

RESEARCH ARTICLE :

Effect of organic manuring and fertilization on soil fertility, yield attributes and productivity of soybean - safflower cropping system in Vertisol

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SUMMARY : Field experiments were conducted on Long-term fertilizer management at Research farm, Department of Soil Science and Agricultural Chemistry, VNMKV, Parbhani to study the effect of organic manures and fertilization on soil fertility and productivity under soybean-safflower cropping system since 2006-07 to 2012-13 on Vertisols. The 7th cycle data revealed that, the grain (26.58 and 18.52 q ha⁻¹) and straw (32.05 and 47.92 q ha⁻¹) yield of soybean and safflower were highest with 100% NPK+FYM@ 5 t ha⁻¹ than other treatments. Similarly, increasing height, number of pods and number of capsules were observed significantly with NPK + FYM than other management practices. However, the sustainability yield index (SYI) of soybean and safflower were also recorded maximum with 100 % NPK + FYM @ 5 t ha⁻¹ towards with 150% NPK. In contrast to soil fertility, significant enhancement in availability of N, P and K over its initial status with the application of optimal dose of fertilizer having 100 % NPK + FYM @ 5 t ha⁻¹, whereas availability of S and Zn was maintained by this treatment as compare to other. However, a significant build up of available Zn due the supply of zinc sulphate along with 100% NPK was noticed. On the basis of B : C ratio the treatment 100 % NPK + FYM @ 5 t ha⁻¹ most beneficial for farmers than other treatment.

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