Online www.hortflorajournal.com ICV: 27.39; GIF: 0.364

HortFlora Research Spectrum, 2(2): 182-183 (April-June 2013) ISSN : 2250-2823

STANDARDIZATION OF PACKAGE OF PRACTICES FOR ZAMIKAND (*Amorphophallus campanulatus* Blume.) CULTIVATION

Sanjive Kumar Singh[1]*, Naushad Khan[2] and S.D. Dutta[1]

[1]*Department of Vegetable Science;* [1]*Department of Agronomy*

Chandra Shekhar Azad University of Agriculture and Technology, Kalyanpur, Kanpur (U.P.)-208024

**E-mail: sanjive.csau@gmail.com.*

ABSTRACT: Field experiment was conducted at Department of Vegetable Science, Chandra Shekhar Azad University of Agriculture and Technology Kalyanpur, Kanpur on zamikand variety Azad Suran-1 with the objective to work out the optimum spacing between plant to plant and row to row and suitable seed size for general cultivation. The experiment with five different seed sizes and four spacings was conducted. Results revealed that 75 X 75 cm spacing with 0.750 kg weight of corm was relatively economical over 1.000 kg seed weight at the same spacing.

Keywords : *Amorphophallus, yam, corm size, spacing.*

Zamikand or elephant foot yam is basically an underground modified stem. Zamikand originated in India, grown for its corms, which can be stored for long periods. Its cultivation is however restricted to India, Philippines, Indonesia, Sri Lanka and South East Asia. It has both nutritional and medicinal value and usually consumed as cooked vegetable (Kundu *et al.,* 1). It is stomachic and tonic, used in piles and given as a restorative in dyspepsia and general debility etc. Its root is used in boils and opthalmia. It has high dry matter production capability per unit area than most of the other vegetables.

A field trial was conducted during *Kharif* 2003-04 on zamikand variety Azad Suran-1, at Department of Vegetable Science, Chandra Shekhar Azad University of Agriculture and Technology Kalyanpur, Kanpur with the objective to determine the optimum spacing and seed size. Seed corms were planted in a randomized block design with three replications. The planting was done with four level of spacing *i.e.* 25 25 (S_1), 50 50 cm (S_2), 75 75 cm (S_3), 100 100 cm (S_4) apart and five seed weight viz; 0.125 (W_1), 0.250 (W_2), 0.500 (W_3), 0.750 (W_4), 1.00 kg (W_5). Farm yard manure @ 25 t ha^{-1}, N @ 80 kg ha^{-1} in the form of urea, P_2O_5 @ 60 kg ha^{-1} in the form of single super phosphate and K_2O @ 80 kg ha^{-1} in the form of murate of potash were applied. Half of nitrogen and full phosphate and potash were applied as basal dose and the remaining half of nitrogen was given in two split doses at 60 and 90 days after planting to the standing crop as top dressing. The observations on five randomly selected plants were recorded on corm yield. The data were subjected to statistical analysis.

The growth pattern of yams may vary due to cultivars, cultural practices, soil fertility and soil moisture (rainfall). Njoku *et al*. (2), Onwueme (3) and Sobulo (4) considered that the growth cycle of yam plant can be divided into three distinct phases. The first phase involves sprouting, extensive root development and vine elongation. The corm yield of zamikand was progressively influenced with the increasing levels of spacing. Use of 0.750 kg seed corm with 75 75 cm spacing had given maximum yield 347.10 q/h, while 1.00 kg seed corm with 100 100 cm spacing resulted in 324.97 q/h yield and also profitable as compared to other seed corm (Table 1 and 2).

With the economic point of view use of 0.750 kg seed corm with 75 75 cm spacing was found optimum for better return as compared to other treatment combination in relation to seed size and spacing in zamikand. Thus, it is suggested that 0.750 kg weight of corm with 75 75 cm spacing may be recommended for general cultivation of zamikand for better return with B:C ratio as 2.85.

Received : 15.3.2013 *Accepted : 18.4.2013*

Table 1: Interaction effect of seed size and spacing in Zamikand.

Treatment	W_1	W_2	W_3	W_4	W_5	Yield (q/ha)
S_1	20.72	21.37	24.36	27.56	27.41	269.64
S_2	21.19	22.17	25.13	28.18	27.99	276.97
S_3	21.48	22.84	26.14	31.24	30.99	294.97
S_4	20.89	21.30	25.89	30.76	29.25	284.64
	233.98	243.64	281.97	326.30	321.97	

Table 2: Yield parameters of zimikand at a glance.

Parameters		CD (P = 0.05)	CV%
Yield (q/ha)	S	20.00*	7.49
	W	23.06**	
	S x W	NS	
Plant height (cm)	S	0.43**	1.97
	W	0.38**	
	S x W	0.75**	
Stem diameter (cm)	S	0.08**	9.15
	W	0.093**	
	S x W	0.16*	
Leaf length (cm)	S	0.22**	2.97
	W	0.25**	
	S x W	NS	
Leaf width (cm)	S	0.056**	0.70
	W	0.063**	
	S x W	0.126**	

REFERENCES

1. Kundu, B.C., Ahmad, M.S., Hassan, M.K., Hossain, M.A. and Islam, M.S.(1998). Effect of NPK fertilizers on the performance of Olkachu (*Amorphophallus companulatus* Blume.). *J. Root Crops,* **24**(1):31-36.
2. Njoku, E., Oyolu, C., Okonkwo, S.N.C. and Nwoke, F.I.O. (1973). The pattern of growth and development in *Dioscorea rotundata* Poir. In: Proc. 3rd *Int. Symp. Trop. Root Crops,* Ibadan, Nigeria, pp.347-358.
3. Onwuene, I.C.(1978). *The Tropical Tuber Crops:* Yams, Cassava, Sweetpotato, Cocoyams, *Sci. Plant Nutr.,* **13:**143-150.
4. Sobulo, R.A. (1972). Studies on white yam (*Dioscorea rotundata*) 1. Growth analysis. *Exp. Agric.*, **8**:99-106.