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An economic analysis of gladiolus cultivation in Jammu district of J&K state

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Abstract

Gladiolus flower is assuming great importance in the state of Jammu and Kashmir like in other states of the country. Keeping this in view, a study has been conducted to analyse the economics of gladiolus cultivation for the years 2011-12 and 2012-2013 in Jammu district of J&K state. Primary data on costs and returns of the crop were collected by interviewing the farmers through personal visits with the help of an especially structured and pre-tested schedule. The per acre cost of cultivation (C_2) of gladiolus were estimated to be ₹ 210140.00 in the first year and ₹ 70140.00 in second year on sampled farms. The 'Cost A_1' constituted the whole direct cost were ₹ 159116.80 and ₹ 19116.80/acre, 'Cost A_2' were ₹ 170316.80 and ₹ 30316.80 per acre, 'Cost B_1' were ₹ 164815 and ₹ 24815.00 per acre, 'Cost B_2' were ₹ 208580.00 and ₹ 68580.00 per acre and 'Cost C_1' was ₹ 166375.00 and ₹ 26375.00 per acre for first year and second year respectively on sampled farms. The gross return was ₹ 300000.00 per acre in both years on sampled farms. The net return was highest in case of second year i.e. ₹ 229860.00 per acre compared to the net return in first year i.e. ₹ 89860.00/acre. The Cost-Benefit ratio was highest in case of second year (4.28) compared to that of first year (1.43).

Keywords: Cost concept, Gross return, Gladiolus, Cost-Benefit ratio.

Floriculture sector can act as an important sector for developing countries due to the economies of scale and also can lead to enhanced farm incomes of poor farmers (Labaste, 2005). The world's annual consumption of cut flowers is worth US $ 13,000 million. Germany is the largest importer whereas Netherlands is the largest exporter of cut flowers in the world (Prasad and Kumar, 2008). The global share of India in floriculture market is just 0.75%. Flowers including cut flowers in India are used in temples and homes for worships and for decorations in different events like marriages, festivals etc. Gladiolus is one such delicate cut flower whose ethylene inhibitors have no effect on petal aging processes (Arora *et al.*, 2006). Gladiolus flower is assuming great importance in the state of Jammu and Kashmir like in other states of the country. The farmers in Jammu district, especially in periphery of Jammu city have a great opportunity to diversify their agriculture towards flowers to earn more from their agricultural enterprise. Gladiolus as a cut flower with long shelf life provides a good alternative to the farmers to shift from traditional crops to high value crop. Its cultivation in Jammu has become an important enterprise looking at the increasing demand and consumption of flowers in the region. Now every year 25 -50 farmers take up its cultivation in Jammu region. The number of spikes produced in Jammu division has increased from 40,000 in the year 1999 to 3, 00,000 spikes in the year 2007. Despite of this, Jammu imports 85% of gladiolus spikes and other cut flowers from rest of the country (worldflorist.wordpress.com, 2013).

Materials and Methods

The present study has been carried out on the basis of primary data collected from the study area. Marh block of Jammu district has been chosen

purposively, as it covers a majority of the area under Gladiolus cultivation in the district. Five villages (with 10 farms each) were selected randomly form the block. The necessary data from selected farmers were collected through a pre-tested schedule by personal interview method. Different cost concepts were estimated and tabular analysis was done to obtain the results and draw conclusions regarding the present study. Ahmad *et al.* (2008) analysed the demographic characteristics of gladiolus growers in Punjab, Pakistan. However, the demographics like education, age etc. in selected study area were not found to have any significant impact on gladiolus cultivation. The reference years of the study were 2011-12 and 2012-13. A summary of Cost concepts used in the present study is as follows:

$CostA_1$ = Expenditure on casual labour, bullock labour, farm machinery, seeds, fertiliser and manure, plant protection chemicals, irrigation, miscellaneous expenditure (cost of transportation, baskets and ropes) and interest on working capital + depreciation + land revenue.

$CostA_2 = CostA_1$ + rent paid for leased-in land.

$CostB_1 = CostA_1$ + interest on value of owned fixed capital excluding land.

$CostB_2 = CostB_1$ + rental value on owned land + rent paid for leased-in land.

$CostC_1 = CostB_1$ + imputed value of family labour.

$CostC_2 = costB_2$ + imputed value of family labour.

Results and Discussion

The item wise break-up of cost of cultivation presented in Table 1 shows that the per acre cost of cultivation of gladiolus was ₹ 210140.00 in first year and ₹ 70140.00 in second year. Total variable cost constituted was ₹ 156956.80 and ₹ 16956.80 for first year and second year respectively. Expenditure

Table 1. Item-wise break-up of cost of cultivation of Gladiolus on sampled farms

(₹/acre.)

Items		Ist Year	2nd Year
Human labour	Casual	1980.00	1980.00
	Family	1560.00	1560.00
	Total human labour	3540.00	3540.00
Machine labour		1200.00	1200.00
Corm		125000.00	------
Manures and fertilizers		3200.00	3200.00
Plant protection chemicals		2000.00	2000.00
Irrigation charges		1400.00	1400.00
Harvesting and Post harvest handling		2800.00	2800.00
Miscellaneous Expenditure*		1000.00	1000.00
Interest on working capital		16816.80	1816.80
Total variable cost		156956.80	16956.80
Rental value of land	Rental value of owned land	32565.00	32565.00
	Rent paid for leased-in land	11200.00	11200.00
	Total rental value of land	43765.00	43765.00
Depreciation on implements and farm buildings		3600.00	3600.00
Land revenue		120.00	120.00
Interest on fixed capital (excluding land)		5698.20	5698.20
Total fixed cost		53183.20	53183.20
Total cost (V.C. + F.C.)		210140.00	70140.00

*Miscellaneous expenditure included …….

on human labour, machine labour, manure and fertilizer, irrigation, seed/corm, plant protection chemicals and harvesting and post harvesting handling was the important component of total variable cost. The expenditure incurred on the corm (planting material) was the highest workout to be ₹ 125000.00 in case of first year. human labour was the second highest expenditure incurred after corm and the number of human labour (casual and family labour) used for performing the operation like transplanting, weeding and harvesting worked out to be ₹ 3540.00 per acre on sampled farm. Rental value of land, depreciation charges and interest on fixed capital were the major components of fixed cost which together accounted for ₹ 53183.20 per acre for sampled farms.

Table 2. Per acre cost of cultivation (cost concept-wise) of gladiolus on sampled farms

(₹/acre.)

Particulars		Ist Year	2nd Year
Cost -A_1	Casual Labour	1980.00	1980.00
	Farm Machinery	1200.00	1200.00
	Corm	125000.00	------
	Manure and Fertilizer	3200.00	3200.00
	Plant protection chemicals	2000.00	2000.00
	Irrigation charges	1400.00	1400.00
	Harvesting and post harvest handling	2800.00	2800.00
	Miscellaneous expenditure	1000.00	1000.00
	Interest on working capital	16816.80	1816.80
	Depreciation charges	3600.00	3600.00
	Land revenue	120.00	120.00
	Total Cost- A_1	159116.80	19116.80
Cost -A_2	Cost -A_1	159116.80	19116.80
	Rent paid for leased-in land	11200.00	11200.00
	Total Cost- A_2	170316.80	30316.80
Cost -B_1	Cost -A_1	159116.80	19116.80
	Interest on fixed capital (excluding land)	5698.20	5698.20
	Total Cost- B_1	164815.00	24815.00
Cost -B_2	Cost -B_1	164815.00	24815.00
	Rental value of owned land	32565.00	32565.00
	Rent paid for leased-in land	11200.00	11200.00
	Total Cost- B_2	208580.00	68580.00
Cost C_1	Cost -B_1	164815.00	24815.00
	Family labour	1560.00	1560.00
	Total Cost- C_1	166375.00	26375.00
Cost -C_2	Cost -B_2	208580.00	68580.00
	Family labour	1560.00	1560.00
	Total Cost -C_2	210140.00	70140.00

Cost concept for Gladiolus cultivation

Table 2 indicated the cost concept for growing gladiolus in sampled farms under study area.

Table 3. Per acre costs and returns of gladiolus on sampled farms

(₹ /acre)

Sr. No.	Particulars		Ist Year	2nd Year
1.	Costs			
	Total variable cost		156956.80	16956.80
	Total fixed cost		53183.20	53183.20
	Total cost		210140.00	70140.00
2.	Returns			
	Yield	Yield of spike (in qty.)	50000.00	50000.00
		Value of Spike (in ₹)	150000.00	150000.00
		Yield of Corm (in qty.)	50000.00	50000.00
		Value of corm (in ₹)	150000.00	150000.00
	Gross returns		300000.00	300000.00
	Net returns		89860.00	229860.00
3.	Cost-Benefit Ratio		1:1.43	1:4.28

The per acre cost C_2 of cultivation of gladiolus were ₹ 210140.00 in first year and ₹ 70140.00 in second year on sampled farms. The cost A_1 constituted all direct cost were ₹ 159116.80 and ₹ 19116.80/acre of first year and second year on sampled farms respectively. The cost A_2 constituted were ₹ 170316.80 and ₹ 30316.80/acre of first year and second year on sampled farms respectively. The cost B_1 constituted were ₹ 164815.00 and ₹ 24815.00/acre of first year and second year on sampled farms respectively. The cost B_2 constituted were ₹ 208580.00 and ₹ 68580.00/acre of first year and second year on sampled farms respectively. The cost C_1 constituted was ₹ 166375.00 and ₹ 26375.00/acre of first year and second year on sampled farms respectively.

Cost and return structure of gladiolus production

The costs incurred and returns realized from sampled farms and presented in Table 3. The total cost constituted was highest ₹ 210140.00 and ₹ 70140.00/acre of first year and second year on sampled farms respectively. The total variable cost was ₹ 156956.80 and total fixed cost was ₹ 53183.20/acre in first year and in case of second year the total variable cost was ₹ 16956.80 and total fixed cost was ₹ 53183.20/acre. The gross return was ₹ 300000.00/acre in both years on sampled farms. The net return was highest in case of second year ₹ 229860.00/acre and in case of first year was ₹ 89860.00/acre. It is clear from the above table 3 that farmers do not get more profit and just meet the expenditure in the first year if they purchase corms. Farmers need not purchase corms for the second crop. Therefore, the net income from second year onwards will be more as cost of production is very less. The cost benefit ratio was highest in case of second year was 4.28and in case of first year was 1.43.

Conclusion

Economic Analysis of cost and returns of Gladiolus in Jammu district of J&K state revealed that the per acre cost C_2 of cultivation of gladiolus were ₹ 210140.00 in first year and ₹ 70140.00 in second year on sampled farms. The cost A_1 constituted all direct cost were ₹ 159116.80 and ₹ 19116.80/acre, cost A_2 constituted were ₹ 170316.80 and ₹ 30316.80/acre, cost B_1 constituted were ₹ 164815.00 and ₹ 24815.00/acre, cost B_2 constituted were ₹ 208580.00 and ₹ 68580.00/acre and cost C_1 constituted was ₹ 166375.00 and ₹ 26375.00/acre of first year and second year on sampled farms respectively. The gross return was ₹ 300000.00/acre in both years on sampled farms. The net return was highest in case of second year ₹ 229860.00/acre and in case of first year was ₹ 89860.00/acre. The cost benefit ratio was highest in case of second year was 4.28 and in case of first year was 1.43.

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