

## **IN-VITRO GERMINATION OF TELIOSPORES OF TILLETIA INDICA MITRA, THE CAUSE OF PARTIAL BUNT OF WHEAT**

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Karnal or partial bunt of wheat caused by *Tilletia indica* Mitra (Syn. *Neovossia indica* (Mitra) Mundkur) is an important disease of wheat in the Punjab and North West Frontier Province of Pakistan, where an incidence of 2-10% and upto 20% in some fields has been reported (Khan *et al.*, 1992) as compared to 89% in some wheat samples from India (Joshi *et al.*, 1983). The disease is transmitted through air borne inoculum (Bedi *et al.*, 1963). Freshly collected teliospores due to their dormant state has either shown no germination (Mitra, 1935) or low % of germination (Bansal *et al.*, 1983) with highest germination in one year old teliospores (Mathur & Ram, 1963). In the present study, germination of the teliospores were tested on different media in order to produce sporidia in culture which could be used for artificial inoculation of wheat germplasm for testing their resistance potential against partial bunt of wheat.

Samples of teliospores of *T. indica* stored from one month to one year were used to test their viability. Teliospores were dusted in Petri plates containing 5 different media viz., water agar (WA), potato dextrose agar (PDA), potato agar (PA), potato dextrose yeast agar (PDYA) and wheat extract dextrose yeast agar (WEDYS) and incubated at 22+2°C. After 12 days, germination of teliospores were examined under the microscope. All the media significantly differed with time ( $P < 0.05$ ) in the germination of teliospores (Fig.1). One month old inoculum showed 75% germination in wheat extract dextrose yeast agar as compared to 40% in potato dextrose yeast agar medium of Dhiman & Bedi (1983). Germination was comparatively less on other media. Eight month old inocula retained 20% germination in wheat extract dextrose yeast agar medium as compared to 5% in potato dextrose yeast agar. In the present study wheat extract dextrose yeast agar gave better results in the germination of teliospores of *T. indica* as compared to other media used.

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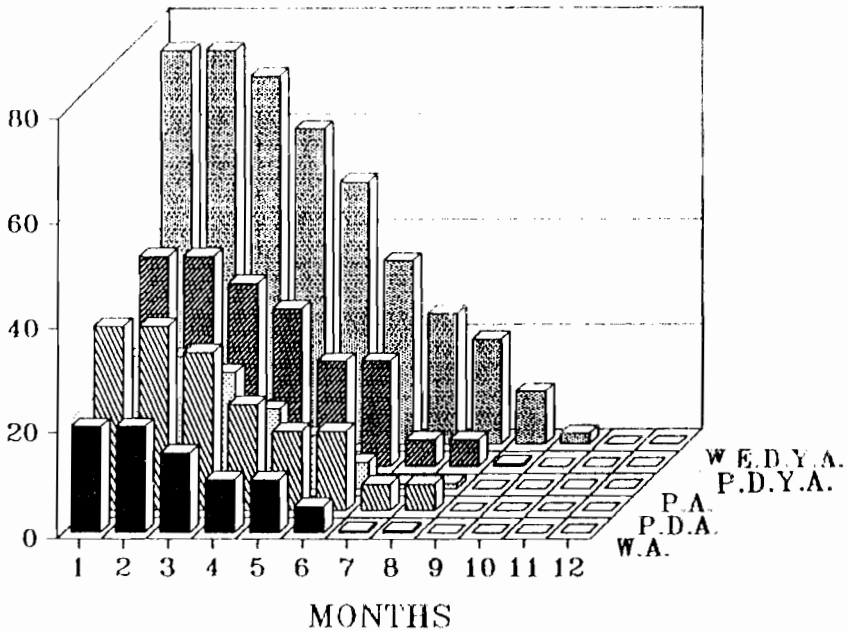


Fig.1. Comparative efficacy of different media used for testing germinability of teliospores of *Neovossia indica* from one month old to 12 months old inocula

WA = Water agar, PDA = Potato dextrose agar, PA = Potato agar, PDYA = Potato dextrose yeast agar. WEDYA = Wheat extract dextrose yeast agar.  $LSD_{0.05}(\text{Media}) = 1.9$ , (Months) = 2.9.

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