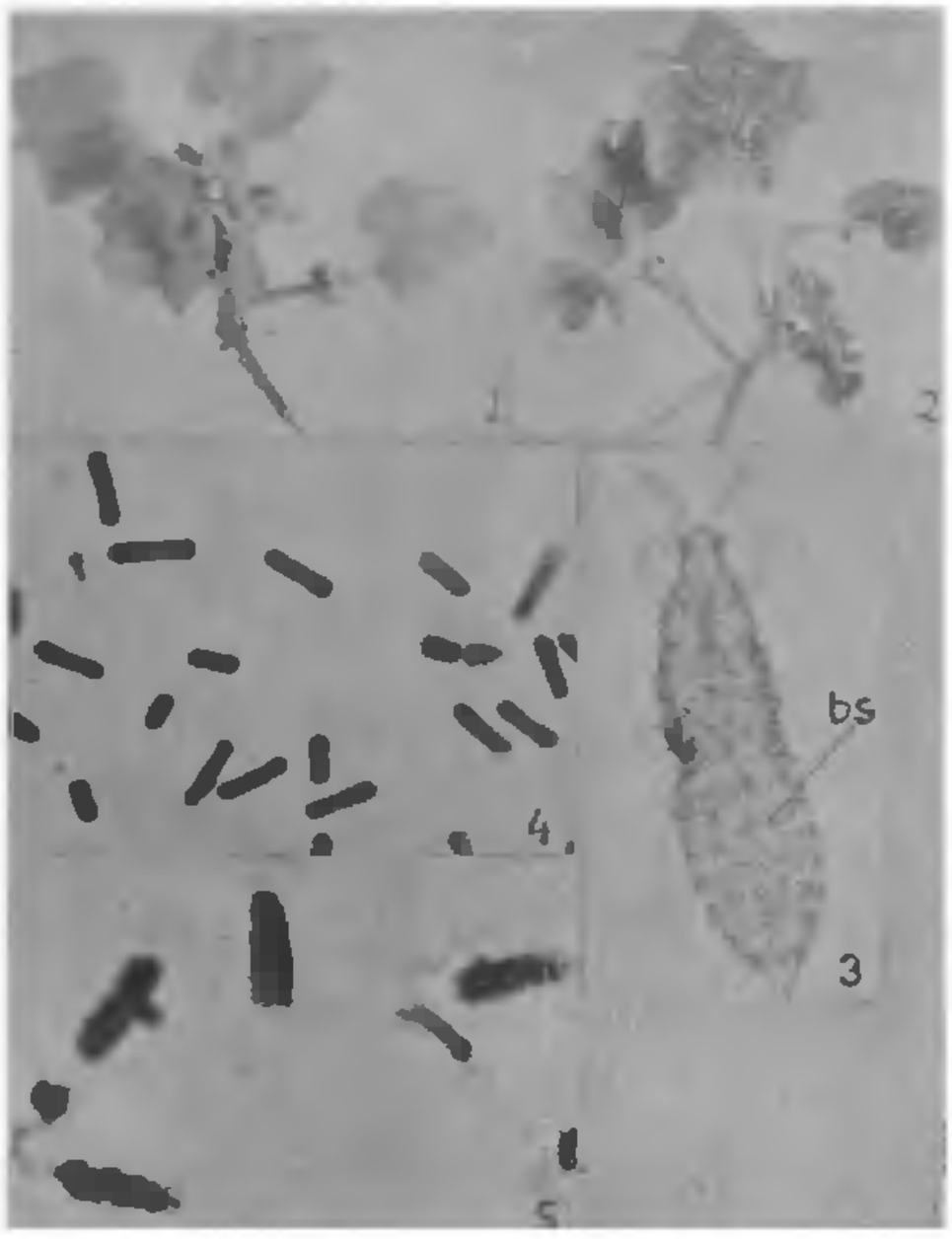
Bailey (1935) also noted that *Thrips flavus* (Schrank) is able to transmit mosaic virus of *Vicia faba*. The earlier record of *T. flavus* being a pest of cotton includes the work of Dyadechko (1964) (from the transcaucasian region of U.S.S.R.). Along with *Thrips florum* (Schmutz), this species has been considered a serious pest of tea flowers in India.



FIGS. 1–5. Fig. 1. Healthy cotton leaves. Fig. 2. Cotton leaves infested by *Scirtothrips oligochaetus* (Karny) and *Thrips flavus* (Schrank). Fig. 3. Second instar larva of *Thrips flavus* (Schrank) showing the *Bacillidium* spores (*bs*). Figs. 4–5. Smears showing different stages of *Bacillidium* sp.

Scirtothrips oligochaetus (Karny), found on several plants, was collected mainly from cotton leaves and flowers by the anthor. A closely related species or sibling species of *S. oligochaetus*, i.e., *S. dorsalis* has been recorded as a serious pest of chillies in South India (Ramakrishna Ayyar, 1932). The two species show many morphological similarities. It is of interest that the same microsporidian *Bacillidium* sp. can parasitise both the species of thrips and cause heavy mortality. Under natural conditions, this microsporidian may be responsible for bringing about fluctuations in population of thrips. Judging from the damage cansed by these thrips to the economically important plants like cotton, it would be of great interest to use this microsporidian as a tool in the biological control of thrips. Earlier the biological control methods used in case of *Thrips tabaci* with chalcid parasite *Thripoctenus vuiletti* have been successful.

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A NEW WILT DISEASE OF MUSKMELON IN INDIA

MUSKMELON (*Cucumis melo* L.) is vulnerable to a number of fungal, bacterial and viral diseases[1]. Amongst fungal diseases, wilt caused by different species of Fusarium has been found to be responsible for serious loss to this crop. *F. solani* (Mart.) App. and Wellenw. was first found to be associated with the wilt of muskmelon in France[2]. Subsequently, the same pathogen has been reported from U.S.A.[3], Holland[4], Norway[5], Australia[6], Germany[7] and Israel[8]. From India, only *F. oxysporum* f. sp. *melonis* (Leach and Currence) Snyder and Hansen. has been isolated from wilted melon plants[9]. *F. solani* has been reported to cause fruit rot of Kakri (*Cucumis melo* var. *utilissimus* Duthie and Fuller) amongst the cucurbits from this country[10], but wilt of muskmelon caused by this pathogen is the first record from India.

The attack of Fusarium wilt of muskmelon was first detected in a number of samples from the Vegetable Research Farm of the Punjab Agricultural University, Ludhiana, in muskmelon growing season of 1972 and subsequently in the years 1973–75. The incidence of the disease is gradually increasing in the Punjab State, posing a serious threat to the cultivation of muskmelon in this State. Besides the University Research Farm, the pathogen has also been isolated from growers' muskmelon crop fields at Ludhiana, Patiala and Amritsar.

Significantly different types of symptoms are produced by different species of Fusarium attacking muskmelon plant[2,11-13]. By the pathogen isolated presently, the plants can be infected at any stage of growth but the symptoms are generally manifested when the plants are in flowering and bearing stage. The infected plants exhibit yellowing of foliage which later droop down due to the loss of turgidity. Soon the plants wilt completely, followed by the death of vines. The roots show vascular discoloration of orange red colour which extends to the stem to a small distance. The roots were otherwise perfectly healthy and normal without any sign of rotting. Stunting of vines was also exhibited to some extent. The pathogen causes yellowing of foliage and ultimate wilt but is not a rootrotter[14]. No masses of pink spores at the collar region were seen.

The causal organism was isolated on potato-dextrose-agar (PDA) and maintained on the same medium for further study. The pathogenicity was proved by inoculating the variety Hara Madhu of muskmelon. Pathogenicity tests were also carried on varieties, Lucknow Safeda, Pusa Sharbati and Arka Rajhasn and all these proved susceptible to the pathogen.

The fungus produced both micro- and macroconidia in culture. It was identified as *Fusarium solani* (Mart.) App. and Wellenw. (IMI Nos. 188227–188231) by the courtesy of Director of the Commonwealth Mycological Institute, Kew, London.

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STIMULATION OF GERMINATION BY GAMMA RADIATIONS OF THE DORMANT SEEDS OF *AVENA FATUA* L.

Seeds of *Avena fatua* L. (wild oats) are fully dormant at the time of harvest[1]. During dry storage the dormancy is gradually lost. Dormancy can also be overcome if imbibed seeds are given low temperature[2], gibberellic acid[3], high oxygen concentration[4], H_2O_2[4], KNO_3[4], etc., treatments. Germination inhibitors have been found in the hulls as well as the caryopses of *A. fatua* seeds[1,4]. Naylor and Simpson[3] attributed the dormancy in *A. fatua* seeds to a balance between germination promoters and inhibitors. It has been demonstrated that chilling and high oxygen concentration resulted in reduced levels of inhibitors[1,5].

Dormant seeds of *A. fatua* having 8% moisture content were exposed to 10, 20 and 30 kR Co^{60} gamma radiation at the dose rate of 900 r per minute and were immediately soaked in water, seeds were germinated in petriplates at 20° C. In seed lots where the maximum germination on 7th day was only 58%, better than 90% germination was obtained with 10 kR treatment (Fig. 1). Even in 30 kR treatment, stimulation of germination was observed but harmful effects of radiation became more pronounced, hence the germination