

PERFORMANCE OF BROAD LE MUSTARD (*Brassica juncea* var. *ruqusa*. Roxb. Tsen and Lee) AT DIFFERENT SPACING

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ABSTRACT

Field experiment were conducted during the *rabi* seasons of 1996-97 and 1997-98 at Horticultural Farm, Central Agricultural University, Imphal with three varieties of broad leaf mustard and seven spacings. Among the varieties, Haggam Angoubi (V_2) showed superiority in growth characters and yields. Wider spacing (66.6x66.6cm) resulted maximum number of leaves, fresh weighr of leaves and fresh weight of aerial stem per plant. The highest vegetable yield (431.98q/ha) was recorded with the closest spacing of 25x25cm.

INTRODUCTION

Broad leaf mustard (*Brassica juncea* var. *ruqusa*) is one of the most popular and widely cultivated *rabi* leafy vegetable crop of hills and plains of Manipur. The selection of suitable cultivar and optimum plant density is necessary to increase the prodectivity of the crop. Therefore, the present experiment was conducted to select the most appropriate variety and optimum plant population.

MATERIALS AND METHODS

The field experiment was conducted during the *rabi* season of 1996-97 and 1997-98 at the horticultural farm, College of Agriculture, Central Agricultural University, Imphal. The soil was clay in texture having pH of 5.3 with moderate to rich in N, P and K content in the soil. The experiment was laid out in factorial randomised block design replicated three times consisting of 3 varieties (Haggam Amubi (V_1) Haggam Anganbi (V_2) and Haggam Anganbi (V_3) and seven spacing, [66.6x66.6 cm (S_1), 50x50 cm (S_2), 50x40cm (S_3), 40x40cm (S_4), 50x25cm (S_5), 40x25cm (S_6) and 25x25cm (S_7)]. Single seedling of about 26 days olds were trasplanted in each experiment on 19th November. 1996 and 1997. Biometric observations were recorded at 50 DAT and vegetable yield determined at harvest.

RESULT AND DISCUSSION

Significant effect were recorded among the varieties and different spacings on the growth and yield of the plant (Table 1). Among the varieties, *Hangam Angoubi* (V_2) recorded consistantly higher plant height, number of leaves per palnt and fresh

weight of leaves per plant except for the fresh weight of aerial stem where *Hangam Angoubi* (V_2) showed the maximum in both the years of study. The widest spacing (S_1) recorded the maximum of these biometric characters with an exception in plant height. The better growth with respect to individual plant in wider spacing might be due to more favourable environment and less competition among plants as they are widely spread.

Significantly highest leaf yield (403.80 q/ha) was recorded with the variety *Hangam Angoubi* (V_2) in comparison to the other two varieties. The higher yield of the variety *Hangam Angoubi* (V_2) might have resulted from higher genetical potential resulting in better growth performance as indicated with the maximum plant population (S_7) and decrease in plant population and the minimum yield was recorded with S_1 . The highest yield with closer spacing (S_7) could be attributed to more plant population per unit area. On the other hand, though better growth performance of individual plant recorded with wider spacing, the increase could not compensate the reduction in plant population resulting in lower yield. Similar result of maximum yield with closer spacing have also been reported by Yang *et al.* (1995) in leaf mustard.

REFERENCE

- Yang, S.G, Kim, J.K., Bae, H. S. and Ahn, C.S. (1995). Studies on year round production of leaf mustard. *RDA J. Agric Sci.* **37** : 407-411.

Table 1. Effect of spacing and varieties on growth and yield of brod leaf mustard.

Treatment	Plant height(cm)		No. of leaves per plant		Fresh weight of leaves g/plant		Fresh weight of (g/plant)		Yield (pooled mean) q/ha
	1996-97	1997-98	1996-97	1997-98	1996-97	1997-98	1996-97	1997-98	
Variety									
V ₁	49.72	39.52	9.07	8.97	435.39	384.10	57.54	55.92	32.66
V ₂	52.25	48.29	9.90	9.42	452.98	445.87	69.24	68.52	403.80
V ₃	40.04	42.98	8.90	8.64	441.53	385.63	94.83	81.54	244.71
C.D. 5%	3.08	2.67	0.62	0.56	14.03	17.08	4.73	1.31	9.13
Spacing									
S ₁	41.36	36.41	10.46	10.71	634.59	581.24	91.92	77.10	251.25
S ₂	42.30	40.78	11.23	10.38	597.83	543.63	84.98	76.81	274.89
S ₃	45.48	42.69	9.81	9.14	491.72	459.54	82.35	72.21	295.75
S ₄	47.75	43.89	9.35	8.73	420.68	390.70	75.07	69.38	327.69
S ₅	48.87	44.64	8.76	8.62	368.51	334.03	63.51	64.44	347.57
S ₆	50.60	48.36	8.25	7.96	325.45	289.40	62.06	62.92	360.27
S ₇	55.00	48.38	7.18	7.53	264.30	237.84	57.34	57.52	431.98
C.D. 5%	3.08	4.13	0.95	0.85	21.44	27.01	7.23	2.00	13.94