In this study, 14 isolates of *Beauveria bassiana* and *Metarhizium anisopliae* isolated from the soil in Isparta were determined against *Spodoptera littoralis* larvae under laboratory conditions. Single concentration (1x10^7 conidia/ml) of each entomopathogenic fungus was applied to the 3rd or 4th in star larvae, with agar surface method. After determination of the most effective five entomopathogenic fungi, Concentration-response mortality bioassays using 3 different concentrations (1x10^5, 1x10^6, 1x10^7, 1x10^8 and 1x10^9 conidia/ml) with agar surface method were performed. Number of dead insects was determined daily after applications. *Beauveria bassiana* isolates (BMAUM-E2003, BMAUM-E6001 and BMAUM-M6001) were found to be very effective and their LT50 values were 2.76, 3.97 and 4.23 days, respectively. We believe that BMAUM-E2003 and BMAUM-E6001 isolates are worthwhile for future studies.