

Effect of organic and inorganic manures on biometric and yield parameters of radish (*Raphanus sativus* L.) cv. PUSAPHEPKI

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SUMMARY

An investigation was carried out in radish (*Raphanus sativus* L.) cv. PUSAPHEPKI at Avinashilingam deemed university, Coimbatore. The study was conducted to analyse the effect of farm yard manure (FYM), phosphobacteria, *Azospirillum*, vermicompost, humic acid and NPK on growth and yield of radish. The pots having 7 kg capacity were filled with soil and sand in the ratio 1:1. Fifteen seeds were sown in each pot containing red loamy soil and sand and mixed with the above ameliorants. The dosage was as per the recommendations of Tamil Nadu Agricultural University, Coimbatore. Each treatment consisting of three replications were used for the experiment. The experiment was set up in completely randomized design. To elucidate the effect of organic and inorganic manures, germination percentage, biometric observations and yield parameters of radish were analysed. The effect of organic manures on seed germination of radish on 7, 14, 21 and 28 DAS (Days after sowing) recorded. The best germination percentage was observed in NPK treatment. The tuber weight and tuber length were maximum in vermicomposted treated plants. Tuber diameter was maximum in NPK treated plants. From this investigation it is inferred that the potting mixture containing, farmyard manure, vermicompost, humic acid and NPK could be ideal and suitable for better production of radish.

Key Words : Inorganic, Organic, *Raphanus sativus*, Radish

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Generally agricultural land gets impoverished after long term cultivation, if not supplemented properly with inputs. To supplement the soil nutrient content under conventional farming system, we need to apply high doses of agrochemicals, which in turn pollute the ecosystem. Therefore, in order to make agriculture sustainable it is necessary to implement a balanced and responsible use of organic agriculture. Application of chemical fertilizers increases the fertility of the soil thereby improves the yield but at the same time the high doses of chemicals cause damage to plants and

plant products and in turn it may affect the life of human beings and animals. The only method to overcome the utilization of agro-chemicals is the use of organic manures. Organic farming system in India is not new and is being followed from ancient time. It is a method of farming system which primarily aimed at cultivating the land and raising crops in such a way, as to keep the soil alive and in good health by use of organic wastes (crop, animal and farm wastes, aquatic wastes) and other biological materials along with beneficial microbes (biofertilizers) to release nutrients to crop, for increased sustainable production in an ecofriendly pollution free environment. Radish belonging to the family Cruciferae botanically named as *Raphanus sativus* L. is an important root crop extensively grown throughout the year in the country. Radish is more popular and widely grown pungent vegetable for its fleshy edible roots rich in Ca, K, P and vitamin C. The most commonly eaten portion is the fusiform taproot, although the entire plant is edible and the tops can be used as

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