EFFECT OF FOLIAR APPLICATION OF POTASSIUM SOURCES ON MATURITY, YIELD AND LEAF NUTRIENT CONTENT OF PEACH (*PRUNUS PERSICA* L.) CV. SHAN-I-PUNJAB UNDER SEMI-ARID IRRIGATED CONDITIONS

Ajmal Hussain Zai, R.P.S. Dalal*, Dinesh Kumar, B.S. Beniwal and Jaipal Jaipal

Department of Horticulture, CCS Haryana Agricultural University, Hisar-125 004 (Haryana), India Email:<u>dalal08@rediffmail.com</u>

Received-28.06.2021, Revised-11.07.2021, Accepted-23.07.2021

Abstract: The aim of present study was to study the effect of foliar spray of different nutrients (potassium sulphate, potassium nitrate and potassium orthophosphate) on yield and leaf nutrient content in peach cv. Shan-i-Punjab at different concentrations. The treatments were applied as foliar spray in the end of March at pit hardening stage. Highest total yield (63.03 kg/tree) and fruit weight (83.50g) was obtained with the foliar application of KNO₃ (3%) closely followed by 2% levels of KNO₃ and K₂SO₄.K₂SO₄ (1.5-2.0%) spray advanced fruit maturity 4 days by increasing the yield in first picking (70-72%) over control. Maximum leaf N & K (2.57 & 1.03%) was obtained in KNO₃ @ 3% spray whereas maximum P (0.22%) in KH₂PO₄.

Keywords: Foliar spray, Fruit yield, Peach, Potassium nitrate, Potassium orthophosphate, Potassium sulphate

REFERENCES

Anonymous (2013).Package of Practices for Horticultural Crops and Products.Directorate of Publications, Haryana Agricultural University, Hisar, India.

Anonymous

(2015).<u>http://hortharyana.gov.in/sites/</u>default/files/do cuments/final-data-2015-16.pdf

Anonymous (2017). http://nhb.gov.in/statistics/State_Level/2017-

18 (1st%20 Adv.%20 Est).pdf

Chatzitheodorou, L. T., Sotiropoulos, T. E. and Mouhtaridou, G. L. (2004). Effect of nitrogen, phosphorus, potassium fertilization and manure on fruit yield and fruit quality of the peach cultivars 'Spring Time' and 'Red Haven. Agronomy Research, 2(2), 135-143.

Dhillon, W.S. (2013). Fruit production in India.*Narendra Publication House*, New Delhi-11006 (India).

Elwan, M.W.M. and El-Hamahmy, M.A.M. (2009). Improved productivity and quality associated with salicylic acid application in greenhouse pepper. *Scientia Horticulture*, **122**(4), 521-526.

Fayed, T.A. (2010).Optimizing yield, fruit quality and nutrition status of Roghiani olives grown in Libya using some organic extracts.*Journal of Horticulture Science and Ornamental Plants*, **2**(2), 63-78.

Hafez-Omaima, M. and El-Metwally, LM. (2007). Efficiency of zinc and potassium sprays alone or in combination with some weed control treatments on weeds growth, yield and fruit quality of Washington navel orange orchard. *Journal of Applied Science Research*, **3**, 613-621.

Harold, J. E. and George, J. S. (1966). Role of mineral elements with emphasis on the univalent cations. *Annan's Plant of Physiology*. 11, 47-76.

*Corresponding Author

Jackson, M.L. (1967). In soil chemical analysis Prentice hall Inc. Englewood Cliffs N.J.

Lester, G.E., Jifon, J.L. and Rogers, G. (2005). Supplemental foliar potassium application to muskmelon (*CucumismeloL.*) during fruit growth improves quality and content of human wellness components. *Journal of the American Society for Horticultural Science*, **130**(4), 649-653.

Marschner, H. (1995). Mineral nutrition of higher plants, 2nd ed. Academic press, London. pp. 330-355.

Mengel, K. (2002). Alternative or complementary role of foliar supply in mineral nutrition.*International Society for Horticultural Science*.**594**, 33-47.

Mimoun, M. B., Ghrab, M., Ghanem, M. andElloumi, O. (2009).III Effects of Potassium Foliar Spray on Olive, Peach and Plum. Part 2: Peach and Plum Experiments. *Peach*, 23, 73.

Mostafa, E. A. M. andSaleh, M. M. S. (2006). Response of Balady mandarin trees to girdling and potassium sprays under sandy soil conditions. *Research Journal of Agriculture and Biological Sciences*, 2, 137-141.

Panse, V.G. andSukhatme, P.V. (1967).Statistical Methods for Agricultural Workers. 2nd ed. I.C.A.R. Publication, New Delhi, 336-356.

Piper, C.S. (1966).*Soil and Plant Analysis*.Hans Publications, Bombay.pp. 368.

Rattanpal, H.S., Rani, S., Kumar, A. andDhaliwal, H. S. (2005). Effect of potassium and 2,4-D sprays on physical parameters of Kinnow fruits. *Haryana journal* of *horticultural* sciences, **34**(3-4), 222-223.

Tahira, A., Asmed, S., Ashrsaf, M., Shadhid, M.A., Ya

sin, M.,Balal,R.M., Pervez, M.A.and Abbas, S. (2013). Effect of humic application at different growth stages of Kinnow mandarin (*Citrus recticulatablaco*) on the basis of physio-biochemical

Journal of Plant Development Sciences Vol. 13(7): 519-523. 2021

and reproductive responses. *Acedemia Journal of Biotechnology*, **1**(1), 14-20.

Usherwood, N.R. (1985). The role of potassium in crop quality.Potassium in Agriculture (Ed. R.D. Munson).ASA-CSSA-SSSA, Madison, WI.489-513.