of 0·05 per cent. and 0·025 per cent. respectively; (*iii*) α-naphthalene acetic acid in the concentrations of 0·05 per cent. and 0·025 per cent. respectively.

The results are summarised below:

Table showing the number of successful air layers in jackfruit by using hormones

Treatment	No. of shoots treated	No. of air layers rooted	No. of air layers died on trans-planting	No. of successful air layers
Control (sand and clay)	50	24	14	10
Seradix A. (0·05%)	50	38	18	20
Alphanaphthalene acetic acid (0·05%)	50	30	6	24
Seradix A. (0·025%)	50	36	0	36
Alphanaphthalene acetic acid (0·025%)	50	36	8	28

It may be mentioned that rooting due to application of Seradix A and α-naphthalene acetic acid in concentrations of 0·025 per cent. was profuse as shown in Fig. 1. This profuse

FIG. 1

rooting is possibly responsible for greater survival of air layers in this case, compared with control ones, since their rooting was relatively weak.

These air layers are ready for transplanting in 3 months and reach such length and thickness which a seed-propagated plant attains in 2 to 3 years.

Govt. Fruit Res. Station, L. B. SINGH.
Saharanpur, U.P.,
January 3, 1951.

A SYNCHYTRIUM DISEASE OF *UDID* BEANS

LEAVES of *udid* beans grown in a garden near Poona were found severely parasitized by a species of *Synchytrium*. Only the lower leaves, being well protected against direct sunlight, were infected and, due to improper leaf-expansion were smaller in size, showing galls on both surfaces. There was no thickening of the leaf tissue in the infected region. The formation of prosorus and sporangial stages has not been observed.

Patel, *et al.*[1] described a leaf-spot disease of *Phaseolus mungo* from Jalgaon, Bombay, caused by a fungus which was identified as *Synchytrium phaseoli* Patel, Kulkarni & Dhande. An examination of authentic material secured through the kindness of Dr. M. K. Patel has revealed that the fungus may not be a *Synchytrium*, since the resting spores are produced in the intercellular spaces of the leaf-mesophyll similar to the oospores of the downy mildews. The fungus under study, represents an undescribed species of *Synchytrium* and its name is proposed in honour of Prof. S. L. Ajrekar. Type is deposited in *Herb. Crypt. Ind. Orient.*, Delhi.

Synchytrium ajrekari Payak & Thirumalachar sp. nov. (Fig. 1).

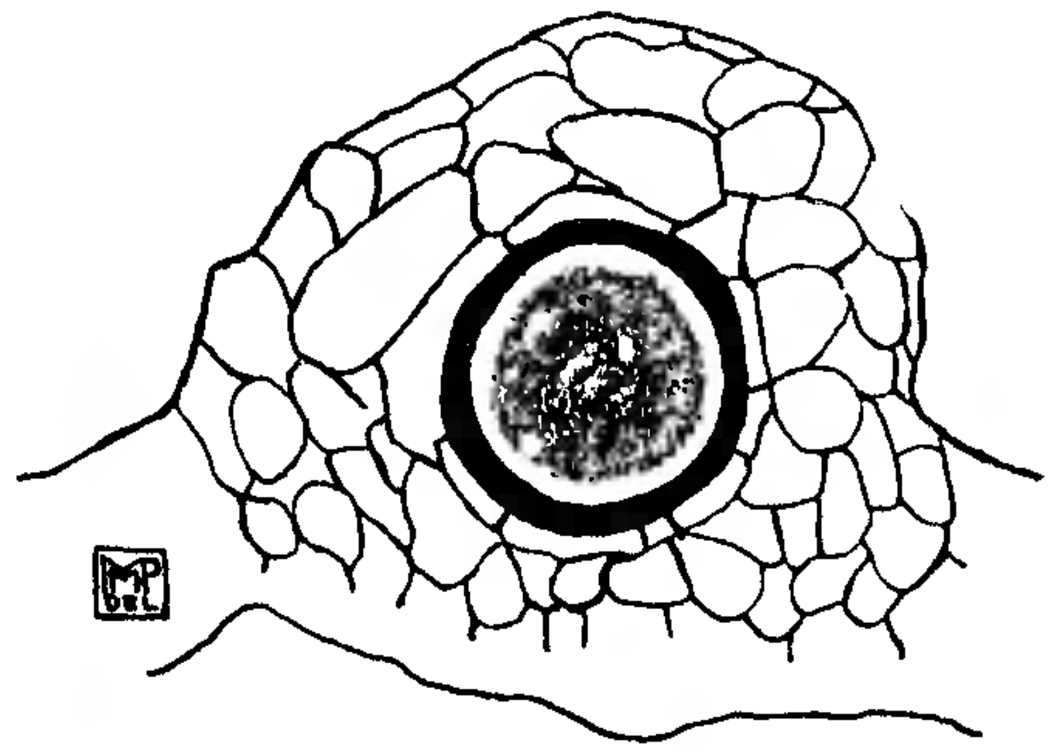


FIG. 1. Synchytrium Ajrekari T. S. of Leaf passing Through a gall showing Hypnospore × 116.

Galls on the leaves amphigenous, simple, rarely coalescing and compound, appearing as

tiny tubercles. Hypnospores spherical, filling the host cells, golden-brown, 114-266 μ in diameter, surrounded by a hemispherical mound of thin-walled tissue above, thick-walled, wall 8-11·5 μ thick.

Hab. on the lower leaves of *Phaseolus mungo* L. Leg. M. M. Payak, Poona, 12th October 1950.

Gallæ in foliis amphigenæ simplices, raro coalescentes atque compositæ, apparantes ut minuti tuberculi. Hypnosporæ sphæricae, plantæ hospitis cellulas implentes, aureo-brunneæ, 114-266 μ diam., circumdatæ acervo hemisphærico texturæ tenuiter supra parietatæ, parietibus crassis præditæ, muro vel pariete 8-11·5 μ crasso.

Hab. in foliis inferioribus *Phaseoli mungo* L. lectus a M. M. Payak, in loco Poona, die 12 Octobris 1950.

The writer is grateful to Dr. M. K. Patel for help in examining the specimens, and to Rev. Father H. Santapau, S.J., Head, Dept. of Biology, St. Xavier's College, Bombay, for the Latin diagnosis.

Botany Lab. of M.A.C.S., M. M. PAYAK.
Law College Building,
Poona,
January 25, 1951.

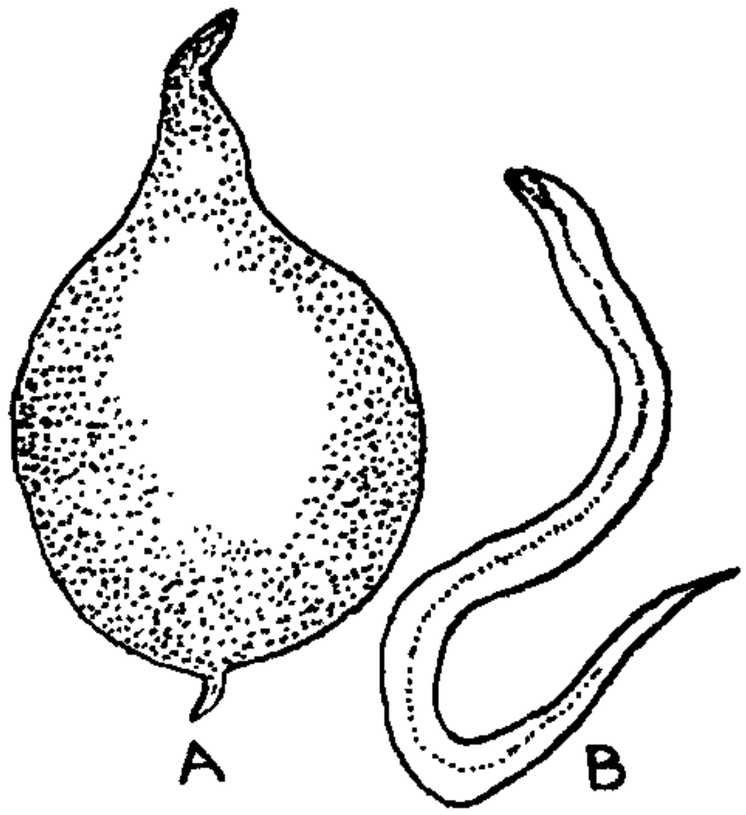
1. Patel, M. K., Kulkarni, Y. S., and Dhande, G. W., *Curr. Sci.*, 1949, **18**, 171.

ROOT-KNOT NEMATODE ON POTATO TUBERS IN SIMLA

POTATO TUBERS showing scab-like warts from the Potato Breeding Sub-Station, Simla, on microscopic examination, revealed that the warty galls were incited by the root-knot nematode *Heterodera marioni* (Cornu) Goodey. The disease was reported to be quite severe on the tubers in restricted areas in the Sub-Station.

The nematode infestation on the tuber appears first, as tiny tubercles but heavy and localised infestation, stimulates excessive cell division of the host, leading to gall formation. When an infested tuber is cut across, the female worms of the size of a pin-head may be observed as glistening white bodies embedded within the potato tissue. The adult female worms (Fig. 1) are pyriform, often showing the egg case, which are light-brown to black *en masse*. The male worms (Fig. 2) are filiform and in general outline does not differ from the larval stages.

The root-knot nematode has a wide range of hosts and can build up to epidemic proportions.



A. Femals worm × about 60.
B. Male worm × about 80.

Grateful thanks are due to Dr. Pushkarnath, Botanist, Potato Breeding Sub-Station, Simla, for the supplying of diseased material and to Dr. S. Ramanujam, Director, Central Potato Research Institute, for valuable suggestions.

M. J. THIRUMALACHAR.
Central Potato Research Institute,
Patna,
December 26, 1950.

DISEASES OF SPINACH

PADWICK AND KHAN (1945)[1] have reported the leaf-spot of spinach (*Spinacia oleracea* L.), caused by *Heterosporium variable* (*H. variabile*) from Srinagar in the Kashmir State.

S. No.	NAME OF THE DISEASE	CAUSAL ORGANISMS
1.	Damping-off	(*i*) *Pythium de Baryanum.*
		(*ii*) *Fusarium spinaciæ.*
		(*iii*) *Rhizoctonia solani.*
2.	Leaf-spot	*Cercospora spinaciæ.*
3.	Alternaria-blight	*Alternaria spinaciæ.*
4.	Anthacnose	*Colletotrichum spinaciæ* Ell. and Halst.
5.	Root-rot	(*i*) *Fusarium solani.*
		(*ii*) *Rhizoctonia solani.*
6.	Black mould	*Cladosporium macrocarpum.*