

**BORON TOLERANCE IN ELEVEN WHEAT VARIETIES***M.A.Kausar, M. Tahir and A. Hamid\****ABSTRACT**

Boron tolerance in eleven wheat varieties was studied in a pot culture experiment. The tolerance was related to varietal efficiency for B uptake and to their B requirement. Variety Blue Silver appeared to be most tolerant followed by Punjab-85, Pak-81, Kohinoor-83, LU-26, Shalimar, Sutlej-86, Chakwal-86, Faisalabad-85, Barani-83, Faisalabad-83. Plant tolerance of B was not associated with their Ca content or Ca/B ratio.

**INTRODUCTION**

Beside deficiency, B toxicity in some regions of Pakistan has also been reported (Sillanpaa, 1982). The only way to cope with the problem on calcareous soils is growing tolerant and or resistant crop cultivars as addition of gypsum to the soil has been reported to further increase B uptake in plants (Gupta and Macleod, 1981; Kausar and Cartwright, unpublished).

Mehrotra et al. (1980) and Cartwright, et al. (1987)

experiment was replicated three times in a completely randomized design. Plants were grown to maturity while irrigation was done with deionised water according to 80% of the field capacity moisture. After recording grain yield, grain and straw were ground to a fine powder in a Wiley mill. Boron in plant material was determined by dry ashing and colour development with Azomethine-H (Shanina et al., 1967). Data obtained were analysed statistically.

**RESULTS AND DISCUSSION**

**Boron Tolerance in Wheat Varieties:** At seedling stage, plants in B applied treatment appeared a bit pale and in one or two cases even pinkish, particularly the stems. Later on, there was gradual yellowing and necrosis from tips of older leaves until, in the most sensitive varieties, all leaves were affected. However, there was no brown spotting and weakening of stem.

Soil B concentration of 5 mg kg<sup>-1</sup> has been considered as very high for crop growth (Sillanpaa,