
ABSTARCT

In the present study, effect of different levels of sodium chloride salinity was investigated on the productivity of two mungbean cultivars (M-132 and NM-92). The mungbean plants were grown for their entire life cycle in the pots at Botanic Garden of GC University, Lahore. There were 5 salinity treatments S_0 (control), S_1 , S_2 , S_3 and S_4 . Vegetative growth of potted mungbean plants were monitored during the course of experiment by measuring various growth parameters viz., plant height, number of trifoliolate leaves, number of branches per plant and number of senescent leaves etc. All these parameters were only slightly affected at lower salinity ($EC = 7.2\text{dS/m}$) but higher salinity levels ($EC=20.4\text{dS/m}$) caused marked reduction in their growth. It was also found that plant fresh and dry weight was significantly reduced in all the salinity treatments, when compared to control. Rate of senescence was much faster in highly salinized plants than control and lower salinity levels.

Final harvest of the remaining mungbean plants was taken when plants were completely mature with their golden-yellow colour of their pods. It is worth mentioning that reduction in seed weight per plant (66-68%) along with 100-seed weight (13-14%) was found to be significantly higher in higher salinity treatments in both the cultivars, particularly in EC level 20.4 dS/m . Both cultivars of mungbean are severely affected by salinity but NM-92 is much more affected as compared to M-132.

Overall the results are alarming and need further detailed research using other mungbean varieties and with lot more replicate plants in order to confirm the results on a larger scale. Generally, EC levels of more than 13 dS/m reduce the crop growth and yield of mungbean.