

EVALUTION OF MYCOFLORA OF FENUGREEK SEED

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Abstract: In present investigation study of mycoflora associated with seeds of Fenugreek (*Trigonella foenum graecum L*) six fungal species like *Alternaria alternate*, *Aspergillus flavus*, *Aspergillus nigar*, *Fusarium solani*, *penicillium italicum*, *Mucor* and *Rhizopus stolonifer*, were found using agar plate and standard blotter test. Seed borne fungi are losses the production and affect the seed health.

Keywords: Fenugreek, seed borne, mycoflora, seed health

Introduction:

Fenugreek (*Trigonella foenum graecum L*) is an annual herb plant belongs to family Fabaceae ,fenugreek grows under arid and semi arid region of India during rabi season , its commonly known as “ Meethi” its seeds and leaves are common ingredient in dishes of Indian subcontinents ,and have been used as a culinary ingredient since ancient times [Debaggio.Thomas et al 2009] fenugreek is believed have been into cultivation in the near east . it is uncertain which wild strains of the genus *Trigonella* gave rise to domesticated fenugreek .India is a major producer ,with fenugreek production in India derived from numerous states , Rajasthan accounts for over 80% of India’s output [V.A Pathasaraty et al] fenugreek seeds are rich source of fibres, protein, vitamin B and dietary minerals In 100gm amount of fenugreek seeds provides 1,350kilojoule (323kcal)of food energy and contain 9% water,58%carbohydrats,23%protein and 6%fat, with calcium 40%of daily value . Fenugreek is used in traditional medicine to promote digestion, induce labour, increase Breast feeding milk supplying nursing mother and reduced blood suger level in diabetes [Bazzano et.al 2016] fenugreek is used for Eritean and Ethiopian cuisine the word of fenugreek in Amharic and the seeds is used in Ethiopia as a natural herbal medicine in the treatment of diabetes [Zerihun shenkute et al.2009]

Seeds play an important role for the production of crops ,which are carries of some important seed born disease which cause losses in yields seed mycoflora affects the germination (Tamuli and Boruah 2001)
In this investigation was carried out to identify seed mycoflora of fenugreek seeds

Material and Methods:

Collection of Seeds:

Seeds of *Trigonella foenum-graecum L* were collected from different local market, retailer shop and godowns of Aurangabad district .they were mixed and then preserved in a room temperature during the studies .

Isolation and Identification of Seed Born Fungi:

The mycoflora of fenugreek seeds were isolated by Blotter paper method and Agar plate method as recommended by International Seed Health Testing Association ISTA 1996 .

Agar Plate Method: Presterilized petriplates were taken pour with Glucose Nitrate Agar medium (GNA).After cooling 30 seeds per plate to be studied were equidistantly placed .The plates were incubated at 25+_2°C.After 7 days seeds were examined under microscope by preparing slides.

Standard blotter paper method: A blotter paper of 8.5 cm diameter were soaked with sterile distilled water and placed in petri plates 10-15 seeds were placed equidistantly on moist blotter paper . The plates were incubated at 25+_2°C.After 7 days seeds were examined under microscope by preparing slides.

Table: Seed mycoflora of fenugreek seeds by Agar plate (A) and Blotter paper (B)

Sr.no	Associated seed mycoflora	Agar plate method	Standard Blotter paper
1	<i>Aspergillus flavus</i>	+	-
2	<i>Aspergillus nigar</i>	+	+
3	<i>Alternaria alternate</i>	+	-
4	<i>Fusarium solani</i>	-	+
5	<i>Penicillium italicum</i>	+	+
6	<i>Rhizopus stolonifer</i>	-	-
7.	<i>Mucor spp.</i>	+	+

Present +, Absent -

Result and Discussion:

The study reveals the isolation of fungi from the seeds of fenugreek collected from Aurangabad district Maharashtra . Six fungal species viz. *Alternaria alternate*, *Aspergillus flavus*, *Aspergillus niger* , *Fusarium solani*, *penicillium italicum*, and *Rhizopus*

stolonifer were found . Isolation of Fungi with respect to the different isolation methods Agar plate method shows higher number of fungal species as compared to respective method.

Conclusion:

Fenugreek is a interesting herb with diverse uses and many potential Health benefits. The present investigation resulted in the isolation and identification six species of fungi belongs to different genera. Improving the conditions of fenugreek seeds under processing, storage and transport and continuous mycological and mycotoxicological control prior to food processing is necessary to lower the risks from incompatibility of seeds in order to efficiently protect human health and for welfare

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