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INTERACTION BETWEEN MOSAIC VIRUS AND *FUSARIUM OXYSPORIUM*, f. sp. *PISI* (LINF) INFECTING PEA PLANTS (*PISUM SATIVUM* L.)

THE studies on the rhizosphere mycoflora of the plants infected with fungi and bacteria have been done by a number of workers, but similar studies on virus infected plants have received attention only during recent years. These include a number of virus-host combinations such as *Dolichos* sp., infected by dolichos enation mosaic virus[4], in coffee infected by decline disease[7], *Chenopodium album* infected by tobacco mosaic virus[5], croton chilli and tomato infected by croton yellow mosaic virus, chilli mosaic virus and tomato mosaic virus respectively[6], groundnut sB II infected by groundnut rosette virus[3]. The present paper however, deals with the effect of the virus on the population of *Fusarium* causing wilt in pea plants.

Sterilized and sieved soil was used for raising pea seedlings at the rate of five per pot. At the two leaf stage of the seedlings, the soil of each pot was infested with 10 ml spore suspension of *Fusarium oxysporium*, f. sp. *pisi* in sterilized distilled water and two days later the top leaf of each plant was inoculated with the standard virus extract. The inoculated plants were incubated in the glass house at 25° ± 2° C along with the control in which leaves were rubbed with distil'ed water. After 20 days of incubation the rhizosphere and rhizoplane were studied following the method of Laxmikumari[4], and the number of colonies of the fungus per gram oven dry soil were recorded in Table I.

It is evident from Table I that the virus enhances the population of the fungus both in rhizosphere and rhizoplane. R/r ratio of virus infected roots is almost the same as in healthy one. These ratios (R/r, D/H) indicate that fungal growth is proportional in both the cases. These results are in agreement with those reported by Buxton and Perry[1].

Possibly the altered physiological set up of the diseased and healthy plants may account for the differences in exudation and microenvironmental

TABLE I

Number of Fusarium *colonies (per gram oven dry soil) in rhizosphere and rhizoplane of* Pisum sativum *L. var., bonneville infected with the virus*

Root	Rhizosphere (R)	Rhizoplane (r)	R/r
Diseased (D)	91·00	54·00	1·68
Healthy (H)	13·00	8·00	1·62
D/H	7:1	6·7:1	1·03:1

conditions of the root region which consequently affects the mycoflora differentially[2,3,4]. In most of the cases, an enhancement in the fungal population has been reported.

Therefore the variation in colony count may possibly be due to selective and differential assimilation of root exudates.

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NEW RECORD OF ALTERNATE HOST PLANTS OF GROUNDNUT LEAF MINER *STOMOPTERYX SUBSECIVELLA* ZELLER (SYN.: *S. NERTERIA* MEYRICK) (LEPIDOPTERA: GELECHIIDAE)

GROUNDNUT leaf miner *Stomopteryx subsecivella* Zeller has been reported to attack redgram, *Cajanus cajan* Millsp.[1,2,4], soybean, *Glycine max* Merr.[1,4,5], green gram, *Phaseolus aureus* Roxb.[6] and a wild leguminous shrub, *Psoralea corylifolia* Linn.[1-4]

During the second week of November, 1974, *S. subsecivella* was observed for the first time mining the leaves of waste land weeds, *viz.*, *Indigofera hirsuta* Linn. (Leguminosae: Papilionaceae) and *Phaseolus calcaratus* Roxb. (Leguminosae: Papilionaceae) and the fodder plant lucerne, *Medicago sativa* Linn. (Leguminosae: Papilionaceae). A large number of leaf miner adults have migrated and oviposited on these

plants soon after the harvest of groundnut during first week of November. A maximum of ten mines per leaf was observed on *I. hirsuta* whereas *P. calcaratus* and *M. sativa* had single mine on each leaf. Infestation on these plants continued upto December as furnished in Table I.

TABLE I

Incidence of groundnut leaf miner Stomopteryx subsecivella *Zell. in alternate host plants*

Sl. No.	Host plant	Percentage incidence			
		November 1973 (1–15)	November 1973 (16–30)	December 1973 (1–15)	December 1973 (16–31)
1.	*Indigofera hirsuta* Linn.	5·0	74·5	25·4	12·3
2.	*Phaseolus calcaratus* Roxb.	1·5	15·3	8·2	0·5
3.	*Medicago sativa* Linn.	Nil	5·0	2·6	Nil

It is seen from Table I that percentage of incidence in all the three host plants was high in the second fortnight of November.

S. subsecivella has not so far been reported on *I. hirsuta*, *P. calcaratus* and *M. sativa* and as such these hosts are new records.

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POST-HARVEST FUNGAL DETERIORATION OF BANANA FRUITS

DURING studies on post-harvest diseases of fruits[1,2] a peculiar type of banana fruit rot was encountered. Apparently the fruits appear normal. However the symptoms become evident as soon as the fruits are cut open. The disease is characterised by deep brown discoloration extending from top to bottom of the finger inside the pulp of the fruit (Fig. 1).

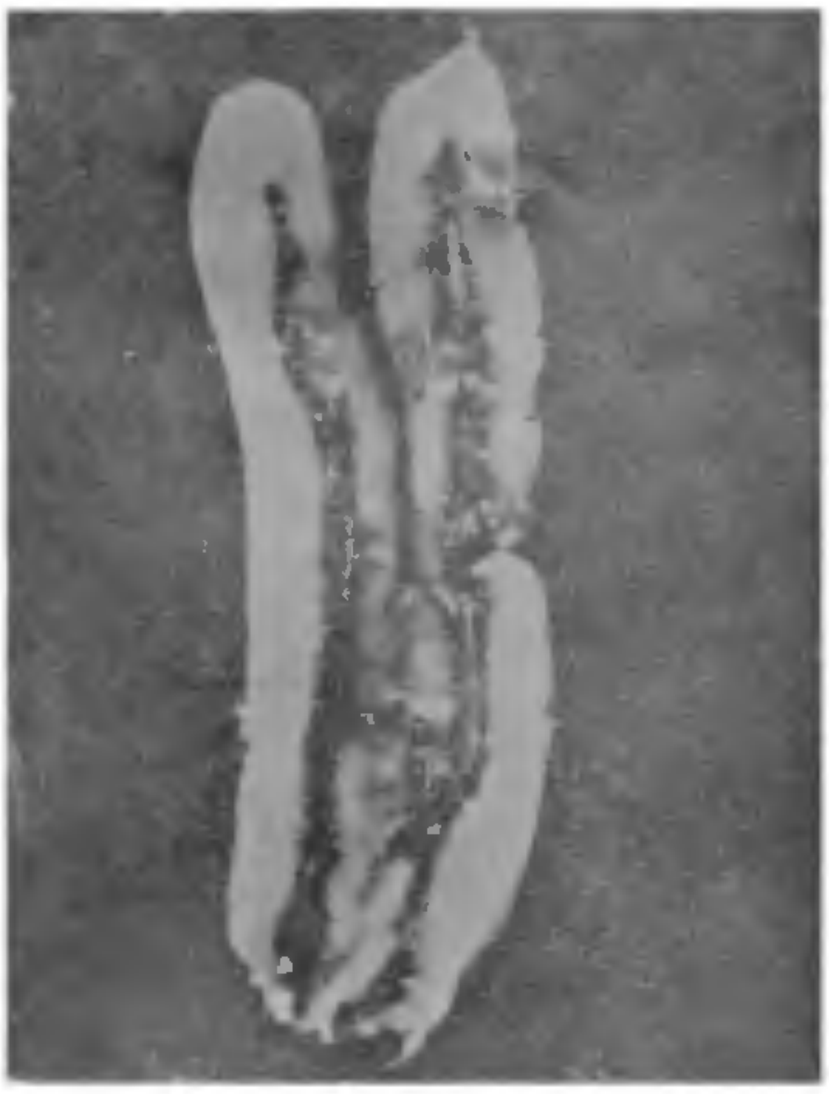

FIG. 1. Symptoms of banana fruit rot.

The infection in advanced stage has been observed to penetrate deep into the tissue which turns soft and pulpy. Isolations made from the diseased tissue yielded *Fusarium moniliforme*. The fungus on inoculation of healthy fruits produced typical symptoms.

Srivastava and Tandon[3] have described a few post-harvest diseases of banana from India. This disease however, has not been reported so far from our country and is being described for the first time. Similar type of malady has been reported from Israel by Temkin and Chorin[4].

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