

Research Note

THE OCCURRENCE OF THE PEPPER WEEVIL, ANTHONOMUS EUGENII CANO (COLEOPTERA: CURCULIONIDAE) IN PUERTO RICO¹

Peppers are one of the main vegetable crops of Puerto Rico with a farm value of \$1.95 million in 1982. This represented 10% of the farm value of all local vegetables and legumes produced².

More than 60% of the peppers consumed in Puerto Rico are imported; therefore efforts have been directed toward increasing production of this crop. These efforts may be hindered by the recent discovery of the pepper weevil, *Anthonomus eugenii* Cano, in Puerto Rico. This insect was found attacking peppers in northwestern Puerto Rico on September 10, 1982. Symptoms of weevil infestation are sudden and premature fall of infested fruits and buds. The larval stage of this weevil feeds on the tender plant tissues or on the fruits, and causes immature fruit fall.

The pepper weevil is characterized by its dark mahogany to black oval body, which is covered with small whitish setae.³ In the United States this insect completes its life cycle in 3 to 4 weeks, and each female may lay more than 300 eggs during its adult life^{3,4}.

Preliminary notes show that in Puerto Rico, its life cycle lasts approximately 3 weeks. There could be 12 generations per year under our prevailing conditions.

The only host plant identified so far in Puerto Rico is peppers (all cultivars and selections). In the United States eggplant has also been reported as host.³ Nightshade, *Solanum nodiflorum* Jacq., has been reported to be the natural wild host of the pepper weevil, but so far this insect has not been found on this plant in Puerto Rico.⁵

The economic loss of peppers attributable to this pest was calculated in a field at the Isabela Research and Development Center. Sixty plots, each with 80 plants/plot, were surveyed to evaluate insect damage and measure losses. The first 2 pickings yielded an average of 84 fruits/plot. During the 3rd and 4th pickings the pepper weevil infestation appeared and yield decreased to 48 fruits/plot for the 3rd picking and to none for

¹ Manuscript submitted to Editorial Board March 29, 1984.

² Anónimo, 1982. Informe Económico al Gobernador 1982, Junta de Planificación, Estado Libre Asociado de Puerto Rico.

³ Elmore, J. C., A. C. Davis, and R. E. Cambell, 1934. The pepper weevil, USDA Tech. Bull. 447: 1-27.

⁴ Goff, C. C., and J.W. Wilson, 1937. The pepper weevil, Fla. Agric. Exp. Stn. Bull. 310.

⁵ Burke, H. R. and R. E. W. Woodruff. 1980. The pepper weevil (*Anthonomus eugenii* Cano) in Florida (Coleoptera: Curculionidae). Fla. Dept. Agric. and Consumer Serv. Div. Plant Ind. Entomol. Circ. No. 219: 1-4.

the 4th picking. Premature falling of fruits of the order of 74 and 68 per plot were observed for the 3rd and 4th pickings, respectively. After this severe attack the plants were sprayed with oxamyl (Vydate L.) at the rate of 2 qt./acre. Two additional applications were made at the rate of 1 qt./acre for the next two weeks. This insecticide controlled the weevil effectively and increased fruit production during the 5th picking, when 165 commercial fruits/plot were harvested. Fruit loss per plot was estimated at 23.8 hundredweight/acre. This loss represents \$608/acre on the basis of an average farm price of \$25.60/cwt. in 1981. The preliminary results demonstrate that the pepper weevil has a limiting effect on pepper production and that it may be an obstacle to our continuing effort to increase pepper production in Puerto Rico.

Edwin Abreu

Carlos Cruz

Department of Crop Protection