

Yamuna Purple-10 (G-404): A new promising garlic variety

The new variety of garlic Yamuna Purple-10 was tested at different locations and found superior at Jammu, Karnal, Kalyanpur, Chiplima, Jabalpur, Durgapura, Akola,

IRU FOWLYDWRQDWI DWRQDO PHYHO DQG DFFRUGLQJO RWRWHGEWKH IRYHUQPHQW
RGLDYLGHQRWLFDWRQIRBZGDWHGIRYDQG UHFRPPHQGHGIRU
cultivation in Zone-II (Jammu, Ludhiana, Delhi, Haryana and Rajasthan) and Zone-IV (Madhya Pradesh, Chhattisgarh, Karnataka, Maharashtra). It is recommended for planting by the second fortnight of October and becomes ready for harvesting

GARLIC (*Allium sativum* L.) is one of the most important and versatile of horticultural commodities consumed in various ways for culinary, medicinal and antimicrobial purposes. Garlic is rich source of various nutrients, vitamins, fibers and has tremendous medicinal values. Its medicinal value has been realized by the medical community, especially Unani and Ayurvedic systems of medicine for disorders of digestive system, cholesterol, sterility, cough, etc. Its antibacterial action by virtue of allicin has also been found to have potential in organic farming for treatment of plant diseases. In India it is grown in 3.17 lakh ha area with the production of 16.10 lakh. The average productivity is 5.08 tonne/ha, which can be improved by adoption of high yielding garlic varieties, suitable cultural operations, pest management practices and post-harvest management.

Yamuna Purple-10

The new garlic variety Yamuna Purple-10 (G-404), IC No. 0597827 has been identified at the national level for release during the 10th Annual Group Meeting of ICAR All India Network Research Project on onion and garlic (AINRPOG) held at IARI, New Delhi during 31 May to 2 June, 2019. It has been recommended for zone II (Jammu, Ludhiana, Delhi,

Haryana and Rajasthan) and zone IV (Madhya Pradesh, Chhattisgarh, Karnataka, Maharashtra and Rajasthan). It's a high yielding variety developed through clonal selection by National Horticultural Research and Development Foundation, R. R. S., Karnal to meet out the domestic as well as the export requirements. The variety was tested across the country under ICAR-AINRPOG in different climatic zones and found superior in performance over check. Recommended for commercial cultivation during *rabi* season the variety was notified by the Government of India, wide notification No. S.O. 4272(E) dated 26 November, 2019.

Production technology

The plant has dark green, broad and erect leaves, plant height 90 to 95 cm and number of leaves 8 to 10 per plant.

Bulbs of this variety are compact, globular in shape and purplish or purple white in colour. They are large in size with 4.8-5.5 cm diameter. Cloves are bold with 1.0-1.4 cm equatorial diameter and 2.5-3.5 cm polar diameter. The number of cloves is 24-28 per bulb. Total soluble solids and dry matter content in bulb are 40-41°B and 41-42%, respectively. Bulbs contain 34.61 micro mol/g pyruvic acid. The other nutritional



Yamuna Purple-10 growing in field



Yamuna Purple-10 bulb



Yamuna Purple-10 clove

constituents are 0.21 mg Copper, 0.61 mg Iron, 0.27 mg Manganese, 0.90 mg Zinc, 0.30 mg Sulphur, 27.84 mg Calcium, 12.72 mg Magnesium, 369.90 mg Potash, 9.90 mg Sodium, 1.68 mg Nitrogen and 150.30 mg Phosphorus per 100 g. Twenty bulbs of the variety weigh 650 g to 750 g. It is recommended for planting by 15-30 October. The variety becomes ready for harvesting in about 165-175 days after planting. Average bulb yield is approximately 18-20 t/ha and keeping quality is good. It is suitable for table and processing purposes. It is highly tolerant to major diseases of garlic like purple blotch, *Stemphylium* blight and other environmental stresses.

A spacing of 15×10 cm is recommended for obtaining optimum yield of good quality bulbs. Well rotten FYM may be applied @ 20 tonnes/ha or 5 tonnes/ha vermicompost at the time of field preparation and mixed well in the soil. In addition, 120 kg N, 50-80 kg P₂O₅, 50-60 kg K₂O/ha and 30 kg/ha Sulphur need to be applied through chemical fertilizers. The foliar applications at the rate of 1% of 19N:19P:19K at 30, 45 and 60 days after planting and 13N:46P at 75, 90 and 105 days after planting improves the yield and quality of the garlic bulbs. Use of Zinc, Boron and Sulphur also helps to improve yield as

well as quality. Garlic being a shallow rooted crop (5-8 cm), the use of drip and sprinkler irrigation on raised bed is very much successful for increasing yield and quality of bulbs. Application of weedicide viz. Oxyfluorfen @ 0.25 kg a.i. per hectare + 1 hand weeding at 45 days after planting has been recommended to control the broad leafy weeds. The crop gets matured for harvesting when top of plants turns yellowish or brownish and 50% neck fall occurs. Drying and curing is most important post-harvest activity to improve the shelf life of bulbs during storage.

SUMMARY

NHRDF Purple-10 is a new addition to the list of promising garlic varieties. It is purple in colour with medium maturity and high yielding (180-200 q/ha) variety.

For further interaction, please write to

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