Evaluation of Onion (*Allium cepa* L.) Varieties For Suitability in Kollam District of Kerala

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Onion (*Allium cepa* L.) is the most important commercial vegetable crop used both in raw and mature bulb stage as vegetable and spice. The pungency in onion is due to the presence of volatile oil known as allyl propyl-disulphide (Mohanty and Prusti, 2001). The bulb of onion consists of swollen bases of green foliage leaves and fleshy scales. There is a general concept that onion cannot be cultivated under Kerala conditions and the only way is to purchase it from market. Though, onion is a cool season crop and can now cultivate onion in homesteads, kitchen gardens and also in roof tops due to the availability of those varieties, which can perform better under Kerala climatic conditions. Three months from November-December or March to April is the best season for onion cultivation in Kerala.

Onion can be grown under a wide range of climatic condition (Singh et al, 1991) but it succeeds best in mild season without extremes of heat and cold. Successful onion production depends on the selection of varieties that are adapted to different climatic conditions imposed by specific environment (Pandey, 1989). No systematic study has been conducted to assess the suitability of onion cultivation in Kollam district of Kerala, for which standardization of varieties is of immense utility. Hence, the present experiment was conducted to study the response of some improved varieties of onion (*Allium cepa* L.) for their suitability for cultivation in Kollam district of Kerala.

MATERIALS AND METHODS

The investigation was carried out by Krishi Vigyan Kendra, Kollam during 2013-2014 to assess the performance of onion varieties in Kollam district under scientific management practices. Three high yielding onion varieties namely Agrifound Dark Red (*T*<sub>1</sub>), N53 (*T*<sub>2</sub>) and Arka Kalyan (*T*<sub>3</sub>) were tested with seven replications at farmers’ field. Seeds were sown in nursery during the middle of September. Forty five days old healthy seedlings of each variety were transplanted on beds of 1m width at a spacing of 15 x 10 cm during the first week of November. Recommended cultural practices were followed to raise the crop successfully. The observations recorded were plant height, number of leaves/plant, weight of bulb, diameter of the bulb, days to harvest and bulb yield.

RESULTS AND DISCUSSIONS

Biometric Characteristics:

The results revealed that highest plant height (38.6 cm) was reported in onion variety N53 followed by Arka Kalyan (37.5 cm) and the lowest in Agrifound Dark Red (35.2 cm). Similarly, onion variety Arka Kalyan registered maximum number of leaves (15.4) followed by Agrifound Dark Red and lowest by N53 (10.4). The highest bulb yield of 8.2 t/ha was obtained in cultivar Agrifound Dark Red followed by Arka Kalyan (7.1 t/ha) and the lowest bulb yield in N53 (5.9 t/ha). Highest benefit to cost (B : C) ratio (1.67) was reported in onion variety Agrifound Dark Red followed by Arka Kalyan (1.45) and the lowest in N53 (1.2).

The biggest bulb of 5.2 cm diameter was noticed in onion variety Agrifound Dark Red followed by...
Arka Kalyan (4.4 cm) whereas N 53 expressed the least diameter (4.1 cm) of bulb. The bulb weight was 65.0 g in Agrifound Dark Red, 55.0 g in Arka Kalyan and 46.0 g in onion variety N 53 (Table 1).

### CONCLUSION

It was concluded from the study that onion variety Agrifound Dark Red gave highest yield of 8.2 t/ha than Arka Kalyan and N53. Similarly, onion variety Arka Kalyan registered maximum number of leaves (15.4) than other varieties. The results revealed that the overall performance of onion variety Agrifound Dark Red was superior to other varieties and found most suitable for cultivation in Kollam district of Kerala.

### REFERENCES


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