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SHORT COMMUNICATION

Studies on dominant Seed bore Mycoflora of *Glycine max* (Mirrill) L.

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ABSTRACT

Soybean (Glycine max L.) is one of the most important legume crops of the world. It is excellent source of high quality protein and edible oil. The present paper deals with the isolation of dominant soybean seed mycoflora by using varieties like 435, JS 335, DS 228 and Eagle. All varieties showed dominance of Aspergillus flavus, Aspergillus niger, Fusarium moniliforme, Penicillium crysogenum.

KEYWORDS: *Soybean, Glycine max L., Mycoflora*

INTRODUCTION

The name soybean is derived from the Chinese "Chiang –yiu" which means soy sauce. Soybean is native to eastern Asia and its wild form was cultivated in china 5000 years ago/ later on, it was introduced to other countries like America, Japan, Korea, India etc. Ancient Chinese literature reveals that the soybean was extensively cultivated and highly valued as a food. Soybean is one of the oldest crops grown by man; its cultivated in eastern Asia has been mentioned on 5000 years old records. *Glycine ussuriensis* a wild sp. of eastern Asia is considered the ancestors of the present day cultivated plant.

Of the entire legumes soybean must be crowned the king. In china soybean are referred to as poor man's meat. The soybean has more protein and greater versality than any other legumes. The amino acid content of soybean especially in the sulfur containing compound is particularly impressive. These factors combine to make soybean the most important legume crop in the world United States the world's largest supplier and led to the legume's being called "Cinderella crop". It is now cultivated in Assam, Orissa, West Bengal Manipur, Maharashtra, Punjab, Himachal Pradesh and Kashmir, up to an elevation of 1830m.

It is now cultivated in Assam, Orissa, West Bengal Manipur, Maharashtra, Punjab, Himachal Pradesh and Kashmir, up to an elevation of 1830m. The plant is an annual under shrub, which may be either erect or prostrate having height of about 3-5 feet the plant has well branched tap root system. The leaves are trifoliate compound which may be deciduous in some species. The inflorescence is solitary, auxiliary or terminal raceme bearing a cluster of small white or purple flowers, sepals 5, connate, petals little exerted, stamens ten, monoadelphous, over subsessile style short and incurved stigma terminal and capitate. Pods are small flattened or cylindrical in clusters of 3-5 densely hairy dark brown in colour measuring about 13.5inches in length. There are about 2000 varieties of soybean in Maharashtra commonly growing varieties are Palmotts , Clemson , Charlee , Type 33 , N 49 brag , Clark & Punjab B the I.A.R.I. produce a few varieties .

In the present investigation locally grown varieties os soybean like JS335, DS 228, 435 and Eagle were used to detect their mycoflora [1-3].

MATERIALS & METHODS

Collection of seed sample

Seed sample were collected from M.P.K.V. Rahuri, Krishi Vidgyan Kendra, Bableshwar & from Pravara area farmers.

Mycoflora detection of seed

Seed mycoflora was detected by using two methods.

Blotter method

In this method petriplates of size 90 mm were wrapped in brown paper, simultaneously whatman's filter paper no 1 were wrapped in brown paper for sterilization, petriplates 7 blotter paper were sterilize in autoclave at 15 lbs pressure for 20 min. after sterilization in front of laminar flow sterile blotter paper were moisten & sterile DW after preparation of plates seed sample were taken in separately in petriplates. 10 seeds of each above variety were places in the different petriplates & were incubated at 25 ± 2 □C. After 7 days different colonies were developed on seeds that were with help of microscope.

PDA method

Potato Dextrose Agar medium was prepared by using 200 gm potatoes, 10 gm dextrose & 15 gm agar powder in 1 lit distilled water. This media was sterilized in autoclave 15 lbs pressure for 20min. simultaneously petriplates were wrapped in brown paper & sterilized in petriplates after sterilization 20ml medium was poured in each petriplates. 10seeds of each variety were placed in different petri plates.

RESULTS AND DISCUSSION

In each of the below mention varieties of soybean following seed borne pathogens were indentified.

Table Mycoflora observed on different varieties of *Glycine max* (Mirrill) L.

S. No.	Name of variety	Blotter Method	PDA Method
1.	*JS 335*	*Aspergillus niger* ***Fusarium moniliforme*** ***Aspergillus flavus*** *Penecillium crysogenum*	*Aspergillus niger,* ***Fusarium moniliforme*** *Alternaria alternate, Aspergillus flavus* *Penecillium crysogenum*
2.	*DS228*	*Aspergillus niger* ***Fusarium moniliforme*** *Alternaria alternata* *Aspergillus flavus*	*Aspergillus niger,* ***Fusarium moniliforme*** *Alternaria alternate, Heliminthosporium sp.* ***Penecillium crysogenum***
3.	*Eagle*	***Fusarium moniliforme*** *Alternaria alternata* *Aspergillus flavus* *Penecillium crysogenum*	*Aspergillus niger,* ***Fusarium moniliforme*** *Alternaria alternate, Aspergillus flavus* *Penecillium crysogenum*
4.	*435*	***Aspergillus niger*** ***Fusarium moniliforme*** *Alternaria alternata* *Aspergillus flavus* *Penecillium crysogenum*	***Aspergillus niger, Fusarium moniliforme*** *Aspergillus flavus* *Penecillium crysogenum*

Results observed in the present investigation were given in table. Results showed that *Fusarium moniliforme, Aspergillus flavus, Aspergillus niger* and *Penecillium crysogenum* are the dominant seed borne fungi found on soybean. These fungi cause different diseases like wilting, rooting rot, dumping off etc. All such disease causes loss in yield of soybean production. The present investigation may be useful for the farmers to avoid all these fungi by treating the seeds with Biocontrol agent like *Trichodermma viride* [4-8].

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