

TRENDS AND VARIABILITY IN AREA, PRODUCTION AND PRODUCTIVITY OF GUAR IN INDIA

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Clusterbean or 'guar' is grown as a vegetable, feed, fodder and green manure crop in arid and semi-arid tracts of north-western plains of India. It is the source of industrial gum and guar meal for animals and has considerable scope as a source of protein for the humans also. The guar gum is known to have medicinal value in the treatment of diabetes and high cholesterol cases. This paper endeavours to analyse the trends and variability in area, production and productivity of seed crop of guar in India over the period from 1965-66 to 1985-86.

Guar is mainly grown in Rajasthan and Haryana, which account for 81.39 per cent and 12.29 per cent of the total area and 55.33 and 26.71 per cent of total production of guar (for seed purposes only) in the country, respectively. Hence, the study was restricted to these two States and the country as a whole.

The analysis is based on the data for 21 years (1965-66 to 1985-86). Compound growth rates of area, production and productivity were estimated for the States of Rajasthan and Haryana, and for India as a whole for the above periods. Index numbers of area, production and productivity were calculated by taking the average of first triennium i. e. 1965-66 to 1967-68 as base. Exponential equation was fitted for estimating compound growth rates and coefficient of variation was also calculated.

Area, Production and Productivity Trends

The compound growth rates of area, production and productivity for guar are given in Table 1.

It can be seen from the table that country had experienced highly significant compound growth rate of 4.58 per cent annum for guar acreage. Further, it reveals that Haryana, accounting for only 12.29 per cent in all India acreage, has registered highest growth rate of 10.73 per cent annum in area. This may be due to the fact that more area has been brought under guar cultivation during the study period. Rajasthan State, having major share in country's guar area, has shown only 4.94 per cent of

* Agricultural Situation in India, Directorate of Economics and Statistics, Department of Agriculture & Cooperation, Ministry of Agriculture, Govt. of India, New Delhi.

Table 1. Per cent compound growth rates of area, production and productivity of guar seed (1965-66 to 1985-86) in India

States	% of All India		(Triennium 1983-84 to 1985-86)		Growth rate	
	Area	Production	Area	Production	Production	Productivity
Rajasthan	81.39	55.33	4.94* (4.88)	3.13 (1.32)	-1.72 (-1.00)	
Haryana	12.29	26.71	10.73* (13.96)	9.72** (8.21)	-0.77 (-1.31)	
Others	6.32	17.96	—	—	—	
All India	100.00	100.00	4.58** (5.28)	2.95 (2.01)	-1.55 (1.62)	

*Significant at 5% probability level, **Significant at 1% probability level
 Figures in parentheses are t-values of respective growth rates

significant growth rate per annum, which was only slightly higher than the growth rate for All India.

The highest levels of guar acreage were 2405.1 (1976-77), 327.2 (1983-84) and 2811.7 (1976-77) thousand hectares in case of Rajasthan, Haryana and the country as a whole, respectively. The lowest levels of guar acreage reached at 755.2 (1967-68), 37.7 (1966-67) and 990.0 (1968-69) thousand hectares for Rajasthan, Haryana and country as a whole, respectively.

Area under guar, in States and the country as a whole, has been on an increase. Haryana has had an impressive and steady expansion of area under guar except for short spells of depressions in contrast to somewhat longer and more frequent spells of depressions in Rajasthan and the entire country.

In the growth rate of production Haryana State registered the highest and highly significant growth rate of 9.72 per cent per annum (Table 1). The production of guar seed in this State was at its lowest (Table 2) during 1966-67 and at the highest during 1983-84. Rajasthan recorded growth rate of 3.13 per cent per annum which was little higher than All India growth rate of 2.95 per cent per annum. In Rajasthan, as well as country as a whole, the production of guar seed reached at its highest level during 1976-77 and the lowest during 1972-73 and 1968-69, respectively.

Table 2. Coefficient of variation and state-wise highest and lowest levels of area, production and productivity of guar seed during 1965-66 to 1985-86 in India.

	Rajasthan	Haryana	All India
Area ('000 ha)			
Highest	2405.1	327.2	2811.7
Lowest	755.2	37.7	990.0
Variability (%)	36.82	55.53	33.21
Production ('000 tons)			
Highest	854.7	208.5	1110.0
Lowest	94.8	27.9	258.7
Variability (%)	64.54	50.68	42.50
Productivity (kg/ha)			
Highest	392.21	985.69	518.24
Lowest	78.67	508.01	177.24
Variability (%)	45.81	17.28	28.17

By any considerations, there was no positive annual compound growth rate in productivity.

Variability in Area, Production and Productivity

With a view to determine the degree of variability over time in area, production and productivity of guar during the study period, an attempt was made to measure it through coefficient of variation for each State and for the country as a whole (Table 2). The variation in area under guar was highest in the State of Haryana. The variability in the production of guar was highest in Rajasthan.

The data indicate that area and production of guar, in each State and at all India level, are increasing over the years with moderate annual fluctuations. Variation in guar seed production were mainly due to variations in area, and appropriate regulation of prices, management practices and risk factors could be conducive for stabilizing the area allocations under this crop.