

Trapping Effect of Synthetic Sex Pheromone of *Acleris fimbriana* (Lepidoptera: Tortricidae) in Chinese Northern Orchard

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The yellow tortrix, *Acleris fimbriana* Merick (Lepidoptera: Tortricidae), is an economically important insect pest on fruit trees with four generations a year in North China. In order to develop a new and effective method for forecasting and controlling the pest, the sex pheromone was studied. We have identified the female sex pheromone as (*E*)-11,13-tetradecadienal (*E*11,13–14:Ald), (*E*)-11,13-tetradecadienyl acetate (*E*11,13–14:Ac) and (*E*)-11-tetradecenyl acetate (*E*11–14:Ac). Trapping effect of synthetic chemicals *E*11,13–14:Ald, alone and in combination with *E*11,13–14:Ac or/and *E*11–14:Ac to *A. fimbriana* males was tested in Beijing Xishan Orchard (2001). *E*11,13–14:Ald on its own was much attractive to *A. fimbriana* males. Neither *E*11,13–14:Ac nor *E*11–14:Ac alone caught any moths. The catches markedly increased by adding *E*11,13–14:Ac to *E*11,13–14:Ald. The optimum ratio of *E*11,13–14:Ald and *E*11,13–14:Ac was 6:4 to 5:5. This attractiveness was apparently enhanced when 5% to 10% of *E*11–14:Ac was added. The best field activity was in the lure baited with a 6:4:1 ratio of *E*11,13–14:Ald, *E*11,13–14:Ac and *E*11–14:Ac at a dosage of 1000 µg/septum. The effect of antioxidant, 2,6-di-*tert*-butyl-4-methylphenol [butylated hydroxytoluene (BHT)], to the synthetic pheromone blends on its duration and catching efficacy was also tested. Addition of 5–10% BHT to the synthetic pheromone could prolong the life-span of pheromone chemicals for 6–8 weeks, thereby increased its catching efficacy.

Key Words: *Acleris fimbriana*, Sex Pheromone, Field Trapping