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RESEARCH ARTICLE :

Comparative economic analysis and farm profit of food grains and safed musli crop

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SUMMARY : The cultivation of medicinal and food grain crops provides sustainable means of natural source of high value industrial raw material for pharmaceutical, agrichemical, food and cosmetic industries and opens up new possibilities for higher level of gains for farmer with a significant scope for progress in rural economy. Considering the importance of medicinal and food grain crop, the present research study is undertaken to assess the Economic of Production and farm profit of food grain and medicinal crop in Malwa Plateau of Madhya Pradesh. The investigation area confined to Malwa Plateau of Madhya Pradesh, the Indore and Dhar areas were selected purposively on the basis of maximum area covered in wheat, sorghum, gram, soybean and safed musli. Ten farmers were selected from each villages thus a total 120 growers were selected by random sampling method. For the collection of required data, survey method was adopted to conduct the inquiry by personal visits and interview schedule were used to collect all the relevant information from the respondents. The cost of production analysis revealed that it was lowest in case of sorghum (Rs. 369.33/qtls.) followed by wheat (Rs. 572.80) soybean (Rs. 918.3) and Gram (Rs. 973.9 /qtls), respectively. For safed musli cost of production per quintal was Rs. 15424.8 which was quit high. Result revealed that on an average farm business income of safed musli of sample farmers was 1.13 lakh and family labour income was 1.08 lakhs these both measure of farm profit where quit high in comparison to selected traditional crop namely soyabean, sorghum, wheat and gram. The family labour income from soybean was only 5200 and from sorghum, it was 7260. The family labour income was more in case of wheat and gram which was about 17,000. It is apparent that from wheat and gram the family labour income was higher than *Kharif* crop soybean and sorghum. The similar case was observed in the selected crop as regarded the cost benefit ratio it was higher, in case of gram 1:2.39 than other selected crops followed by wheat (1:2.10) it was lowest in case of safed musli (1:1.21).

KEY WORDS:
Safed musli, Food grain crop, Comparative economic analysis, BC ratio

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BACKGROUND AND OBJECTIVES

India is bestowed with a wealth of medicinal plants most of which have been used in Ayurveda, Unani systems of medicines and by tribal healers. Safed Musli, a miraculous herb, ever known for countries and an alternative to chemical Viagra is scientifically known as chlorophytum borivilianum (Chloros-

Green, Phytum- Plant) belong to family liliaceae. It is also called as desi Viagra, plays a paramount role in Indian herbal medicine. The plant is being known for its use from ancient age. It grows naturally in the thick forests and nits use was confined to the tribals only. Now-a-days with the efforts from research it can be cultivate at field level by following simple cultivation practices. It is an important herbaceous medicinal plant found in the forests of Madhya Pradesh and Gujarat states of India. But it is mainly distributed in Southern Rajasthan, North Gujarat and Western Madhya Pradesh. The fleshy roots are the economically important part, which contain saponins and are used for the preparation of many Ayurvedic tonics prescribed against general debility. Dried roots of Chlorophytum borivilianum contains maximum amount of saponin, which ranges from 2-17 per cent. It is thought to be highest in roots of chlorophytum species, which are of forest origin. The content of saponin may be affected by the use of fungicides and synthetic pyrethroides. The roots of musli fetches an attractive market price, at present Rs.900-1200/kg of dry roots. In nature the plant generates soon after or immediately before the rainy season (May-June) from the previous year's dormant root present in the soil. The stem is condensed to a disc from which it produces a whirl of leaves that are long, sessile and somewhat thick, emerge above the ground. For the above purpose, comparative economic analysis were carried out of food grain as well as safed musli to the comparison of different cost and benefit ratio.

RESOURCES AND METHODS

The investigation area confined to Malwa Plateau of Madhya Pradesh which comprises of nine district *viz.*, Indore, Dhar, Shajapur, Dewas, Ratlam, Mandsoure, Neemach and Rajgarh. Out of nine districts, the Indore and Dhar were selected purposively on the basis of maximum area covered by Safed Musli and food grain crop *i.e.* wheat, sorghum, gram and soybean. Two blocks from Indore and four blocks from Dhar were selected and from each block two villages were selected randomly. A list of Safed Musli and food grain crop growers was prepared and ten farmers from each village were selected randomly constituting the sample size of 120 Safed Musli growers of which 20, 40 and 60 were small, medium and large growers, respectively. The proportionate random sampling method was used for selection of respondents. The survey method was adopted for collection of required data through pretested interview schedule.

The collected data have been tabulated and analyzed to estimate the cost of cultivation, cost of production, net income and cost-benefit ratio of Safed Musli.

Cost concept :

Cost A_1 = All actual expenses in cash and kind incurrent in production

Cost A_2 =Cost A_1 + rent paid for leased in land

Cost B_1 =Cost A_2 + interest on owned fixed capital (including land)

Cost B_2=Cost B_1 + inputted rental value of owned land

Cost C_1 =Cost B_1 + imputed value of family labour

Cost C_2 =Cost B_2 + imputed value of family labour

Cost C_3 =Cost C_2 + 10 per cent of cost C_2 (as managerial cost).

Profitability concept:

Gross income :

Includes value of main and by product whether sold an utilized by the farmer family.

Farm business income:

Gross income – Cost A_1 or Cost A_2 (in case of land leased in).

Family labour income:

Gross income – cost B_2

Net farm income –Gross income – cost C_3.

Cost-benefit ratio (*Input-output ratio*):

Gross income / total cost.

OBSERVATIONS AND ANALYSIS

Comparative analysis of some measure of farm profit under different scale of production is presented in Table 1. The measures of farm profit considers where as farm business income, family labour income, cost benefit ratio, and cost of production, Farm business income is a measure of earnings of a farmers and his family for their capital investment labour and managerial work and family labour income is gross income minus total expenses of production excluding wages of unpaid family labour.

Table revealed that on an average farm business

income of safed musli of sample farmers was 1.13 lakh and family labour income was 1.08 lakhs these both measure of farm profit where quit high in comparison to selected traditional crop namely soyabean, sorghum, wheat and gram. The family labour income from soybean was only 5200 and from sorghum, it was 7260. The family labour income was more in case of wheat and gram which was about 17,000. It is apparent that from wheat and gram the family labour income was higher than *Kharif* crop soybean and sorghum. The similar case was observed in the selected crop as regarded the cost benefit ratio it was higher, in case of gram 1:2.39 than other selected crops followed by wheat (1:2.10) it was lowest in case of safed musli (1:1.21).

The cost of production analysis revealed that it was lowest in case of sorghum (Rs. 369.33/qtls.) followed by wheat (Rs. 572.80) soybean (Rs. 918.3) and Gram (Rs. 973.9 /qtls), respectively. For safed musli cost of production per quintal was Rs. 15424.8 which was quit high. As regard the different measure of farm on different size of farms it revealed that for safed musli farm business income and family labour income has increased as a size of farm increases. The farm business income has ranged from 84 thousand to 1.25 lakhs from small to large size of farm similarly the family labour income ranged from 79 thousand to 1.20 lakhs from small to large size of farm in safed musli. But in case of soybean the farm business income and family labour has shown reversed trend that is for small size of farm it was more then the large size of farm. The farm business income has ranged from 6.8 thousand to 7.4 thousand from large to small size of farm similarly the family labour income has ranged from 4.7 thousand to 5.7 thousand from large to small size of farm. The same was observed in case of sorghum

Table 1: Farm profit on different scale of production **Unit: Rs.**

Cost concept	Size of farms			Average
	Small	Medium	Large	
Soyabean				
Farm business income	7457.9	7201.3	6833.00	7164.06
Family labour income	5771.35	5243.5	4788.5	5267.76
Cost benefit ratio	1:1.47	1:1.38	1:1.34	1:1.39
Cost of production (Rs./qtls.)	850.16	937.9	962.98	918.35
Sorghum				
Farm business income	8794.76	8938.92	8521.87	8784.38
Family labour income	7539.31	7515.41	6909.61	7250.88
Cost benefit ratio	1:2.32	1:1.79	1:1.70	1:1.75
Cost of production (Rs./qtls.)	360.5	362.08	384.55	369.33
Wheat				
Farm business income	18485.86	21089.22	20639.54	20071.55
Family labour income	15883.46	18418.27	1789.69	17397.49
Cost benefit ratio	1:1.97	1:2.19	1:2.15	1:2.10
Cost of production (Rs./qtls.)	578.2	564.36	575.78	572.80
Gram				
Farm business income	16178.82	21741.83	21520.28	19813.35
Family labour income	14018.57	19481.51	19195.44	17564.89
Cost benefit ratio	1:2.08	1:2.55	1:2.52	1:2.39
Cost of production (Rs./qtls.)	1008.16	947.28	968.18	973.90
Safed musli				
Farm business income	84535.88	122730.99	125688.75	1132.88
Family labour income	79676.23	117686.97	120491.73	108254.44
Cost benefit ratio	1:1.11	1:1.25	1:1.29	1:1.21
Cost of production (Rs./qtls.)	17316.59	14780.65	14318.47	15424.85

crop but in this case medium size farm have more farm business income and family labour income. In case of wheat and gram also the medium size of farm have earned for farm business income and family labour income than small and large size of farm. As regard the cost benefit ratio it was higher in gram crop and it has shown that it was more in case of medium size of farm then the small and large size of farm. For others selected traditional crop have shown increases in cost benefit ratio as the size of farm increases it was observed that cost benefit ratio was lowest in case of safed musli but it has shown that as size of farm increases it also increases from 1:1.29. Cost of production for sorghum crop was lowest it has ranged from Rs. 360 to 384 from small to large size of farm. The gram crop has shown a define trend in cost of production from small to large size of farm it has ranged Rs. 1008 to Rs. 968 from small to large size of farm. The similar trend was observe in case of safed musli which has ranged from 17 thousand to 14 thousand from small to large size of farm. There is a huge gaf between cost of production of the sorghum and other traditional crop to that of safed musli.

It can be concluded from the above discussion that safed musli crop is a high capital investment and tern over crop then the selected traditional crop as the investment is high so the farm business income and family labour income were very high the cost benefit ratio is low in safed musli. Cost of production per quintal was very high then the other traditional crops.

The 2nd hypothesis was framed that the cost of production per unit of traditional crop and safed musli crop remain the same was also rejected. It was observed that there was clear cut difference between costs of production per unit of traditional and safed musli crop. On an average the cost of production per unit of traditional crop needed Rs. 369 to Rs. 937 while in safed musli crop required Rs. 15,424. It's indicated that safed musli required more amount to produce per unit quantity then selected traditional corps.

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