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DIFFERENTIAL RESPONSE OF JALAPEÑO GENOTYPES TO THE DAMAGE FOR PEPPER WEEVIL *Anthonomus eugenii* Cano (COLEOPTERA: CURCULIONIDAE)

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SUMMARY. The cultivation of chili has a great importance in Mexico, where are sown between 140,000 and 175,000 hectares. One of the problems that more affect the yield of this vegetable is the incidence of pepper weevil. To constitute an efficient integrated control, it is important to include tolerant genotypes to the damage of pepper weevil. For the above-mentioned 18 genotypes of jalapeño pepper were transplanted to look for tolerant genotypes to this insect and to characterize its response to the damage of this plague. The main results obtained were: The lines: LED-2046 and LED-9853-2. 2. Presented the highest fruit percentages that arrived to crop (overalls in the time of bigger incidence of the pepper weevil) and low percentages of damaged fruits for pepper weevil for what they are considered tolerant. The lines: LED-2279-3. 3. 1. 2. 1 and LED-2111A-10. 3. 2. 2. 1 have a high yield and they are precocious, characteristics desirable mentioned by Berdegue and collaborators (1994), which can take advantage to establish a control integrated to the damage of the plague. F₂ of Mitla, F₂ of Perfect and LED-2046, presented the smallest percentage of fallen fruits and inside these most was damaged for pepper weevil, that which locates them in a category integrated by the non preference and tolerance mechanisms. In this respect, Berdegue and collaborators (1994), consign to the quick fall of the damaged fruits as a desirable characteristic to tolerate to the plague.

INTRODUCTION. Mexico is among the four main countries producing of chili, with a superficies sown that it varies from 140,000 to 175 000 hectares and a volume of production of 1. 5 million tons. Also, it has a great diversity of chili types to obtain varieties and hybrid with high production and fruit quality and tolerant to plagues and diseases. The high incidence of the pepper weevil is one of the main problems that limit the productivity of the chili, which causes production losses of until 75% (Goff and Wilson, mentioned by Velasco, 1969). The plants tolerate the damage by the plagues through the mechanisms of: preference, antibiosis and tolerance (Nas 1978). The level of damage that the plague insects cause depends mainly on the chili type (Amaya, mentioned by Anaya, 1969) and of the genotype (Sifuentes, 1985). Chili lines exist with synchronized and concentrated production of fruits that remove the fruits damaged for pepper weevil more easily and that they generally suffer smaller levels of damage that those that retain them for more time.

The search of genetic tolerance to the damage for the pepper weevil in chili varieties is an important aspect to establish an efficient integrated control against this plague.

With support in the above-mentioned the current investigation had as objectives: to look for lines of chili tolerant jalapeño to the damage for pepper weevil and to characterize the response of 18 genotypes of chili jalapeño to the incidence of the mentioned insect.

MATERIALS AND METHODS. In the experimental field of Delicias, Chihuahua-INIFAP, 18 genetic materials of chili jalapeño were transplanted in plots of 5 m of long, with two rows of plants. The distances between rows and plants were respectively of 46 and 30 centimeters. The treatments were distributed at random in an experimental design of blocks with three repetitions. The 18 lines of chili jalapeño were obtained in the experimental field of Delicias, Chih. , by individual selections in populations segregates of lines of Veracruz and of populations F₂ and F₃ of crosses of desirable plants.

The variables evaluated were: 1). Yield and precocity, 2). Percentage of harvested fruits, 3). Number of produced fruits and percentage of fallen

and damaged, 4). Percentage of damaged fruits and 5). Number of harvested fruits.

RESULTS AND DISCUSSION. The main results obtained were: 1). In most of the variables, significant differences were detected among the genotypes, 2). The lines: LED-2046 and LED-9853-2. 2, presented the highest fruit percentages that arrived to crop (overalls in the time of bigger incidence of the pepper weevil) and low percentages of damaged fruits for pepper weevil for what they are considered tolerant, 3) LED-2279-3. 3. 1. 2. 1 and LED-2111A-10. 3. 2. 2. 1 have a high yield and they are precocious, characteristics desirable mentioned by Berdegue and collaborators (1994), which can take advantage to establish a control integrated to the damage of the plague. 4). F₂ of Mitla, F₂ of Perfect and LED-2046, presented the smallest percentage of fallen fruits and inside these most was damaged for pepper weevil, which locates them in a category integrated by the non preference and tolerance mechanisms. In this respect, Berdegue and collaborators (1994), consign to the quick fall of the damaged fruits as a desirable characteristic to tolerate to the plague.

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