

4 What is going on with the western bean cutworm on corn in Mexico?

*Sergio R. Sanchez-Peña, Moisés Felipe-Victoriano, and Renato Villegas-Luján
Universidad Autónoma Agraria Antonio Narro, Saltillo, Mexico

*Presenting author: Sergio Sánchez-Peña, sanchezcheco@gmail.com

Abstract: Corn is the base of Mexican food. Western bean cutworm (WBC), *Striacosta albicosta*, is a North American native and emergent corn pest in the USA. However, there are only two reports of WBC as corn pest in Mexico. Corn agriculture is very different in the USA and Mexico. Transgenic corn, pesticides and high technology on large areas prevail in the USA. Corn landraces on small areas (i.e. 2 acres) and no pesticides prevail in Mexico (also large, technified areas growing hybrid corn). Transgenic corn is prohibited in Mexico. Therefore selective pressures on WBC are very different among both countries. We report WBC populations on landrace corn near Huachichil, Coahuila, Mexico and propose a "WBC displacement" hypothesis. Prevailing pests there in early summer (silking-milky ears) are corn earworm, *Helicoverpa zea*, and fall armyworm, *Spodoptera frugiperda*. These infest almost 100% of ears. Both CEW and FAW are aggressive and kill WBC larvae, which are not aggressive. CEW and FAW probably prevent establishment of WBC larvae on ears in summer-early fall. CEW and FAW apparently are less cold-tolerant than WBC. In the fall-winter, CEW and FAW stop reproducing and disappear from ears: they pupate and diapause (CEW) or die out (FAW). Also, ripe ears are less attractive to CEW moths for oviposition. As CEW and FAW vacate ears, WBC larvae colonize these at low levels (5%) initially, often on very ripe, mouldy ears. Corn ears are consistently infested (up to 100%) by either worm species, lending support to this "WBC displacement" hypothesis.