

Effect of sowing date on yield of cotton (*Gossypium* species)

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Recently the farmers of western Uttar Pradesh are inclined to switch over to summer cotton (*Gossypium* sp.), which might escape adverse effects of rainy season. Keeping this in view, an experiment was conducted to study the effect of different dates of sowing in spring as well as rainy season on newly developed varieties of cotton to identify high-yielding genotypes.

The present study was conducted during 1989 and 1990 at Charyar, with 9 newly developed genotypes of *Gossypium arboreum* L. ('BD 1', 'BD 3', 'BD 4', 'BD 5', 'BD 6', 'RG 10' and 'SD 5') and *G. hirsutum* L. ('Pusa 13' and 'Pusa 32') along with 2 cultivated varieties of *G. hirsutum* ('Vikas' and 'LH 900'). All the 11 genotypes were grown in randomized block design with 3 replications on 9 different dates (20 February, 5 March, 20 March, 5 April, 20 April, 5 May, 20 May, 5 June and 20 June). Each plot had 6 rows of 4 m length with 60 cm row-to-row spacing and 30 cm plant-to-plant spacing. Uniform doses of 30 kg N/ha and 40 kg P₂O₅/ha as basal and 30 kg N/ha as top-dressing at flowering were applied. The soil of the experimental field was sandy loam with pH 7.7, organic carbon 0.61%, available P 22.8 kg/ha and exchangeable K 216 kg/ha. The seed-cotton yield per plot were recorded separately and averaged over 2 years.

There was a significant interaction be-

tween sowing dates and varieties for seed-cotton yield. Pooled data revealed that maximum yield was recorded in 'BD 1' sown on 20 February (1,431 kg/ha), 5 March (2,199 kg/ha) and 20 March (1,667 kg/ha); in 'BD 3' sown on 5 April (1,426 kg/ha), in 'BD 4' sown on 20 April (1,315 kg/ha); in 'BD 6' sown on 5 May (1,333 kg/ha) and 20 May (986 kg/ha); and in 'RG 10' sown on 5 June (1,028 kg/ha) and 20 June (843 kg/ha). Late sowing significantly reduced the yield of all the varieties, as also reported by Jain *et al.* (1992). However, in the varieties of *G. hirsutum* minimum losses in yields were recorded with successive delay in sowing compared with losses in other varieties of *G. arboreum* cotton with few exceptions, where intensity of loss was the lowest in 'BD 6'. The good performance of these varieties of *G. hirsutum* under delayed sowing may be attributed to its better adaptability to environmental conditions; however, their yield levels were quite low due to higher incidence of jassid and pink bollworm. The yield of 'BD 1' was at par when sown on 5 April and 20 April and 20 April and 5 May and 5 June and 20 June, but significantly decreased in successive sowings.

REFERENCE

- Jain, M. P., Dixit, J. P., Pillai, P. V. and Khan, R. A. 1992. Effect of sowing dates on wheat (*Triticum aestivum*) varieties under late-sown irrigated condition. *Indian Journal of Agricultural Sciences* 62 (10) : 669–71.

Sowing date	Yield (kg/ha)											
	'BD 1'	'BD 3'	'BD 4'	'BD 5'	'BD 6'	'SD 5'	'RG 10'	'Pusa 13'	'Pusa 32'	'LH 900'	'Vikas'	Mean
20 February	1,431	1,338	1,134	1,231	884	981	731	1,213	1,389	1,199	1,185	1,156
5 March	2,199	1,981	1,759	1,893	1,329	1,718	1,889	866	1,000	1,111	1,143	1,535
20 March	1,667	1,407	1,324	1,384	1,430	1,204	1,472	1,171	1,213	1,199	1,134	1,328
5 April	1,389	1,426	1,403	1,398	1,268	1,079	1,301	1,116	1,148	1,403	1,088	1,274
20 April	1,282	1,199	1,315	1,264	1,306	1,264	1,296	1,111	1,111	1,139	903	1,199
5 May	1,157	1,120	1,093	1,282	1,333	1,042	1,120	1,037	968	1,037	940	1,103
20 May	875	801	903	819	986	718	852	556	431	912	537	763
5 June	653	963	764	963	875	898	1,028	514	532	838	458	771
20 June	593	620	653	560	671	620	843	431	393	389	491	569
Mean	1,249	1,206	1,149	1,199	1,120	1,058	1,170	890	909	1,025	875	
	<i>SE ±</i>						<i>CD (P = 0.05)</i>					
Date of sowing	130.7						301.4					
Varieties	100.1						223.1					
Varieties within date of sowing	82.4						190.0					
Date of sowing within varieties	69.2						159.6					