

Performance of summer carrot (*Daucus carota* L.) genotypes under temperate conditions of Kashmir valley

N. JABEEN, S.H. KHAN AND K.HUSSAIN

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See end of the article for authors' affiliations

Correspondence to:

N. JABEEN

Division of Olericulture,
Sher-e-Kashmir University
of Agricultural Sciences
and Technology (K)
Shalimar, SRINAGAR
(J&K) INDIA

ABSTRACT

Fifteen genotypes of carrot viz., SH-C-131, SH-C-132, SH-C-130, SH-C-135, SH-C-39, SH-C-50, SH-C-102, SH-C-108, SH-C-5, SH-C-33, SH-C-137, SH-C-133, SH-C-132, Chamman and Karoda, were grown in RBD with three replications at a spacing of 15 x 30 cm during *Kharif* 2009 at Vegetable Experimental Area, Sher-e- Kashmir University of Agricultural Sciences and Technology, Shalimar, Srinagar. Root yield was recorded maximum in SH-C-131 (157.00 q/ha) followed by SH-C-134 (132.33 q/ha) and SH-C-130 (122.33 q/ha) while minimum in SH-C-137 (82.33 q/ha). The quality traits viz., TSS was maximum in SH-C-135 (12.06) followed by SH-C-134 (12.00), SH-C-39 (11.70) and minimum in SH-C-133 (9.06) while vitamin C (mg/100 g) was maximum in SH-C-108 (7.93) followed by SH-C-131 (7.83), and SH-C-102 (6.60), minimum value being recorded by Chamman (3.23). Genotype SH-C-131 was found superior for most of the traits viz., total plant length, root length, root diameter, minimum core diameter, and root yield, hence, can be recommended for further evaluation and cultivation during summer months in the valley, thus reducing dependence on imports.

Key words : Summer carrot, Genotypes, Temperate condition

Carrot (*Daucus carota* L., $2n=2x=18$) is a cool-season root vegetable grown all over the world under temperate climates during autumn seasons in temperate climate and in sub-tropical climates during winter in subtropical climate. In India, it is cultivated over an area of 24,000 hectare with an annual production of 350,000 metric tones with its productivity much lower (14.58 t/ha) than the world average (22.17 t/ha) as per FAO (2004). Carrot has a significant place as an ingredient in soups and sauces and in dietary compositions and also as a salad. A sweet preparation called *Gajar Halwa* is very famous dish in North India. Besides canning, it is also used in preparation of pickles. It is also exported in the form of fresh roots to the countries like Kuwait and Sharjah. Carrot is a rich source of α and β - carotenes. It is only sown as a *Rabi* crop in Kashmir valley and its availability during summer in the valley depends on the import from other parts of the country. The present investigation was therefore undertaken to study the mean performance of genotypes during summer so that promising line(s) can be identified at an preliminary stage of testing.

MATERIALS AND METHODS

Fifteen genotypes of carrot viz., SH-C-131, SH-C-132, SH-C-130, SH-C-135, SH-C-39, SH-C-50, SH-C-102, SH-C-108, SH-C-5, SH-C-33, SH-C-137, SH-C-133, SH-C-132, Chamman and Karoda, were grown in RBD with three replications at a spacing of 15 x 30 cm during

Kharif 2009 at Vegetable Experimental Area, Sher-e-Kashmir University of Agricultural Sciences and Technology, Shalimar, Srinagar. All recommended cultural practices were followed to ensure good crop stand. Five plants in each genotype were selected in each replication for recording data on total plant length (cm), root length (cm), root diameter (cm), core diameter (cm), number of leaves per plant, TSS, vitamin C (mg/100g), and root yield (q/ha).

RESULTS AND DISCUSSION

Maximum total plant length was recorded by the genotype SH-C-131 (64.00 cm) followed by SH-C-39 (62.00 cm), SH-C-133 (57.33 cm) while minimum by SH-C-137 (49.33 cm). Maximum root length was observed in SH-C-131 (23.00 cm) followed by SH-C-50 and SH-C-5 (19.00 cm each) and SH-C-102 (18.66 cm) while minimum in SH-C-132 (12.00 cm). Root diameter was maximum in Chamman (3.26 cm) followed by SH-C-131 and SH-C-130 (3.06 cm), SH-C-134 (2.90 cm) and SH-C-102 (2.80 cm) while minimum and SH-C-137 (2.33 cm each). Core diameter, an important quality parameter, was minimum in the genotype SH-C-133 (0.56 cm) followed by SH-C-131 (0.63 cm), SH-C-50 (0.76 cm) and SH-C-5 and SH-C-33 (0.86cm each) while maximum in SH-C-102 (1.20 cm). The trait number of leaves per plant recorded maximum value in SH-C-50 (11.66) followed by SH-C-33 and Chamman (10.00), SH-C-130 (9.66)