

Role of organic fertilizers in enhancing the growth attributes, yield and nutritional quality of knolkhol (Kohlarabi)

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SUMMARY

The cultivation of knolkhol (kohlarabi) in India is not very popular except in Kashmir, West Bengal. The tubers of Knolkhol were used as vegetables which contains appreciable amount of vitamins and minerals. Knolkhol (Kohlarabi) was cultivated at Nanded with the application of organic fertilizers (FYM, vermicompost, biofertilizers) to observe the influence of organic fertilizers on growth attributes, yield and nutritional parameter. The results indicated that the growth attributes such as stem diameter, plant height, number of leaves/plant and spread of plant were significantly higher under application of organic fertilizers, than control plot. Yield/ha and maximum nutritional contents were found in organic fertilizer treated plots. Application of vermicompost was found to be most beneficial in increasing the yield and nutritional quality of knolkhol.

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The cultivation of knolkhol (Kohlarabi) in India is not very popular except in Kashmir, West Bengal and some parts of the south. Knolkhol is characterized by the formation of tuber which arises as thickening of the stem tissue above the cotyledons.

This tuber develops entirely above the ground. It is this portion which is used for vegetables, though young leaves are also used in some parts. The tuber (knob) contains appreciable amount of vitamin A and minerals. The knobs may be boiled in water, after adding salt and salt water is drained. The knobs are cut into four pieces, cooled and added with salt and vinegar and served as salad (Rai and Yadav, 2005). Knolkhol is one of the cole crops, which is rich source of vitamin C (ascorbic acid) and vitamin A (B-carotene) (Bose *et al.*, 2002). The large scale use of chemical fertilizers, soil is affected, continuous and steadily use of it, the fertility of soil is decreased. Subbarao and Ravisankar (2001) concluded that maximum fruit yield and dry matter production was found by application of FYM + vermicompost in case of brinjal. Patil (2007) found that highest grain yield was obtained with application of vermicompost in combination with biofertilizer in case of jowar. By considering above

aspects, present paper assess the effect of various organic fertilizers on yield, growth attributing characters and nutritional quality of knolkhol.

MATERIALS AND METHODS

Cole crop like knolkhol (*Brassica caulera* v. Sungrow white) was cultivated at the bank of Godavari river in Nanded city for two consecutive two years 2006 and 2007. Experiments were carried out in Randomized Block Design (RBD).

Two doses of organic fertilizers like FYM- T_2 (11.3t/ha), vermicompost- T_3 (11.3t/ha), T_4 -mixture of biofertilizers (Azab+ PSB+ VAM) *Azotobacter*- Azab, PSB- phosphate solubilizing bacteria (Durga) and VAM-vesicular arbuscular mycorrhiza (Trishul), Karnataka Agrochemicals @ 3kg/ha were applied to knolkhol ; T_1 - control, in control plot no one fertilizer was used.

The sowing of seeds was done in nursery beds. Healthy seedlings were selected and transplanted on one side of ridges in the plots at a spacing of 30 x 30cm (Bose *et al.*, 2002). After establishment of the seedlings, fertilizer treatments were given. Fertilizers were applied twice, at 20 days interval after transplantation. The crop was raised under irrigation and weeding was done whenever required. Morphological observations (growth attributes) were recorded on 30, 45, 60 days after transplantation such as stem diameter, height of plant, number of leaves and spread of plant.

After harvest, fresh weight of each edible tubers

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