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The Sensitive Plant as Weed and its Control

By

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1. **Introduction.** *Mimosa pudica*, Linn., the common sensitive or touch-me-not plant, ordinarily grows in waste lands, field bunds and sides of channels on the West Coast. It is found to thrive well in hot moist situations and spreads rapidly, covering on an average 36 sq. ft. of ground. Its prickly stem and branches, procumbent habit and a hardy, tenacious root system make its eradication by ordinary, implements, troublesome as well as laborious. It proves a menace particularly in house compounds and shady *porombokes* where ginger, yam and other root-crops are grown. With the first soaking rains in May every year, a large number of the plants are seen to spring up. They sprout directly from seeds or, under favourable conditions, from old stalks. The present paper deals with a study of its spread and the chemical means of control adopted at the Agricultural Research Station, Pattambi in South Malabar.

2. **Habit, Nature of Spread etc.** For the purpose of study 12 plants were selected at random and in each plant the depth of the main root, maximum spread of lateral branches, number of flowers, number of main branches and the area of spread determined. Ten heads of flowers were marked for counts of flowers in each head and 20 such flowers for counts of mature pods.

The root system is typical of the dicotyledenous plants, with a tap-root going to a depth of 5 in. to 12 in. A good number of lateral roots spreading to a distance of 1 ft. to 2 ft. give the plant a strong hold on the soil. These roots sometimes behave like stolons and give rise to shoots.

The procumbent shoot system is made up of a large number of branches, and spreads in all directions covering sometimes an area of 60 sq. ft. The branches strike roots when they touch the soil giving the plant additional strength and anchorage.

An average of 25 heads of flowers are produced by a single plant. Each head is made up of about 115 flowers of which 17% get fertilised and develop pods. Of these 75% are observed to be three-seeded and the rest two-seeded pods.

Maximum flowering occurs in the months of October, November and December. By April the pod formation is complete and the seeds get

ready for dispersal within a month. Seeds are very light and the pods bear slender spines on the periphery. These facilitate their easy dispersal by wind, water, animals and man.

3. **Chemical Control.** Use of chemicals as weed killers is not much in vogue in India. In European countries they are widely used in places where much of digging of the ground is not desirable or possible. Sulphates of iron and copper, ammonium salts, sodium salts, carbolic acid and sulphuric acid are the chemicals commonly used, their strengths varying with the kind and nature of weeds. The chemical may be used as dust or sprayed in solution.

In the present study, solutions of sulphuric acid, copper sulphate and sodium arsenate in strengths of 1 per cent, 2 per cent and 3 per cent were sprayed on a random selection of three plants in each case. In the second series, a 25 per cent solution of sodium chloride and a 35 per cent solution of ammonium sulphate were tried.

The effect on the plants varied with the chemical and the strength, a three-per cent solution giving the best result in the first series. The action of sulphuric acid was evident within a few hours of application, higher strengths proving more destructive. Copper sulphate was ineffective at one per cent and two per cent levels while at three per cent level the plants showed symptoms of death a few hours later. Much quicker action was noticed in the case of three per cent solution of sodium arsenate though all the strengths were effective. The action was slow in the case of ammonium sulphate and sodium chloride since complete destruction was noticed only after three days of their application (Table I.)

TABLE I.

Chemical	Strength		Action	Remarks
Sulph.	1%	Soln.	Plants died after 2 days.	
Acid	2%	,,	Do.	
	3%	,,	Plants died after 1 day.	
Copper	1%	,,	Plants withered only.	
Sulph.	2%	,,	Plants died after 3 days.	
	3%	,,	Plants died after 1 day.	
Sodium	1%	,,	Plants died after 2 days.	
Arsenate	2%	,,	Do.	
	3%	,,	Plants died within a few hours of application.	
Ammonium Sulph.	35%	,,	Plants died after 3 days	
Sod. chlor.	25%	,,	Do.	

4. Summary.

(1) In the West Coast District of Malabar, large umbers of the sensitive plants are seen to sprout from seeds or old stalks with the first soaking showers in May every year. They make quick growth and a single plant covers on an average 36 sq. ft. of ground.

(2) Nature and spread of this weed was studied in detail and an attempt was made to eradicate it by chemicals.

(3) Of the five different chemicals tried in different strengths, sodium arsenate at three per cent strength was found to give the best result.

[Sodium arsenate should be used with great care and precaution, as it is highly poisonous to humans and cattle. Ed. M. A. J.]

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