

Integrated Use of Effective Microorganisms (EM) with Organic and Inorganic Nutrient Sources for Maximum Wheat, Cotton and Corn Production

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Abstract : *The field experiments were conducted in research project area of Nature Farming Research Center (NFRC), University of Agriculture Faisalabad. Wheat crop was grown with treatments, control, Farm Yard Manure (FYM) @ 10 t ha⁻¹, FYM EM-Biokasht (10 t ha⁻¹), EM-Fermenter water used in each irrigation, FYM EM-Biokasht + EM-Fermenter water. Four irrigations were applied to wheat crop. These organic treatments were integrated with quarter, half and full dose of NPK (120-90-60 kg/ha). The results of the experiment indicated that maximum wheat yield t ha⁻¹ was recorded in 1/2 NPK+Fermenter water treatment (3.54) followed by full NPK+EM-Bokashi + EM-Fermenter water (3.35), NPK+EM-Bokashi (3.32), 1/2 NPK+EM-Bokashi + EM-Fermenter water (3.23). Cotton crop was grown with same treatments excluding quarter treatment of fertilizer integration and found maximum seed cotton yield in NPK+BK+FW, followed by NPK +FW and 1/2 NPK + Bokashi. Similar experiment was conducted to examine growth, yield and quality performance of corn treated with “EM-Bioaab” and fertilizers under agro-ecological conditions of Faisalabad. The treatments were control, FYM (50 t ha⁻¹)+ EM-Bioaab (60 l ha⁻¹), NPK (150-75-50 kg ha⁻¹), NPK (150-75-50 kg ha⁻¹)+ EM-Bioaab (60 l ha⁻¹). The results indicated that grain yield of 4.05 t ha⁻¹ was recorded in plots receiving FYM+EM Bioaab (50 t ha⁻¹ +60 l ha⁻¹) and it was statistically same as obtained either with the application of NPK (150-75-50) or NPK + EM Bioaab (60 l ha⁻¹). The increase in yield was attributed to increase in number of grain per cob and leaf area per plant. Grain protein percentage was maximum (9.86) when the crop was treated with NPK @ 150-50 kg ha⁻¹+ EM-Bioaab (60 L ha⁻¹). Results showed an enhanced effect of integration of EM with organic nutrient sources both for yield and quality of wheat and corn.*
