SOIL TEST CALIBRATION FOR DETERMINING PHOSPHORUS FERTILIZER REQUIREMENT OF APPLE

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ABSTRACT

Field experiments were conducted during 1988 and 1989 at 11 locations in the apple growing area of Swat. Phosphorus, at the rates of 0, 0.5, 1.0, 1.5 and 2 Kg P_2O_5 tree^{-1} was applied alongwith basal dose of 1 kg N and 1 kg K_20 tree^{-1}. $NaHCO_3$ extractable soil P contents were correlated with apple fruit yields according to the modified Mistscherlich-Bray equations. For relating the soil test values with the yield the equation Log (A-y) - Log A-c_1b_1 and for calculation of fertilizer the equation Log (A-y) = Log A-c_1b_1-cx was followed.

The calculated and obtained yields of apple fruit for various soil test values and P fertilizer rates are reported. Based on the equations levels of soil P were established which may produce very low, low, medium and high yields as compared to the potential yield. Optimum yield (95% of the maximum) may be obtained if $NaHCO_3$ extractable P is not less than 10.65 mg kg^{-1} soil provided the yield is not limited by other agronomic factors.