Journal of Pharmacognosy and Phytochemistry

Available online at www.phytojournal.com

E-ISSN: 2278-4136
P-ISSN: 2349-8234
JPP 2019; 8(4): 1215-1216
Received: 04-05-2019
Accepted: 06-06-2019

MK Sharma
Division of Fruit Science, SKUAST-K, Shalimar, Srinagar, Jammu and Kashmir India

N Nazir
Division of Fruit Science, SKUAST-K, Shalimar, Srinagar, Jammu and Kashmir India

EA Parray
Division of Fruit Science, SKUAST-K, Shalimar, Srinagar, Jammu and Kashmir India

AS Sundouri
Division of Fruit Science, SKUAST-K, Shalimar, Srinagar, Jammu and Kashmir India

Correspondence
MK Sharma
Division of Fruit Science, SKUAST-K, Shalimar, Srinagar, Jammu and Kashmir India

Production potential of some cape gooseberry selections

MK Sharma, N Nazir, EA Parray and AS Sundouri

Abstract
A study was carried out at Experimental Farm of Division of Fruit Science, Sher-e-Kashmir University of Agricultural Sciences & Technology of Kashmir, Srinagar (Jammu & Kashmir) for two consecutive years to assess the production potential of twenty five cape gooseberry selections. The results revealed significant variations for different production attributes in various selections. Highest fruit yield was recorded in selection 23 (3.64 kg/plant). Maximum number of fruits per plant (347) were also found in Selection 23. Highest fruit weight was recorded in selection 2 (18.58 g). Fruit length (31.43 mm) and fruit breadth (38.74 mm) were also higher in selection 2.

Keywords: Cape gooseberry, fruit yield, quality, selections

Introduction
Cape gooseberry also known as rashbhari or golden berry is one of the important minor fruit crop and is highly nutritious having good source of vitamins and minerals. Fruits are also rich in ascorbic acid, carotenes and pectin. The ripe fruits can be eaten raw, in salad, desserts, in jam and jellies. Fruits have good blending of acid-sugar. The fruits are attractive in colour at maturity and if properly packed can easily be sent to distant market.Lot of variations exist in cape gooseberry selections. As genetic variation is indispensable for effective management and use of genetic resources, conservation of genetic resources is important to meet the demand for future food security and also the introduction of improved exotic cultivars may result in the complete elimination of locally available germplasm in years to come. This crop deserves special attention in view of its quick growing habit and having delicious fruits. Keeping in view the above facts and importance, present investigation was conducted to assess the performance of some cape gooseberry selections with respect to their production potential.

Materials and Methods
The present investigation was conducted at the Experimental Farm of Division of Fruit Science, SKUAST-K, Shalimar, Srinagar, J&K for two consecutive years. Twenty five cape gooseberry selections were evaluated for yield and fruit quality characteristics. The experiment was carried out in a complete randomized block design with three replications having five plants per replication. Fruit yield was calculated by harvesting the total number of fruits in each selection and was expressed as Kg per plant. Total number of fruits per plant was recorded at the time of harvesting. For recording fruit weight, fruits of each replication was taken on top pan balance and the average fruit weight was expressed in grams (g). Fruit length and fruit breadth was measured with help of vernier caliper for each replication and the average value for the each selection was worked out and expressed in mm. The data generated was subjected to statistical as per the procedures described by Cochran and Cox (1963) [2].

Results and Discussion
Mean performance of different cape gooseberry selections for the fruit yield per plant clearly showed the significant difference (Table 1). Fruit yield per plant ranged from 1.20 Kg g to 3.64 Kg in different selections. Maximum fruit yield per plant was recorded in selection 23 closely followed by selection 1 (2.93 kg) and selection 2 (2.92 kg). Minimum fruit yield per plant was recorded in selection 25 (1.20 kg). Similar observations were made by Gurpinder and Amarjeet (2015) [4], Singh *et al*. (2011) [6] and Criollo *et al.* (2014) [3]. Highest number of fruits per plant were recorded in selection 23 (347) however lowest number of fruits per plant were recorded in selection 16 (86). Variation in the number of fruits per plant may be due to variable size of the plant which is the genetic character of a particular genotype. Similar observations were also reported by Singh *et al.* (2011) [6], Criollo *et al.* (2014) [3] and Singh *et al.* (2014) [5].

Significant difference in fruit weight was recorded in different cape gooseberry selections which ranged from 9.10 g to 18.58 g. Maximum fruit weight was recorded in Selection 2 (18.58g) and minimum in Selection 10 (9.10g). Variation in fruit weight in different selections may be due to genetic factors involving their phylogenic behaviour as the mechanisms of fruit development are influenced by cultural and genetic factors. Fruit length and fruit breadth also showed significant differences amongst the different cape gooseberry selections under study. Fruit length in different selections ranged from 24.43 mm to 31.43 mm. Highest fruit length was recorded in selection 2 (31.43 mm) however minimum fruit length (24.43 mm) was recorded in selection 10. Fruit breadth ranged from 27.49 mm to 38.74 mm. Highest fruit breadth was recorded in selection 2 (38.74 mm) and lowest fruit width was recorded in selection 24 (27.49 mm). Higher fruit size under present investigation might be the inherent ability of a genotype to utilize the available resources efficiently to attain a certain fruit size These results are in line with the findings of Axel and Fisher (2012) [1] and Singh *et al*. (2011) [6].

Table 1: Mean performance of different cape gooseberry selections for various production characteristics.

Selection	Fruit yield (Kg/plant)	No. of fruits per plant	Fruit weight (g)	Fruit length (mm)	Fruit breadth (mm)
1	2.93	253	11.54	28.06	28.52
2	2.92	157	18.58	31.43	38.74
3	2.59	203	12.72	28.02	30.50
4	2.48	204	12.13	28.10	31.45
5	2.69	181	14.86	29.34	33.83
6	2.22	120	18.48	28.25	31.90
7	1.26	103	12.15	26.77	29.34
8	2.36	206	11.43	25.54	28.72
9	1.91	118	16.08	25.44	27.68
10	2.49	273	9.10	24.43	27.72
11	2.19	196	11.13	25.50	28.06
12	1.39	90	15.37	31.40	36.18
13	2.61	179	14.55	28.09	32.09
14	2.39	160	14.92	28.45	30.37
15	1.48	92	15.93	28.53	31.23
16	1.40	86	16.26	30.42	32.43
17	1.50	112	13.37	31.23	32.12
18	1.50	100	15.00	27.94	31.29
19	1.57	116	13.52	30.05	33.68
20	1.46	113	12.87	28.56	31.06
21	1.32	100	13.13	29.10	32.35
22	2.12	158	13.37	29.35	33.67
23	3.64	347	10.47	27.88	30.32
24	1.75	125	13.90	26.23	27.49
25	1.20	95	12.57	25.48	28.44
$CD_{(0.05)}$	0.47	25.00	3.35	2.88	3.38

References

1. Axel M, Fischer G. Agronomical evaluation of cape gooseberries (*Physalis peruviana* L.) from central and northeastern Colombia. Argon. Coulomb. 2012; 30:15-24.
2. Cochran WG, Cox GM. Experimental designs. 2nd Edition. John Wiley and sons, New York, 1963, 615.
3. Criollo H, Lagos TC, Fischer G, Mora L, Zamudio L. Behaviour of three cape gooseberry (*Physalis peruviana* L.) genotypes under different pruning systems. Review Colombia Horticulture. 2014; 8:34-43.
4. Gurpinder S, Amarjeet S. Plant growth and fruit yield attributes of cape gooseberry cv. Aligarh as affected by the use of different growth regulators. Agric. Sci. Digest. 2015; 2:138-141.
5. Singh DB, Ahmad N, Lal S, Mirza A, Sharma OC, Pal AA. Variation in growth, production and quality attributes of Physalis species under temperate ecosystem. Fruits. 2014; 69:31-40.
6. Singh DB, Lal S, Ahmad N, Qureshi SN, Pal AA. Screening of cape goose berry (*Physalis peruviana*) collections for adaptation under temperate ecosystem. Progressive Horticulture. 2011; 43:211-214.