EFFECT OF PLANT GROWTH REGULATORS ON GROWTH AND YIELD OF CORIANDER (Coriandrum sativum L.)

ABSTRACT

Key words: Plant growth regulators, coriander, GA3, NAA, Cycocel, yield

A field experiment was conducted on clayey soil at the instructional farm, College of Agriculture, Junagadh Agricultural University, Junagadh (Gujarat) during the rabi season of 2016-17 in randomized block design with three replications, comprised with 11 treatments of five plant growth regulators each of two level viz., GA3 (50 and 100 ppm), NAA (50 and 100 ppm) and cycocel (500 and 1000 ppm), triacontanol (100 and 150 ppm), vermiwash (1 and 2 L ha⁻¹) foliar spray at 25 & 50 DAS and control (water spray).

The results revealed that foliar application of GA3 100 ppm at 25 and 50 DAS recorded significantly higher values of growth parameters viz., plant height, primary and secondary branches per plant and yield attributes viz., number of umbels per plant, number of umbellates per umbel, number of seeds per umbel, number of seeds per plant and seed index along with seed and stover yields and biological yield over control (water spray), which was comparable and significantly not different from foliar application of GA3 50 ppm and NAA 50 ppm in respect of seed and stover yields. Considerable improvement in nutrient content (N, P and K) and their uptake by seed and stover of coriander were also noticed with foliar application of GA3 100 ppm at 25 and 50 DAS followed by GA3 100 ppm as compared to control (water spray). The economics of plant growth regulator treatments also indicates that foliar application of GA3 100 ppm at 25 and 50 DAS was more profitable in terms of net returns (₹ 64337 ha⁻¹) and B: C ratio (2.83) in comparison to rest of the treatments.

In general, better crop yield and higher net returns per hectare could be obtained from coriander by foliar application of GA3 100 ppm at 25 and 50 DAS.