Decision Support for Soil Test-Based Fertilizers Recommendation in Citrus

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Nutrient management-based production system of citrus like any other fruit crop is inherently complex to understand due to large variation in nutrient-use-efficiency. The rhizosphere (0-20 cm) soil samples through four grid sizes (10 x 10 m, 20 x 20 m, 40 x 40 m and 60 x 60 m) were collected using GPS-based tracking system at orchard finally earmarked at UmsaitiningRibhoi, Meghalaya and Ladgaon, Nagpur Maharashtra (India). The spatial variograms were developed based on data generated through soil tests under different grid sizes were developed using geographical information system (GIS) and interpreted for working out the optimum grid size for soil fertility evaluation in Khasi mandarin. Based on soil test values for different nutrients, doses of fertilizers and targeted fruit yield, a tripartite prediction models were developed viz., fertilizer nitrogen = 13.09 (Targeted fruit yield) – 2.37 (Soil test for nitrogen); fertilizer phosphorous = 4.08 (Targeted fruit yield) – 26.83 (Soil test for phosphorous); Fertilizer potassium = 1.69 (Targeted fruit yield) – 0.39 (Soil test for potassium) for Nagpur mandarin. Similarly, prediction equations for Khasi mandarin were developed as decision support viz., fertilizer nitrogen = 13.09 (Targeted fruit yield) – 2.37 (Soil test for nitrogen); fertilizer phosphorous = 4.08 (Targeted fruit yield) – 26.83 (Soil test value for phosphorous); fertilizer potassium = 1.69 (Targeted fruit yield) – 0.39 (Soil test for potassium). These attempts are simply the translation of nutrient constraints diagnosis and their management using the recommendations on a real time basis, the information on which is absolutely meagre in citrus.

Biography:

Dr. A. K. Srivastava has done PhD in Soil Science from Banaras Hindu University (India). He has handled 30 projects, credited with 161 peer reviewed publications, life member of 33 academic societies, fellow of 11 academic societies, and associated with editorial board of ten high SCI journals. He is author of books like Citrus: Soil and Climate, Citrus Nutrition and editor of books entitled Advances in Citrus Nutrition and Fruit Crops: Diagnosis and Management of Nutrient Constraints. He is adjunct faculty at three universities in India. He is a visiting professor at HZAU and Yangtze University, China and AREEO, Iran.