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TWO-SPOTTED SPIDER MITE ON CHRYSANTHEMUM[1]

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INTRODUCTION: THE TWO-SPOTTED SPIDER MITE, TETRANYCHUS URTICAE KOCH, HAS BEEN CONTROVERSIAL IN ITS TAXONOMIC PLACEMENT. ABOUT 60 SYNONYMS INCLUDED UNDER THIS SPECIES HAVE COMPOUNDED THE CONTROVERSY. NO ATTEMPT WILL BE MADE IN THIS PAPER TO SUGGEST FURTHER NAME CHANGES. A BRIEF DESCRIPTION AND DISTRIBUTION WILL BE GIVEN AND THE ECONOMIC IMPORTANCE OF THIS MITE TO CHRYSANTHEMUMS WILL BE DISCUSSED.

DISTRIBUTION: THE TWO-SPOTTED SPIDER MITE WAS ORIGINALLY DESCRIBED FROM EUROPEAN SPECIMENS. IT IS CONSIDERED TO BE A TEMPERATE ZONE SPECIES, BUT IT IS ALSO FOUND IN THE SUBTROPICAL REGIONS. IT IS FOUND THROUGHOUT THE USA IN GREENHOUSES WHERE IT SURVIVES THE WINTERS BEYOND ITS NATURAL LIMITS. TUTTLE AND BAKER (1968) REPORT THIS SPECIES TO BE FOUND ON DECIDUOUS FRUIT TREES IN NORTHERN REGIONS OF THE U. S. AND EUROPE.

ECONOMIC IMPORTANCE: IT DEVELOPS A RESISTANCE TO MOST ACARICIDES AFTER PROLONGED USE AND IS CONSIDERED TO BE ONE OF THE MOST ECONOMICALLY IMPORTANT SPIDER MITES. IT IS A SERIOUS PEST IN GREENHOUSES AS WELL AS ON FIELD GROWN CHRYSANTHEMUMS. THE MITES GENERALLY FEED UNDERNEATH THE LEAVES (FIG. 1) AND CAUSE GRAYING OF THE LEAVES DUE TO MESOPHYLL COLLAPSE AND YELLOWING. NECROTIC SPOTS OCCUR IN THE ADVANCED STAGES OF LEAF DAMAGE (FIG. 2). MITE DAMAGE TO THE OPEN FLOWER CAUSES A BROWNING AND WITHERING OF THE PETALS THAT RESEMBLES SPRAY BURN.

DESCRIPTION: THE FEMALE IS ABOUT 0.4MM IN LENGTH WITH AN ELLIPTICAL BODY THAT BEARS 12 PAIRS OF DORSAL SETAE (FIG. 3). ACTIVE FEEDING ADULT FEMALES ARE PALE TO LIGHT GREEN WITH LARGE DARK INTERNAL TRIFID SPOT ON EACH SIDE OF THE BODY. THE MALE IS ELLIPTICAL WITH THE CAUDAL END TAPERING AND SMALLER THAN THE FEMALE. THE AXIS OF KNOB OF AEDEAGUS IS PARALLEL OR FORMING A SMALL ANGLE WITH AXIS OF SHAFT (FIG. 4).

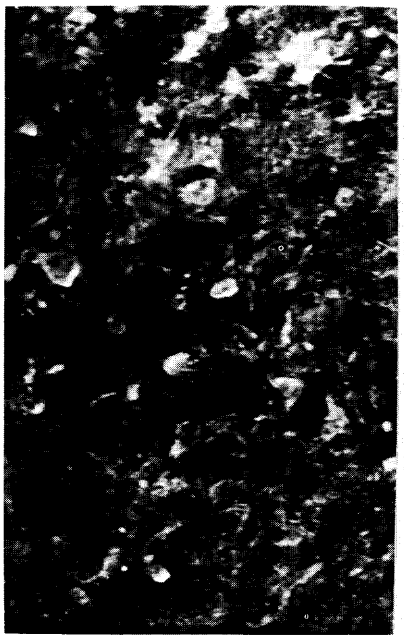

FIG. 1. MITES FEEDING UNDERNEATH CHRYSANTHEMUM LEAF.

FIG. 2. DAMAGED CHRYSANTHEMUM LEAF.

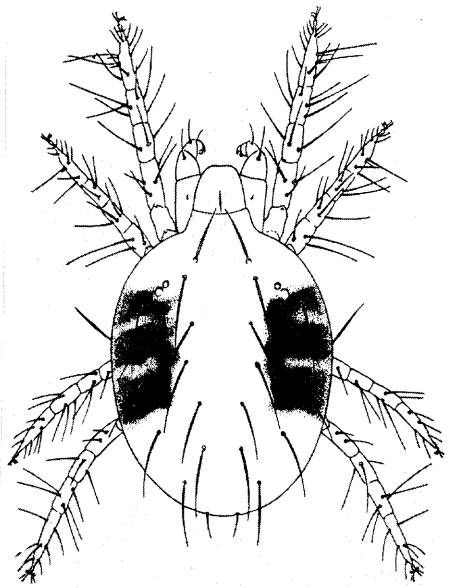

FIG. 3. ADULT FEMALE (AFTER PRITCHARD AND BAKER).

FIG. 4. MALE AEDEAGUS (AFTER P.& B.)

ECONOMIC CONTROL: THE IFAS DEPARTMENT OF ENTOMOLOGY AND NEMATOLOGY, UNIVERSITY OF FLORIDA, RECOMMENDS TWO POUNDS OF KELTHANE 18.5 WP PER 100 GALLONS OF WATER OR ONE POUND OF TEDION 25% WP PER 100 GALLONS OF WATER. THREE SPRAYS AT WEEKLY INTERVALS SHOULD GIVE CONTROL AND CLEAN UP OF THE TWO-SPOTTED SPIDER MITE.

LITERATURE CITED:

TUTTLE, D. M. AND E. W. BAKER. 1968. SPIDER MITES OF SOUTHWESTERN UNITED STATES AND A REVISION OF THE FAMILY TETRANYCHIDAE. UNIV. OF ARIZONA PRESS. 143 P.

[1]CONTRIBUTION NO. 164, ENTOMOLOGY SECTION