

SHORT SCIENTIFIC NOTES

A New Record of Wilt of Gram Caused by *Fusarium solani*

Cicer arietinum L., commonly known as gram, Bengalgram or chickpea, is grown over an area of about 8 million hectares in India. During 1970-74 the authors observed several gram fields severely infected with wilt disease in the states of Haryana and Punjab as well as in villages around Delhi. Initially diseased plants get stunted, leaves turn yellow and are ultimately killed. Infected plants were examined and found to be infected at root region. In thin sections of the infected roots, mycelium was invariably observed in the disintegrated cortex region and xylem vessels.

The fungus was isolated from the roots of infected plants on potato dextrose agar. In some severely infected plants, fungus was also isolated from the collar region, one inch above the ground level. The fungus was purified by taking one single cell spore and identified as *Fusarium solani* (Mart.) Sacc.

Colonies on potato dextrose agar, at first white to smokegrey (Ridg., 28A2) turning at maturity to lichen green (Ridg., 26A4). Colonies on oat meal agar, at first Italian straw colour (Ridg., 11D2) turned at maturity Carydalis to chrysolate green, due to formation of sporodochia. Conidia scattered with false heads. Sporodochia or pionnotes in a group and embedded in stroma. Stroma leathery, green in colour.

In order to test the pathogenicity of *F. solani*, 90 days old healthy plants grown in pots on sterilized soil, were inoculated by removing the soil around the plant upto two inch depth, and replacing it with 50 g of sand maize meal medium infested with *F. solani*. In controls sand maize meal medium without fungus was used to replace the soil. All inoculated plants developed disease symptoms which resembled with the symptoms observed in the field. Most of the inoculated plants were killed within three weeks. Reisolation from such infected plants yielded *F. solani* which resembled the original inoculated culture. Controls, however, remained free from disease. Pathogenicity of *F. solani* was reconfirmed over a period of two years.

There are reports by Chattopadhyay and Sengupta (1955), Chattopadhyay and Basu (1957), Bakshi and Singh (1959) as well as Bose and Sengupta (1961) of *F. solani* causing wilt in *Psidium guajava*, *Abelmoschus esculentus*, *Delvergia sissoo* and *Enterolobium saman* respectively. Kerr (1963) reported

root rot and *Fusarium* wilt complex of pea to be caused by *Fusarium solani* f. sp. *pisi*.

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New Record of *Pheidole* sp. (Hymenoptera: Formicidae) as a Predator of the Rice Leaf Folder *Cnaphalocrocis medinalis* Guen.

In several parts of Kerala, larvae of *Cnaphalocrocis medinalis* were found attacked by adults of *Pheidole* sp. The activity of the predatory ants was maximum in upland crops where they could reach the leaf folds easily. They were also observed in wet lands reaching the plants through floating materials.

Workers and soldiers of *Pheidole* sp. collected from field bunds, were separately confined in groups of twenty along with *C. medinalis* larvae in varying numbers in deep petri dishes containing loose soil for studying their feeding potential and predatory habits. Workers were more active than soldiers and preferred the third and fourth instar larvae of the pest. On an average each group of twenty workers rendered upto fifteen larvae moribund within a period of 15 minutes. A few of the cadavers were dragged into the soil and fed upon, while the remaining ones were left on the soil. Thus they were killing more number of larvae than actually required for their feeding.

Pheidole spp. have been previously reported as predators of the larvae of *Sesamia inferens* (Yanagihara, 1934) and of *Carpocapsa pomonella*