Crape myrtles (*Lagerstroemia spp.)* are the most popular flowering ornamental tree in the United States with production in 33 states, but the invasive crape myrtle bark scale (CMBS, *Acanthococcus lagerstroemiae*) has spread into at least 14 states, becoming a major threat to the industry. Currently, CMBS is managed with systemic neonicotinoids which may translocate into pollen and provide hazards for pollinators and natural enemies. Limonene, an herbivore-induced plant volatile, is released from crape myrtle infested with CMBS, and previous studies have shown that weekly limonene applications reduce populations of crape myrtle bark scale and may be useful to replace neonicotinoids as a management option. The objective of this research was to evaluate the effectiveness of Orange Guard®, a limonene formulation, in relation to the common treatment of systemic neonicotinoids, as well as an insect growth regulator, and a water treatment. Thirty-six potted trees infested with CMBS were arranged in a randomized block design with 6 replicates. Each tree within a block received 1 of 6 randomly assigned treatments: non-treated (negative) control, water-treated (positive) control, Limonene®, Zylam®, Mallet®, or Distance®. Over the course of 2 months, weekly counts of adult CMBS and crawlers were taken on 3 random branches and the trunk to evaluate the effects of the treatments on CMBS population numbers.