



Fertigation studies on leaf NPK content in coriander (*Coriandrum sativum* L.)

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ABSTRACT

The present investigation was carried out to find the optimum level of fertigation for higher yield besides quality in coriander. Two genotypes (Co CR-4, CS 11) were used for this study Drip fertigation with water soluble fertilizer at 75 %, 100 %, 125 % RDF along with the recommended normal fertilizer applied to soil with furrow irrigation. The variety Co CR-4 (V_1) had maximum leaf N content than CS 11 (V_2). Regarding the interaction effect, the maximum leaf N content was recorded in Co CR-4 with 125 per cent of fertigation (T_1V_1) followed by T_1V_2 in both two seasons. Application of 125 per cent water soluble fertilizer registered the highest NPK content in leaf.

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Key words : Coriander, Fertigation, Leaf NPK content

The efficient use of fertilizers is necessary for optimum growth and yield. Hence knowledge about the availability of nutrients in the soil is very essential. To assess the availability of various nutrients in the soil and the effect of fertilizer application, foliar and soil analysis of nutrients were made through leaf analysis. For scheduling a fertilizer programme, analysis of plant nutrient status has been found useful to prevent the deficiency or excess of nutrient effects in any horticultural crops. The concentration and uptake of nutrient in plant varies with the age of the crop, season, plant parts, stage of the crop and cultivars. Plant analysis serves as an elegant tool for understanding the growth and physiology of the plant at various phases of its growth (Hartz and Hochmuth, 1996).

MATERIALS AND METHODS

The field experiment was conducted at the University orchard of Horticultural College and Research Institute, Tamil Nadu Agricultural University, Coimbatore. Two genotypes (Co CR-4, CS 11) were selected for this study, as the genotypes proved well for use as leafy type. The experiment was laid out in FRBD design with 4 treatments replicated thrice. Drip fertigation with water soluble fertilizer at 75 %, 100 %, 125 % RDF along with the recommended normal fertilizer applied to soil with furrow irrigation.

RESULTS AND DISCUSSION

The effect of fertigation on leaf N content at harvest stage of coriander in two different varieties is furnished in the Table 1. The treatments had a significant influence on leaf N content at harvest. Application of 125 per cent RDF (T_1) recorded the maximum leaf N content of 3.36 and 3.17 (%) during first and second season, respectively at 45 DAS. The lowest leaf N content was registered in the treatment applied with recommended NPK applied to soil with furrow irrigation (T_4) with values of 2.67 and 2.47 (%) during first and second season, respectively. The variety Co CR-4 (V_1) had maximum leaf N content than CS 11 (V_2).

Regarding the interaction effect, the maximum leaf N content was recorded in Co CR-4 with 125 per cent of fertigation (T_1V_1) followed by T_1V_2 in both two seasons. Kavitha (2005) reported similar results that application of 125 per cent water soluble fertilizer under fertigation system showed higher nitrogen content in leaf stem and fruits at all the three seasons. The nitrogen content was higher in leaves and later started to decline in stems and fruits.

The effect of fertigation on leaf P content at harvest stage of coriander varieties is furnished in the Table 2. The treatments had a significant influence on leaf P content at harvest stage. The treatment T_1 recorded the