

Research Article

Difference in petiole mineral nutrition of grape cultivar thompson seedless (*Vitis vinifera* L.) grown on own-roots and grafted on dogridge

■ D. VIJAYA AND B. SRINIVAS RAO

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MEMBERS OF RESEARCH FORUM : **Summary**

Corresponding author :

D. VIJAYA, A.I.C.R.P. on Fruits,
Grape Research Station, Dr. Y.S.R.
Horticultural University,
Rajendranagar, HYDERABAD (A.P.)
INDIA
Email: vijayagr@gmail.com

Co-authors :

B. SRINIVAS RAO, Grape Research
Station, Dr. Y.S.R. Horticultural
University, Rajendranagar,
HYDERABAD (A.P.) INDIA

Grape growers of Andhra Pradesh, who raised cv. Thompson Seedless on own roots are switching over to the practice of grafting on dogridge (*Vitis champani*) rootstock. Own rooted vines differ from the grafted vines in their uptake of nutrients. Hence, there is a need for a separate nutrient management technique in case of own rooted and grafted vines for maximizing vine growth, production and fruit quality. Therefore, nutrient survey was conducted in vineyards around Hyderabad for three successive years 2005-08, to determine the difference in petiole nutrient accumulation of cv. Thompson Seedless grafted and own rooted vines at bud differentiation and full bloom stage. Petiole samples were collected from vineyards growing Thompson Seedless (*Vitis vinifera* L.) grape cultivar on own-roots and grafted on dogridge at bud differentiation and full bloom stages, in order to determine the concentration of N, P, K, Fe, Mn, Cu and Zn. The results indicated that, regardless of the phenological stages and years, there were a consistent decrease in mean petiole P content from 0.91 per cent \pm 0.19 and 0.76 per cent \pm 0.17 in own rooted vineyards to 0.73 per cent \pm 0.21 and 0.59 per cent \pm 0.17 in vineyards grafted on dogridge rootstock at bud differentiation and full bloom stages, respectively. On contrary there was consistent impact on mean petiole K content which increased from 2.18 per cent \pm 0.47 and 2.85 per cent \pm 0.52 in own rooted vines to 2.80 per cent \pm 0.69 and 3.29 per cent \pm 0.81 on dogridge rootstock at bud differentiation and full bloom, respectively. In case of N the trend was not consistent. With regards to micronutrients there was a slight but consistent increase in Mn and Fe content at bud differentiation and Zn content at full bloom on dogridge when compared to own roots. The mean petiole content except K and Cu content was lesser at bud differentiation as compared to full bloom stage.

Key words : Mineral nutrition, Thompson seedless, Dogridge, Own rooted

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