



Effect of root size on yield and quality of radish cv. WHITE ICICLE seed crop

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ABSTRACT

The healthy seeds of radish cv. White Icicle were sown in the first week of May at Vegetable Research Station, Kalpa, District Kinnaur (HP) and the roots replanted in the mid June after 45 days during two consecutive years 2008 and 2009. Radish seed production was done by root to seed method and the true to type roots were grouped into seven classes viz., S₁: 25-50g, S₂: 50-75g, S₃: 75-100g, S₄: 100-125g, S₅: 125-150g, S₆: 150-175g and S₇: 175-200g. The experiment was planted in Randomized Block Design with three replications, at a spacing of 60x30 cm having plot size of 2.40x2.40 m with a population of 32 plants per plot. Significant differences were observed for all the traits studied except seed quality and maturity in both the years. The plants from larger roots produced more seed yield, number of branches, pods, seeds per pod, pod length and height, besides, being early in sprouting, flowering and pod formation with low mortality. However, seed quality measured in terms of 1000 seed weight and germination percentage as well as days to maturity not affected by the root size. It was concluded that roots weighing more than 150g should be selected for high seed yield in radish.

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Radish (*Raphanus sativus* L.) is an important root vegetable grown extensively in both tropical and temperate regions. There are two types of radish, first is Asiatic and second is European type. The latter thrive best in temperate climate and are very quick in root development. These require low temperature for flowering and produces seed only in the temperate regions. The dry temperate zone of North Western Himalaya is congenial for seed production of European type radish. Root to seed method is generally followed for breeder seed production where true to type roots are selected and seed so produced is of high quality. Due to mild temperature and prevalence of dry condition at the time of seed maturity and ripening, the seed produced in this region is of high quality and excellent vigour. However, there is wide variation with respect to root size, which is reported to influence the seed yield and quality but very little work has been done in this aspect especially in the European types. The present studies were carried out during two consecutive years 2008 and 2009 at Vegetable Research Station, Kalpa, District Kinnaur (HP) with the objective to know the optimum size of roots to be used for better yield and quality of radish seed. The efforts to maximize the seed yield per unit area will go a

long way in increasing the seed yield and boosting the income of the tribal farmers.

MATERIALS AND METHODS

The present investigations were carried out on radish cv. WHITE ICICLE during two consecutive years 2008 and 2009 at Vegetable Research Station, Kalpa, District Kinnaur (HP). The healthy seeds were sown in the first week of May and the roots replanted in the mid June after 45 days. Radish seed production was done by root to seed method and the true to type roots were grouped into seven classes viz., S₁: 25-50g, S₂: 50-75g, S₃: 75-100g, S₄: 100-125g, S₅: 125-150g, S₆: 150-175g and S₇: 175-200g. The experiment was planted in Randomized Block Design with three replications every year at a spacing of 60x30 cm having plot size of 2.40x2.40 m with a population of 32 plants per plot. The observations were recorded on seed yield per plant (g), number of branches per plant, pods per plant, seeds per pod, pod length (cm), days to 50% sprouting, flowering, pod formation, maturity, mortality (%), plant height (cm), 1000 seed weight (g) and seed germination (%).