Abstract

Chromium (Cr) contamination in soil is a serious problem that causes poor growth of plants, reducing crop production which ultimately leads to food shortage. In order to investigate the negative effect of Cr on mung bean, and study the efficacy of *Azospirilium brasilense* and salicylic acid on mitigating Cr stress, mung bean seedlings were arranged in a randomized complete block design with 13 treatments in three replications. This research was done at botanical garden, government college university Lahore, Pakistan. In this study, Cr at different concentrations (0 µm, 30 µm, 40 µm, and 50µm) significantly decreased mung bean seedlings growth, and its associated parameters such as shoot, root, plant length, dry weight and chlorophyll contents because of Cr's toxic effect. In opposite, the use of *Azospirilium brasilense* and salicylic acid significantly increased mung bean seedlings growth (49%) and contributed to reducing the toxic effect of Cr stress (34% and 14% in plant height) due to their beneficially properties in promoting plant growth. The combined application of *Azospirilium brasilense* and salicylic acid (SA) demonstrated highly significant effect on improving overall plant's growth after alleviation of Cr- stress in mung bean seedlings.