Asian citrus psyllid (ACP) is an exotic citrus pest in Brazil that recently became very important as the vector of Liberibacters associated with citrus huanglongbing (HLB). Experiments were designed to study the efficacy of systemic insecticides to control ACP in citrus bearing trees and to determine the factors that influence their efficiencies. We conducted three experiments started at different times of the year, in which thiamethoxam and imidacloprid were tested at doses of 1.25 g and 3.0-3.5 ml/m of plant height, respectively. In the first experiment, implemented in September 2009, both insecticides were effective in controlling ACP. Enzyme-linked immunosorbent assays (ELISA) were used to estimate the concentration of thiamethoxam in the plant, showing that the insecticide reached 4,000 ppb at 40 days after application in Valencia sweet orange on Swingle citrumelo. The concentration of thiamethoxam was higher than 400 ppb (concentration threshold that causes ACP mortality) from 9 to 68 days after application. The results of the second experiment, implemented in November 2009 in two rootstocks and soil types, showed lower insecticide efficiency when compared to the first experiment in Swingle rootstock. In Rangpur lime rootstock, the efficiency was low. The results of the third experiment, implemented in February 2010, showed that systemic insecticides were not effective in the control of ACP. The ELISA showed that the concentration of thiamethoxam was lower than 200 ppb (concentration that causes no mortality) in the last two experiments. Factors influencing the absorption and translocation of systemic insecticides have not been clarified.