

Study of Organic Nutrition in Apple (*Malus X Domestica* Borkh)

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Abstract The present study was conducted on farmer's field at Rohru in Shimla district of Himachal Pradesh, during the years 2011 - 2012. Fifteen years old apple trees of cultivar Starking Delicious grown on seedling rootstock were selected on the basis of uniform vigour. The trees were planted at a spacing of 6 x 6 m and trained on modified central leader training system. The objectives of study were to elucidate the effect of comparison on organic and inorganic plant nutrition on leaf and soil nutrient status in apple orchard. The field trial was conducted to find out the nutrition requirement of fully grown apple trees through organic manures viz. FYM, Vermicompost, Wood ash and Neemcake with combinations at different concentrations in comparison to recommended dose of fertilizers (RDF) held as control. Data was statistically analyzed using randomized block design (RBD) with five replications in each treatment. The variations in leaf and soil nutrient status were studied for both the years of study. The T₄ [FYM (100 kg/tree) + Vermicompost (25 kg/tree) + Wood ash (8 kg/tree) + Neem cake (4 kg/tree)] treatment gave 21 per cent reduction in yield compared to recommended dose of fertilizers. However, the same treatment gave significant improvements in physical (bulk density, soil pH, MWHC, organic carbon) and biological properties (total microbial counts) of the soil. However, higher leaf and soil nutrients status were observed under recommended dose of fertilizers during both the years of study. Therefore, it can be concluded that the use of organic manures might be useful as supplement to inorganic fertilizers for enhancing soil health with respect to physico-chemical and biological properties of the soil.