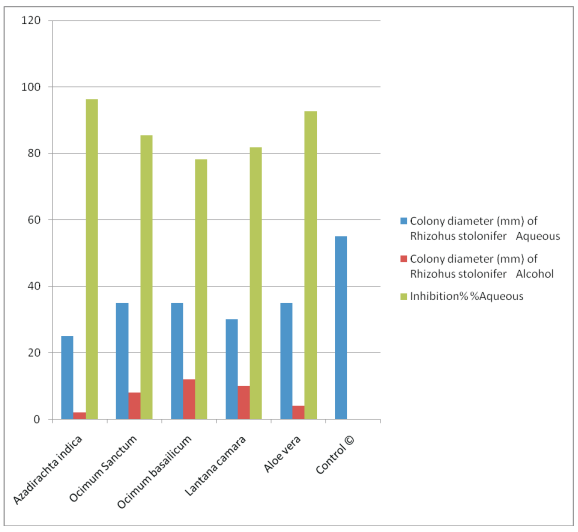


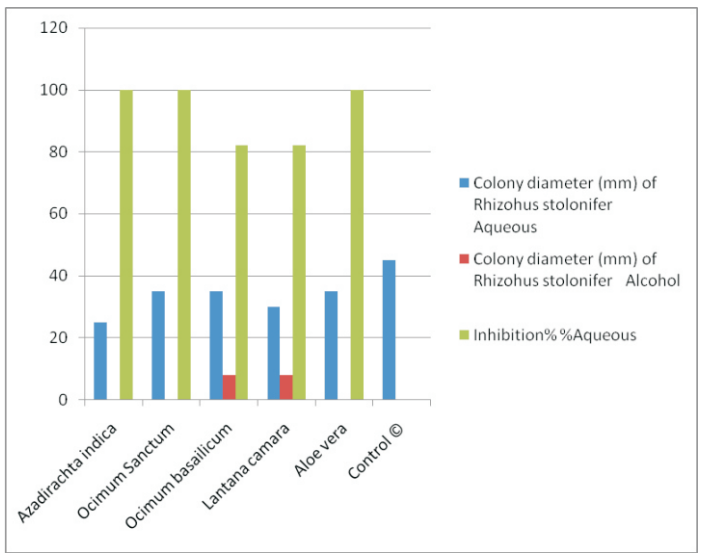
Plate D Plate E

D – Growth of Rhizopus sotolonifer in Alov vera + PDA
E - Growth of Rhizopus sotolonifer in Ocimum sanctum

Sr. no.	Treatment of dry powder of leaf extract	Colony diameter (mm) of *Rhizohus stolonifer*		Inhibition%
		Aqueous	Alcohol	%Aqueous
1	***Azadirachta indica***	25	02	96.36
2	***Ocimum Sanctum***	35	08	85.45
3	***Ocimum basailicum***	35	12	78.18
4	***Lantana camara***	30	10	81.81
5	***Aloe vera***	35	04	92.72
7	**Control ©**	55		



Sr. no.	Treatment of dry powder of leaf extract	Colony diameter (mm) of *Rhizohus stolonifer*		Inhibition%
		Aqueous	Alcohol	%Aqueous
1	***Azadirachta indica***	25	00	100
2	***Ocimum Sanctum***	35	00	100
3	***Ocimum basailicum***	35	08	82.22
4	***Lantana camara***	30	08	82.22
5	***Aloe vera***	35	00	100
7	**Control ©**	45		



The observations noted in table 1 revealed that dry powder leaf extract of Azachrachta indica in alcohol was most effective (96 %) while in table 2 revealed that fresh leaves extract of Azdirachta indica ,Ocimum Sanctum and Aloe vera in alcohol shows total inhibition (100%) in of mycelia growth of Rhizophous stolonifer (Plate l, plate No.2 and plate No. 3).

Leaf extract of Alove vera in alcohol was also effective in reducing mycellial growth of fungus.

The leaf extract of Ocimum basilicum and Lanatana camara in acetone shows moderate type of inhibition Alcoholic leaf extract was most effective than water extract hence it shows that presence of Antifingal compound released in alcohol due to its solubility so leaf extract can be used instead of chemical fungicides to control the disease .

The crude leaf extract of these plant were used as a fungicides which are ecofriendly and does not shows adverse effect. The use of synthetic fungicides affect soil fertility as well as seed quality adversely and these are so costly as compared to the herbal leaf extracts.

The botanical used in the above experiments are easily amd locally available and effective as a antifungal agent . so can be recommended to the farmer after field test.

These botanical does not affect the quality of seed and also the soil fertility.

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