



Research Article

Control of seed mycoflora and improvement in seed germination of sonamukhi by application of fungicides

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ABSTRACT

In vitro experiment was conducted to study the effect of seed dressers i.e. Antracol and Thiram on seed mycoflora and germination. It was found that both the seed dressing chemical reduced the seed mycoflora and increased the germination percentage. Among these two fungicides, Thiram was found best to give maximum germination (79 %) and 0.0 per cent Seeds mycoflora at 3.0 per cent concentration. Antracol showed 0.0per cent seeds mycoflora and 80 per cent seeds germination at 3.5 per cent concentration.

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INTRODUCTION

Cassia angustifolia Vahl. is known as Indian Senna or Sonamukhi. It is very important medicinal plant which belongs to family Caselpinaceae (Rasheeduz Zafer, 1994). The leaves and pods produce crude drug senna (Bhattacharijee, 2000). Sonamukhi contains glucoside, Kamperol, anthroquinone, Sennoside A and B, essential oil, calcium oxalate, flavanols etc.

Sonamukhi leaves are a sure and safe purgative for children and weak elderly persons. They are used as infusion, decoction. It is also used against skin diseases and pimples. It is also used as anthelminitic for intestinal worms and as liver stimulant (Mohibbe *et al.*, 2003).

Sonamukhi crop is grown in Rajasthan, Gujrat and Maharashtra especially. The seeds of Sonamukhi are reported to be attacked by fungi. Hence, the present investigation has been undertaken to study the effect of seed dresser, on seeds mycoflora and seed germination of sonamukhi because seeds mycoflora reduced germination percentage, so it causes heavy loss of yield. The blotter paper method was used for present investigation.

MATERIALS AND METHODS

The experiment was conducted in Laboratory of Research center of Botany in D.S.M. College Parbhani, to find

out the best fungicidal for seed treatment to control seed mycoflora and to increase seed germination of Sonamukhi.

The healthy and infected seeds of *Cassia angustifolia* Vahl were collected from Marathwada Agricultural University Parbhani (M.A.U.) (M.S.) and Central Institute of Medicinal and Aromatic plants (CIMAP) Lucknow (U.P.). For isolation of external and internal seed mycoflora *viz.* associated with healthy and unhealthy seed sample of *Cassia angustifolia* Vahl. The seed samples were stored in cloth bag at room temperature in Laboratory. Seed germination, percent seed mycoflora, Seeding vigour was calculated by using blotter paper method. (Plate I and II).

For determination of effect of Antracol and thiram *i.e.*, used to study seed mycoflora, germination and vigour index by using lethal doses was form 0.1 to 3.5 per cent (Solanke, *et al.*, 1997). Seeds were surface sterilized by 0.1 per cent HgCl₂ solution and dried in sunlight. The seeds were divided into 10 fractions for treatment of different concentration of fungicides and one set was kept as untreated for control. The seeds were dipped in different concentration of fungicides for 3 minutes. The treated seeds were plated on moist blotter paper petriplates, five seeds were kept in a circle in each petriplate and each treatment was replicated four times. Sterile distilled water was added from time to time for moistening

The petriplates were incubated at 28 ± 1°C and exposed for 10 days to dark and light cycle. Observations were