

NUTRITIONAL STATE AND YIELD REGRESSION BY FOLIAR NUTRIENTS IN APPLE ORCHARDS OF WESTERN HIMALAYAS

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Abstract: A nutritional survey was conducted in major apple growing belts of Western Himalayas viz. Jubbal-Kotkhai, Karsog, Kalpa, Kotgarh and Naggar areas of Himachal Pradesh (India) to study the nutritional wellbeing and effect of foliar nutrient concentrations on influencing yield. The foliar macro-nutrients, N, P, K, Ca, Mg in different locations were found in the range 1.71-2.31, 0.13-0.28, 1.18-1.82, 1.19-1.83 and 0.18-0.41 percent, respectively while the micro-nutrients Fe, Zn, Cu and Mg varied from 186.8-378.2, 17.67-61.01, 7.52-15.78 and 42.33-182.53 ppm. Multiple regressions have been calibrated for predicting apple yields at different locations and for low and high yielding (>150 kg/tree) trees where the models were found to have a high and significant predictability value. Using the data, fertilizer adjustment equations can be developed for prescribing optimum fertilizer doses for attaining high yields in the apple production areas in the Western Himalayas and indeed elsewhere with similar climatic and soil conditions.

Keywords: Nutrition, Apple, Essential nutrients, Regression plane, Sufficiency range

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Table 1: Foliar nutrient status of apple orchards at different locations.