First Report of Western Bean Cutworm (Striacosta albicosta) in Pennsylvania

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The western bean cutworm [Striacosta albicosta (Smith); Noctuidae] (Fig. 1) is a lepidopteran species native to western North America; however, this occasionally serious pest of corn (Zea mays L.) and dry beans (Phaseolus vulgaris L.) has been expanding its range eastward (1,2,3,4). From 1998 to 2004, it was reported invading Minnesota, Illinois, and Missouri (2,3,4). Moths were first reported from Indiana in 2005, Wisconsin, Michigan, and Ohio in 2006 (2), and in Ontario, Canada, as well as Wayne Co., OH, less than 150 km from Pennsylvania, in 2008.

In 2009, we established a statewide trapping network to determine whether western bean cutworm was present in Pennsylvania. We deployed 30 traps among 25 counties (1 to 3 traps per county) weighting the distribution of traps more heavily in the western portion of the state because we hypothesized moths would be dispersing eastward from Ohio. Our network used two types of pheromone traps to detect male moths: milk-jug (2) and tricolor (green, white, yellow) universal traps (Great Lakes IPM, Inc., Vestaburg, MI). We are not aware of previous attempts to capture western bean cutworm with universal traps, which produce a better specimen than milk-jug traps and are simpler to use because they do not require an antifreeze solution. Universal traps contained insecticidal strips (Vaportape II; Hercon Environmental, Emigsville, PA) as a killing agent. Both trap types were placed at the edge of corn fields (~1.2 m high), and baited with synthetic female western bean cutworm pheromone (Suterra, Inc., Bend, OR). The closest traps were separated by approximately 4 km. Pheromone lures were changed every two weeks. We initiated our network on 1 July and discontinued our concerted trapping efforts on 22 August, though some individual traps remained in place longer.

Our survey revealed that western bean cutworm moths were widely distributed in Pennsylvania, but focused in three parts of Pennsylvania: the Northwest, South, and Northeast (Fig. 2). We captured moths in 12 of the 25 counties where we had traps deployed (Fig. 2). We also discovered moths in two additional counties (Lehigh and Montour) outside our trapping network. In Leigh Co., a moth was captured by hand by an observant cooperator; whereas