susceptible plants obtained at maturity was due to sporangial infection. The results indicate that the primary infection (up to tillering stage) accounted only 9·4% suceptible lines out of 1,672. This infection increased to more than double accounting for 21·8% of total susceptible lines. This could be possible only by secondary infection due to sporangia. In order to check the spread of this disease it is advisable to rogue out the susceptible plants at first notice and deeply bury them away from the field. Singh, Thakur and William[2] also reported that sporangia play a major role in the epidemiology of pearl millet downy mildew.

Genetics Division, S. P. YADAV,
I.A.R.I.,
New Delhi 110 012,
March 29, 1978.

1. "International pearl millet downy mildew nursery (IPMDMN)," *ICRISAT Report*, 1976.
2. Singh, S. D., Thakur, R. P. and William, R.. "All India Coord. Millet Improv. Project, Annual Workshop, Bhubaneswar, Orri.a." *Ibid.*, April 7, 1977.

RESIDUES OF QUINALPHOS, PHOSALONE AND MALATHION IN/ON SORGHUM

AN attempt was made in this investigation to study the insecticides residues persisting in sorghum grain (CSH. 1) at the time of harvest following the application of phosalone 0·60 kg ai/ha (dust), 0·44 kg ai/ha (spray), quinalphos 0·50 kg ai/ha and malathion 1·00 kg ai/ha (spray) each time. The crop was raised during July–October 1977. The insecticides were applied at the above specified doses three times, *viz.*, 30th, 45th and 60th day after sowing. Composite grain and stalk samples were collected at the time of harvest and the insecticides residues were estimated. Quinalphos was estimated by the method of Getz and Watts[3]. The recovery of quinalphos in grain and stalk samples was 89·5 and 91·0% respectively. Phosalane was determined by the method of Anon.[2] and the recovery of this insecticide in fortified grain and stalk was 81·00 and 87·00% respectively. Malathion residues were estimated by the method of Weisenberg *et al.*,[4] and the recovery of malathion in both stalk and grain was 86·00%. The results are presented in Table I.

The results showed that in both the dust and spray applications phosalone residues were not detectable in grains but small amounts were found in stalks. Residues of quinalphos and malathion were detected both in the grain and stalk samples; the content being higher in stalk than the grain. In all the cases the residues were below the tolerance level fixed by the environmental protection agency (Anon.[1]).

TABLE I

Sl. No.	Chemical	Residues in ppm		Tolerance level in ppm (EPA, USA)
		Grain	stalk	
1.	Phosalone (Dust)	ND	0·45	2·00
2.	Phosalone (Spray)	ND	0·36	2·00
3.	Quinalphos (Spray)	0·32	0·85	2·00*
4.	Malathion (Spray)	1·21	1·66	3·00

* Tolerance limit of 2·00 ppm has been suggested by the manufacturer.

Pesticide Residue Lab., K. RAJUKKANNU.
Tamil Nadu Agricultural M. S. VENUGOPAL.
University, P. VASUDEVAN.
Coimbatore 641 003. M. BALASUBRAMANIAN.
May 6, 1978.

1. Anonymous, "Code of federal regulations", In: *Pesticide Chemicals*, Environmental Protection Agency, U.S.A., 1971, p. 49.
2. —, *Phosalone Determination*, Centre De Reachercher Nilchlas crillet (Rhone-poulence), Private communication, 1973.
3. Getz, E. and Watts, R., *J. Assoc. Offic. Anal. Chem.*, 1964, 47, 1094.
4. Weisenberg, Gertner, E. S. and Schoenberg, *J.*, *Analyst*. 1968, 93, 443.

PARTHENIUM HYSTEROPHORUS—A NEW HOST FOR *BREVIPALPUS PHOENICIS*

Perthenium hysterophorus Linn., a noxious exotic weed of family Asteraceae, has spread at Ujjain in diverse habitats including cultivated fields, with exclusion of other plant species probably due to its allelopathic interactions. It is not only harmful to crops and other plant species but also hazardous to the health of human beings as well as domestic animals[2, 4–6, 9, 10]. Several herbicides have been tried to check the growth of this weed[1]. Rajulu *et al.*,[8] have attempted to evolve a biological control of this weed by employing bugs of the species *Aphis fabae*.

In the present investigation a species *Brevipalpus phoenicis* (Geijskes), the false spider mite, belonging to class Arachnida, order Acarina and family Tenuipalpidae, which feeds on *Parthenium hysterophorus* has been reported. These mites are polyphagous and usually feed on the leaves of the hosts[7]. The large number of the alternate hosts have been recorded from our country[1]. *Brevipalpus phoenicis* is small, somewhat flattened, red and phytophagous mite. It has four palpal segments and two sensory rods on the tarsus II of the leg together with five dorsolateral