A Mechanical Sieving Apparatus for Nematode Extraction

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Jenkins' rapid centrifugation-flotation technique (1) is being used to assay irrigated soils of southern Alberta for plant-parasitic nematodes. The survey size and number of soil samples required make it desirable to minimize the man-hour input and tedium involved in processing samples.

The need for assistance in sieving the samples has been removed by the construction and use of the apparatus described herein. The apparatus consists of an iron plate, 33 X 33 X 0.6 cm, fitted with three upright iron rods, each 44 cm long (Fig. 1). Two aluminum rods clamped across the upright rods near the top make the stand rigid. One jaw-type clamp attached to each upright rod at the same height supports the sieve above the receiving pail. The clamp nearest the motor is mounted with the single adjustable jaw on the underside. A variable-speed, electric stirring motor fitted with a short crank bar is clamped in position on one of the uprights. A sieve of the desired mesh size is clamped in position. The height of the motor is adjusted so that the rotating crank barely touches the top of the sieve. A pail is placed under the sieve. The motor is switched on and the screw on the underside of the clamp nearest the motor is adjusted until the rotating crank strikes the top rim of the sieve. The soil sample, suspended in water, is then poured onto the sieve by the operator. Motor speed can be adjusted to promote the optimum flow of water and suspended soil through the screen and into the receiving pail.

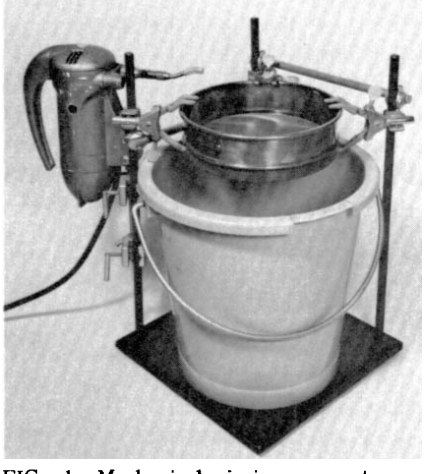

FIG. 1. Mechanical sieving apparatus used for separating nematodes from aqueous suspensions of soil.

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LITERATURE CITED

1. JENKINS, W. R. 1964. A rapid centrifugation-flotation technique for separating nematodes from soil. Plant Dis. Rep. 48(9):692.