



Damage and population dynamics of the fall armyworm (*Spodoptera frugiperda*) in elite lines of corn [

2023

text (article)

Analítica

Introduction. *Spodoptera frugiperda* has the ability to form large populations, and its high dissemination rate makes this species an economically impactful pest. Losses due to pests and diseases are estimated at 37 % of global agricultural production, with 13 % caused by insects. **Objective.** To evaluate the attack, establishment, and population dynamics of fall armyworm larvae in maize lines. **Materials and methods.** The study was carried out in the laboratories of the Instituto Nacional de Investigaciones Forestales Agrícolas y Pecuarias and the Instituto Tecnológico de Roque, located in Celaya, Guanajuato, in 2019. Manual sowing was performed, and when the seedlings reached V4 stage, twenty-five days after sowing, they were infested with IV instar larvae. Population dynamics were measured starting from day twenty-six, covering the entire biological cycle (eggs, larva I, larva II, larva III, larva IV, larva V, pupa, and adult). A completely randomized experimental design with ten genotypes and ten replicates was employed. **Results.** *S. frugiperda* instar stages that showed the highest variability in maize lines were larvae IV and V. The population dynamics exhibited differences among tolerant genotypes, with an accumulated population of four to seven larvae in stages IV and V, while susceptible genotypes showed seven to twenty-one larvae in stage IV and fourteen to twenty-one in stage V. The outstanding maize presented an accumulation of two to six larvae in stage IV and four to five in stage per plant. **Conclusion.** The highest variability was observed in *S. frugiperda* larval stages IV and V, occurring between 26 and 54 days after planting. In the tolerant maize genotypes up to seven larvae were found per plant, while the susceptible ones showed twenty-one caterpillars

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Título: Damage and population dynamics of the fall armyworm (*Spodoptera frugiperda*) in elite lines of corn [electronic resource].]

Editorial: 2023

Tipo Audiovisual: economic threshold Susceptible genotypes tolerant genotypes larvae genotipos susceptibles genotipos tolerantes larvas umbral económico 1 Recepción: 25 de enero 2023 Aceptación: 16 de mayo 2023 Proyecto de investigación de tesis de Maestría en Ciencias en Producción y Tecnología de Semillas del primer autor investigación financiada por el Tecnológico Nacional de México 2 Tecnológico Nacional de México campus Roque Km 8 Carretera Celaya-Juventino Rosas Apartado Postal 508 C P 38110 Celaya Guanajuato México daniel_avilamtz@hotmail.com (<https://orcid.org/0000-0002-4897-9604>) frcervantes@itroque.edu.mx (<https://orcid.org/0000-0003-2419-5896>) garcia_2956@yahoo.com.mx (<https://orcid.org/0000-0003-2974-3652>) mmendoza66@hotmail.com (autor para la correspondencia <https://orcid.org/0000-0002-8862-5819>) 3 Tecnológico Nacional de México Valle del Yaqui Av Tecnológico Block 611 Valle del Yaqui Búcum Ciudad Obregón Sonora México CP 85276 grodriguez263@hotmail.com (<https://orcid.org/0000-0003-2297-8598>) 4 Instituto Nacional de Investigaciones Forestales Agrícolas y Pecuarias Campo Experimental Bajío Carretera Celaya-San Miguel de Allende km 6 5 Celaya Guanajuato México CP 38110 ajosueg@msn.com (<https://orcid.org/0000-0002-2453-0570>) Artículo científico Volumen 34(3): Artículo 53809 2023e-ISSN 2215-3608 <https://doi.org/10.15517/am.2023.53809> <https://revistas.ucr.ac.cr/index.php/agromeso/index> AGRONOMÍA MESOAMERICANA Agronomía Mesoamericana

Documento fuente: Agronomía Mesoamericana, ISSN 1021-7444, Vol. 34, N°. 3, 2023

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Enlace a fuente de información: Agronomía Mesoamericana, ISSN 1021-7444, Vol. 34, N°. 3, 2023

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