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Title: RESPONSE OF FOLIAR SPRAY OF UREA, MICRO-NUTRIENTS AND GA3 ON GROWTH, YIELD AND QUALITY OF BROCCOLI (Brassica oleracea var. italica) cv. FIESTA.

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**Abstract:** Broccoli (*Brassica oleracea* var. *italica*) is an important underutilized and exotic winter vegetable having export potential. In India, broccoli is a recent introduction but it is gaining importance due to its nutritional value including flavour, taste, carotenoids and anticancerous properties. Among the entire cole family broccoli is rated as more remunerative. It has tremendous production capability and its production and productivity can be increased further by applying foliar spray of plant nutrients and GA3. The role of mineral nutrients and plant growth regulator in various physiological and biochemical process in plant to regulate growth and yield is established. Beside this, the beneficial effect of applying foliar plant nutrient and plant growth regulator, expressed as an increase in yield and improvement of crop quality has been noted in many vegetable species. The present investigation entitled "Response of foliar spray of urea, micro-nutrients and GA3 on growth, yield and quality of broccoli (*Brassica oleracea* var. *italica*) cv. *Fiesta*" was carried out during winter season of 2008-2009 at vegetable section of Horticulture garden under faculty of Agriculture, Birsa Agricultural University, Ranchi, in Jharkhand in Randomized Block Design having nine treatments replicated thrice with an objective to improve production, productivity, earliness in curd production and quality of broccoli. The foliar nutrients and plant growth regulator used were urea 1 percent, boric acid, zinc sulphate, manganese sulphate, copper sulphate, iron sulphate each with 0.2 percent concentration whereas gibberellin applied with 0.01 percent along with one water spray and control having no spray. Nutrients and gibberellin were sprayed each at 20 and 40 days after transplanting. During the course of investigation, it was observed that nutrients and plant growth regulator showed remarkable influence on vegetative growth, curd initiation, curd production, yield and quality characters. The vegetative characters like plant height, plant spread leaf length and leaf width were significantly influenced by 1 percent urea spray whereas increase in number of leaves was in the favour of boric acid 0.2 percent spray. Beside this, gibberellin 0.01 percent and zinc sulphate 0.2 percent proved their superiority in obtaining the stalk length and root length, respectively. Earliness in curd initiation and curd maturity was influenced maximum by application of GA3 0.01 percent. However, urea 1 percent spray proved itself to be the best treatment in obtaining the more curd length, curd width, curd weight, curd volume and yield per plot. Similarly, the physiochemical properties particularly TSS, sugar, carbohydrate and soluble protein were also recorded maximum with urea spray but ascorbic acid decreased with the same spray and it was in the favour of zinc sulphate as well as boric acid 0.2 percent spray. Whereas, minimum phenol was registered by both the treatment of CuSO4 0.2 percent as well as gibberellin 0.01 percent spray. Regarding the economics of broccoli production, it may safely be concluded that urea spray resulted into higher net profit per hectare.

**Description:** RESPONSE OF FOLIAR SPRAY OF UREA, MICRO-NUTRIENTS AND GA3 ON GROWTH, YIELD AND QUALITY OF BROCCOLI (*Brassica oleracea* var. *italica*) cv. *FIESTA*.

**Subject:** Horticulture

**Theme:** RESPONSE OF FOLIAR SPRAY OF UREA, MICRO-NUTRIENTS AND GA3 ON GROWTH, YIELD AND QUALITY OF BROCCOLI (*Brassica oleracea* var. *italica*) cv. *FIESTA*.

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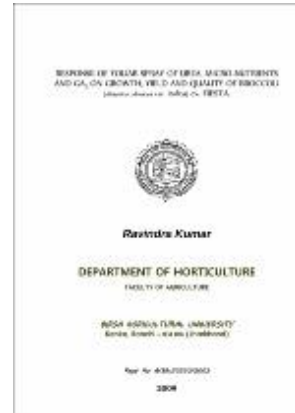
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