

Species and Effective Monitoring of Bark Beetles using Attractive Chemicals in Apple Orchards

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Recently, Bark beetles have become important pest in 2 to 5 years old apple trees with M9 dwarf rootstocks. These have killed all or part of the young trees, especially, freezing damaged trees in winter and/or drought stressed trees in early spring.

This study was conducted to investigate the species and effective monitoring of bark beetles using attractive chemicals in apple orchards.

Three species of bark beetles were identified which as follows; *Xyleborus apicalis*, *X. minutus* and *Xylosandrus germanus*. Among them, *X. germanus* was the most abundant and destructive species.

Population density of *X. apicalis* and *X. germanus* were estimated using attractive chemicals with two peaks in each April to middle May and in June to August.

All of *X. apicalis* and *X. germanus* were attracted very well when the height of monitoring trap was 1 M above ground and ethyl alcohol (attractive chemicals) contents was 70% and 95%. However, 70% ethyl alcohol is more economical compare to 95% because of alcohol volatility.