



Effect of sowing time and varieties on seed yield of okra

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Abstract : An experiment was carried out during the *Kharif* and summer seasons of 2001-02, 2002-03 and 2003-04 to study the effect of sowing time and varieties on seed yield of okra [*Abelmoschus esculentus* (L.) Moench] at Vegetable Research Station, Junagadh Agricultural University, Junagadh. The treatments comprised of three sowing dates (15th June, 15th July and Mid Feb.) and four okra varieties (Arka Anamica, GO-2, Parbhani Kranti and Varsha Uphar). The pooled results revealed that there was significant difference among sowing time and varieties for seed yield. The seed yield decreased with delay sowing in *Kharif* season. The highest seed yield of 12.59 q ha⁻¹ was recorded with the sowing date of 15th June. Among different varieties, the variety Varsha Uphar was found superior and produced seed yield of 9.48 q ha⁻¹.

Key Words : Okra crop, Sowing dates, Varieties, Seed yield

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INTRODUCTION

Okra [*Abelmoschus esculentus* (L.) Moench] is an important vegetable crop grown throughout India in *Kharif* as well summer season for its different types of use, nutritive value and increasing export potential. India is the largest producers of okra in the World, occupying 0.36 m ha with 3.50 m t production with average productivity of 9.72 t ha⁻¹ as against World's production of 4.90 m t from 0.79 m ha with a productivity of 6.2 t ha⁻¹ during 2002 (Shanmug, 2004). The availability of good quality seed is a major constraint for the farmers. Among various agronomical factors, the sowing time as well as the variety affect the seed production of okra. The information regarding sowing time and variety for harvesting maximum okra seed yield is meagre for Saurashtra region of Gujarat. Hence, the present experiment was carried out.

MATERIALS AND METHODS

A field experiment was conducted during the *Kharif* and summer seasons of the year 2001-02, 2002-03 and 2003-04 to study the effect of sowing time and varieties on seed yield of okra at Vegetable Research Station, Junagadh Agricultural

University, Junagadh. The twelve treatment combinations were tested in split plot design and replicated four times. The treatments comprised of three sowing dates (D₁=15th June, D₂=15th July and D₃ = Mid February) which were allotted in main plots and four varieties (V₁=Arka Anamica, V₂=GO-2, V₃ = Parbhani Kranti and V₄= Varsha Uphar) which were allotted in sub plots. Seeds were sown at 60 cm x 30 cm spacing in each experimental year. The common full dose of phosphorus(50 kg), potash(50 kg) and half dose of nitrogen(50 kg) was applied as basal dose, while remaining half dose of nitrogen(50 kg) was applied as top dressing at flowering stage in each experimental year. The sources of nitrogen, phosphorus and potash were urea, diammonium phosphate and murate of potash, respectively. All the cultural operations were followed to raise a good crop of okra. The data were recorded for seed yield on net plot basis and then converted on hectare basis and subjected to statistical analysis.

RESULTS AND DISCUSSION

The data on seed yield as influenced due to sowing times and varieties are presented in Table 1.

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Table 1 : Effect of sowing time and varieties on seed yield of okra

Treatments	Seed yield (q ha ⁻¹)			
	2001-02	2002-03	2003-04	Pooled
Main plot: date of sowing				
D ₁ =15 th June	11.85	12.22	13.70	12.59
D ₂ =15 th July	4.89	4.44	6.89	5.41
D ₃ =Mid February	3.26	4.52	11.11	6.30
C.D.(P =0.05)	0.62	1.44	4.07	4.07
CV %	10.82	23.56	44.84	36.17
Sub Plot: Varieties				
V ₁ =Arka Anamica	6.44	7.19	10.22	7.95
V ₂ =GO-2	5.93	4.89	10.37	7.04
V ₃ =Parbhani Kranti	6.52	7.26	10.00	7.93
V ₄ =Varsha Uphar	7.85	8.89	11.63	9.48
C.D. (P =0.05)	0.77	0.88	NS	1.14
CV %	13.75	14.98	37.63	30.06
Interactions				
D x V: CD(P =0.05)	NS	1.53	5.78	NS
Y x D: CD(P =0.05)	-	-	-	2.18
Y x V: CD(P =0.05)	-	-	-	NS
YxDx V:CD(P =0.05)	-	-	-	3.43

NS=Non-significant

Effect of sowing dates :

Sowing dates markedly influenced the seed yield of okra. The seed yield decreased with delay sowing in *Kharif* season. The highest seed yield of 11.85, 12.22, 13.70 and 12.59 q ha⁻¹ were recorded with the sowing date of 15th June during 2001-02, 2002-03, 2003-04 and in pooled, respectively. Where as, the lowest seed yield of 5.41 q ha⁻¹ was recorded with the sowing date of 15th July. Higher seed yield in 15th June might be due to prevailing favourable climatic conditions in early sowing in monsoon season. Alegbejo (2001) and Yadav and Dhankhar (2002) found that early sowing produced the maximum yield of okra. These findings are also in agreement with those of Ijoyah *et al.* (2010) and Tomar (2011).

Effect of varieties :

The results indicated superiority of variety Varsha Uphar as it produced significantly the highest seed yield of 7.85, 8.89, 11.63 and 9.48 q ha⁻¹ during the year 2001-02, 2002-03, 2003-04 and in pooled, respectively. The lowest seed of 7.04 q ha⁻¹ was produced by the variety GO-2 in pooled. The observed varietal variation in seed yield might be due to genetic variation.

Khan *et al.* (2000) and Hussain *et al.* (2006) observed significant variation in yield among different varieties of okra during experimentation.

The pooled result revealed that interactions *viz.*, DxV and YxV were found non significant in seed yield, where as the interactions YxD and YxDxV were found significant in seed yield.

It can be concluded that sowing date of 15th June and the variety Varsha Uphar are found superior for obtaining maximum seed yield of okra under South Saurashtra conditions of Gujarat.

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