USE OF LEAST SIGNIFICANT DIFFERENCE (LSD) TEST AND ORTHOGONAL CONTRASTS FOR INTERPRETATION OF FIELD TRIALS

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ABSTRACT

Different statistical procedures are used for interpretation of field trials mostly multiple comparison tests. Most of the researchers misuse multiple comparison tests for interpretation of field trials. Multiple comparison test (Least Significant Difference) was compared with the procedure of orthogonal contrasts for interpretation of field trials. Yield data from muriate of potash (MOP) vs sulfate of potash (SOP) field trials on wheat in Dir district were used for this purpose. Use of LSD test of significance could not make logical comparisons and no solid conclusions could be drawn. Use of orthogonal contrasts made clear and logical comparisons. The results from orthogonal contrasts showed that there was a response to the application of fertilizers. There were significant differences between NP and NPK, between 75 kg K_2O ha^{-1} and 150 kg K_2O ha^{-1} and between MOP and SOP. MOP was found superior to SOP as regards to its effect on grain yield of wheat in Dir. For such field trials with structured treatments orthogonal contrasts should be used for their interpretation.