Besides producing valuable products like honey, pollen, propolis and bee milk, honey bee (*Apis mellifera L.*) also acts as pollinator in nature. The decline of honey bees and pollinators in recent years has caused great concern in the world. Neonicotinoid insecticide residues in nectar and pollen of cultivated plants also play an important role in the reduction of honey bees. In this study, 6 different doses (20, 10, 5, 2.5, 1.25, 0.625 ml /100 L pure water) of imidacloprid, which is widely used in agricultural areas, were prepared by diluting 50% of this dosage with 20 ml/100 L water and the effects on the body functions of Anatolian bee (*Apis mellifera anatoliaca*) and Caucasian bee (*Apis mellifera caucasica*) were investigated. It was seen that the body motor movements of the bees fed with 20 ml/100 L pure water dose of Imidacloprid, which is widely used in agricultural area, had stopped; however as the dose decreased the body motor movements of the bees increased. This has come to the conclusion that Imidacloprid has had a negative impact on both honeybees and honey production.