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Research Article

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Effect of fertilizer levels on leaf reddening in Bt and non-Bt cotton

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Summary

Cotton is one of the most important cash crop in our country. Reddening is the most recent predominant problem in Bt cotton which became issue of debate for ascertaining the causes and remedies for reddening. To ascertain the role of nutrients in leaf reddening, the field experiment on effect of fertilizer levels on reddening in cotton on *Vertisol* was conducted at Cotton Improvement Project, Mahatma Phule Krishi Vidyapeeth, Rahuri during May to September, 2008. The experiment was laid out in Factorial Randomized Block Design with three replications and two main treatments *i.e.,* hybrid Bt RCH-2 and Non-Bt RCH-2 and nine sub treatments with different fertilizer doses *i.e.,* F_1 - No recommended doses of fertilizer (RDF), F_2 -50 % RDF, F_3 - 75 % RDF, F_4 - 100 % RDF, F_5 -125 % RDF, F_6 - 150 % RDF, F_7 - 100 % RDF + 2 % DAP spray, F_8 -100 % RDF + 1 % $MgSO_4$ and F_9 -100 % RDF + 1 % KNO_3. The common RDF for Bt as well as non-Bt was 100 N, 50 P_2O_5 and 50 K_2O kg ha^{-1}. The results revealed that the incidence of leaf reddening was more in Bt cotton than non-Bt cotton. The minimum intensity of reddening in Bt and non-Bt cotton was observed in 100 % RDF + foliar sprays with 1% KNO_3 / 1% $MgSO_4$ / 2% DAP. Among the foliar spray 1 % KNO_3 showed minimum reddening of leaves, which suggest that at boll development stage the application of nitrogen and potassium were helpful for controlling the reddening in Bt and non-Bt cotton. However, the application of 100 % RDF + 1 % $MgSO_4$ spray was found to be the best for highest content of chlorophyll as well as yield of Bt and non-Bt cotton hybrids.

Key words : Bt and Non-Bt cotton, Yield, Leaf reddening, Vertisols, Fertilizer levels

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