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Nutrient dynamics in Citrus: Recent developments

Anoop Kumar Shrivastava
National Research Centre for Citrus, India

Occurrence of nutrient constraint at any phenological growth stage on multi-nutrient deficient soils could jeopardize the possible incentives through balanced fertilization in highly diversified nutrient demanding citrus cultivars. Development of microbial consortium exploiting the native microbial synergisms is one of the popular methods of providing the desired dynamism to fertility transformations within the rhizosphere. Development of nutrient norms using different plant parts need a thorough revisit at an orchard level and field validated. The major point of discontent still remains to be warded off with respect to whether or not different nutrient norms are required as per cultivar within the same variety. Non-redressal of spatial variation in soil fertility is still a major bottleneck to soil test-based recommendations. Geoinformatics linked site specific nutrient management strategy has offered an easier method of combating the pivotal factor driving to reduced fertilizer use efficiency. Sensor-based technology has further added a new dimension in providing the nutrient supply as per canopy size in time domain manner using multi-channel fertigation in addition to non-destructive diagnosis of nutrient constraints using multi/hyperspectral analysis. Application of open field hydroponics is the starting point to adopt such improvised production technology. However, it remains to be seen that in different citrus cultivars, is there a necessity of maintaining different nutrient levels vis-à-vis critical growth stages so that a complete cropwise nutrient logging studies ease out so called complexity in understanding the nutrient dynamics, the subject that remained an under-focussed issue for so long time.

Biography

Anoop Kumar Shrivastava after having received Ph.D. in 1988 from famous Banaras Hindu University has been working on citrus nutrition over last 24 years. He has contributed significantly on various aspects of soil fertility and plant nutrition of citrus viz., development of soil-plant nutrient diagnostics, geoinformatics-based nutrient constraints analysis, microbial consortium and nutrient dynamics, fertigation scheduling, orchard efficiency modeling, and site specific nutrient management. He is the fellow of 7 academic societies. He has authored 110 papers in peer reviewed journals, authored book on Advances in Citrus Nutrition by Springer-Verlag, Netherlands and member, editorial board of many internationally reputed journals.

aksrivas2007@gmail.com