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Evaluation of ash gourd genotypes grown as an intercrop in coconut garden under Bastar (Chhattisgarh) condition

■ KAMAL NARAYAN, L.S. VERMA¹, S. AGRAWAL¹, M.S. PAIKRA¹ AND SONALI KAR¹

Associated Authors:

¹S.G. College and Agriculture and Research Station, Kumhrawand, Jagdalpur, BASTAR (C.G.) INDIA

Author for correspondence :

KAMAL NARAYAN
Department of Horticulture, S.G. College of Agriculture and Research Station, Kumhrawand, Jagdalpur, BASTAR (C.G.) INDIA
Email : kamalnarayan37@ gmail.com

Abstract : Ash gourd (*Benincasa hispida*) is a popular cucurbitaceous vegetable grown round the year. It is being cultivated since ancient time and India seems secondary center of diversity and endowed with rich variability specially in fruit characters. An investigation was carried out during the year 2009-10, to study the variability of ash gourd under Bastar plateau agro-climatic zone of Chhattisgarh. The survey work for collection of variability is done in different places of Bastar division. This paper documents the available diversity in the ash gourd collected from the tribal areas of Bastar (Chhattisgarh). Wide range of variability was recorded in the quantitative traits for fruit, yield and seed characters viz., days to germination, days to 1st male flower anthesis, days to 1st female flower anthesis, node no. of 1st male flower, node no. of 1st female flower, days to 1st fruit harvest, no. of branches per vine, vine length, fruit length, fruit girth, individual edible fruit weight, no. of fruits per vine, fruit yield per vine, no. of seeds per fruit and 100-seed mass. An increase in nut yield/palm/year of 8.17 (12.91%) was observed from intercropped block as compared to 5.58 (8.42%) from monocrop.

Key words : Ash gourd, Genetic diversity, Intercrop, Coconut

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Indian subcontinent had rich diversity of cucurbits and is believed to be the primary and secondary center of origin of several gourds and melons (Chaudhary, 1996). Ash gourd (*Benincasa hispida*; Syn. White gourd, Wax gourd White pumpkin) is an important vegetable mainly valued for its long storage life and having a good scope for value addition. The fruit are consumed as baked, fried, boiled, pickled or candied/preserved. World famous confectionary known as 'Petha' is prepared using ripe flesh in sugar syrup. Fruit contains 0.4 per cent protein, 1.9 per cent carbohydrate, 0.3 per cent minerals and traces of vitamin A, B and D per 100 g of edible portion (Aykroyd, 1963). Ash gourd is considered good for people suffering from nervousness and debility (Nadkarni, 1927). Indo-china region being a center of diversity is endowed with great variability in terms of morphological characters especially growth habit, maturity included shape, size and fruit thickness of fruits (Rubatzky and Yamaguchi, 1997). In the recent past, economy of coconut farmer had

weakened due to fluctuation in the price of coconut, copra and coconut oil. Adoption of coconut based multiple cropping system emerges as a viable way for improving the economic status of coconut farmers. Growing of elephant foot yam is a profitable proposition without affecting the performance of coconut. Hence an attempt has been made to compile the diversity status of the ash gourd germplasm from this region. This paper deals with the variability in fruit characters of the ash gourd germplasm grown as intercrop in coconut garden, collected from the Bastar region of Chhattisgarh.

RESEARCH METHODS

The experimental materials included ten diverse entries (SGAG-1, SGAG-2, SGAG-3, SGAG-4, SGAG-5, SGAG-6, SGAG-7, SGAG-8, SGAG-9 and SGAG-10) were sown in randomized block design with three replications during the summer of 2011 at AICRP on Palms field S.G. College of Agriculture and Research Station