
TREND IN MUSHROOM PRODUCTION IN HIMACHAL PRADESH- A TIME-SERIES ANALYSIS

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ABSTRACT

Himachal Pradesh has varied agro-climatic conditions and so this Himalayan state has enormous potentialities for profitable mushroom enterprise. For conducting this study, secondary data was used which was collected from different publications of the state government for the production of mushroom. Growth rate of mushroom production was calculated using the formula of compound annual growth rate available in the literature using time-series data over a period of ten year i.e. from 2013-14 to 2022-23. The findings revealed that Himachal Pradesh has achieved a phenomenal growth in mushroom production estimated at the compound growth rate of 11.15 per cent wherein the growth of private farms stood at 11.22 per cent in comparison to the public sector units of 1.57 per cent per annum. Public sector was also growing significantly (1.57 %) but the pace was much lesser than the private farms. There was decrease in production consecutively in two years especially during the year 2021-22 and further decline was found in 2022-23 in both public as well as private farms. Solan, Shimla, Kangra and Kullu are the prominent district for mushroom cultivation due to suitable climatic condition. The state government actively supports mushroom cultivation through schemes promoting technical training, compost production units and financial assistance to farmers for taking up this venture as their income generating activity. There were certain factors that contributing its growth in Himachal Pradesh. First, Himachal Pradesh's cool and humid climate naturally suits mushroom cultivation thereby reducing the need for extensive temperature control. Second, increasing consumer awareness about the health benefits of mushroom driving its market demand more and lastly, Directorate of Mushroom Research (DMR) located at Solan plays a key role in the development of mushroom varieties and its cultivation techniques.

Keywords: Mushroom, production, growth rates, public sector, private farms.

1. INTRODUCTION

Mushroom production is a profitable venture for small scale farmers and entrepreneurs as it has relatively quick production cycle and low investment cost which make it an accessible agricultural activity. Mushroom has been used for centuries in traditional medicine and culinary practices in many countries. Mushroom production in Himachal Pradesh is a growing agricultural activity with significant potential. The climatic conditions and geography of the

state are well suited for mushroom cultivation. The government actively promotes mushroom cultivation through various schemes and subsidies to encourage the farmer to adopt this enterprise. It provides an additional source of income for the farmers in Himachal Pradesh, diversifying their agricultural activities and contributing to rural development. The state Department of Horticulture has divided Himachal Pradesh into four zones for the growth of mushroom production, with headquarters located at Solan, Palampur, Bajoura, and Rampur (Table-1). Himachal Pradesh has large number of compost and spawn supply units. Some of the composting unit are Dharbaggi, Kangra; Indo Dutch Mushroom Project Palampur; Directorate of Mushroom Research, ICAR, Chambaghat, Solan; Regional Development Project/ composting unit Bajoura, District Kullu; Dr. Y.S.Parmar University of Horticulture and Forestry, Nauni, Solan. With this background, an effort was made to examine the Trends and growth rates of mushroom production in H.P. over a period of ten year from 2013-14 to 2022-23.

2. METHOD AND MATERIALS

In order to carry out this study, the secondary data pertaining to zone wise mushroom production both under government and private units in Himachal Pradesh were collected from different issues of Statistical Outline of Himachal Pradesh, Indo-Dutch Mushroom Project-Palampur, Department of Horticulture –Shimla and Department of Horticulture-Kangra. In order to find out the increase in production of mushroom over the decade from 2013-14 to 2022-23 , compound growth rate were calculated in both public and private units using time-series data during the period of ten year by using the following formula:

$$Y = (ab)^t$$

$$\text{Log } Y = \text{log } (a) + \text{log } (b)*t$$

$$b = \text{Antilog } (b)$$

$$\text{CAGR } (\%) = (\text{antilog of } b - 1) \times 100$$

Were,

Y= Mushroom production (tones)

a= Constant

b=Regression coefficient

t= time variable in years (1, 2, 3.....n)

3. RESULT AND DISCUSSION

Trends and Growth rates of mushroom production:

Mushroom production in Himachal Pradesh is an activity of both the public and private units and the state has witnessed an increase in its production from 6312.71 in 2013-14 to 16256.02 tons in 2022-23 (Table-1&2). Private units produce more mushrooms compared to government units and it has increased from 98.92 per cent in 2013-2014 to nearly 99.55 per cent in 2022-23. There was decrease in production of mushrooms in case of government units i.e. from 1.08 per cent in 2013-14 to 0.45 per cent in 2022-23. The maximum production of mushroom was in the year of 2021-22 after which it decreases. The total compound annual growth rate of 11.15 per cent was recorded over the last decade. The public units indicate the growth rate of just 1.57 per cent whereas the private farms recorded highest percentage of growth rate 11.22 per cent. This indicates that there is a significant growth in the government as well as private units over the ten-year statistics.

**Table 1: Zone wise Production of mushroom under different units in Himachal Pradesh
(Tones)**

Sr.No.	Year	Particulars	Zone				Total
			Palampur	Solan	Bajaura	Rampur	
1.	2013-14	Government units	68.013	0	0	0	68.01
		Private units	1354.967	4639.73	250	0	6244.69
		Total	1422.98	4639.73	250	0	6312.71
2.	2014-15	Government units	65.968	0	0	0	65.97
		Private units	1542	6168.25	259	0	7969.25
		Total	1607.968	6168.25	259	0	8035.22
3.	2015-16	Government units	65.82	0	0	0	65.82
		Private units	1635	7003	268	0	8906
		Total	1700.82	7003	268	0	8971.82
4.	2016-17	Government units	65.50	0	0	0	65.50
		Private units	1634	13889	354	0	15877.10
		Total	1688.5	13889	354	0	15942.6
5.	2017-18	Government units	64.90	0	0	0	64.90
		Private units	1659	11986	254	0	13899
		Total	1659	11986	254	0	13963.9
6.	2018-19	Government units	17.12	0	0	0	17.12
		Private units	1717	12239	242.5	8.2	14206.7
		Total	1787.12	12239	242.5	8.2	14276.82
7.	2019-20	Government units	71.69	0	0	0	71.69
		Private units	1739	12660	326	7.8	14732.8
		Total	1810.69	12660	326	7.8	14804.49
8.	2020-21	Government units	75.65	0	0	0	75.65
		Private units	1686	16181	433	8.03	18308.03
		Total	1761.65	16181	433	8.03	18383.8
9.	2021-22	Government units	74.21	0	0	0	74.21
		Private units	1758	15538	378	12.6	17686.6
		Total	1832.21	15538	378	12.6	17760.81
10.	2022-23	Government units	73.62	0	0	0	73.62
		Private units	3863	12038	260	21.4	16182.4
		Total	3936.62	12038	260	21.4	16256.02

Source: Directorate of Horticulture, Shimla

Table 2: Trends and Growth of Mushroom production in Himachal Pradesh

Sr.No.	Year	Production (Tones)		
		Government Units	Private units	Total
1.	2013-14	68.01 (1.08)	6244.69 (98.92)	6312.71 (100.00)
2.	2014-15	65.97 (0.82)	7969.25 (99.18)	8035.22 (100.00)
3.	2015-16	65.82 (0.73)	8906 (99.27)	8971.82 (100.00)
4.	2016-17	65.50 (0.41)	15877.1 (99.59)	15942.6 (100.00)
5.	2017-18	64.90 (0.46)	13899 (99.54)	13963.9 (100.00)
6.	2018-19	70.12 (0.50)	14206.7 (99.50)	14276.82 (100.00)
7.	2019-20	71.69 (0.48)	14732.8 (99.52)	14804.49 (100.00)
8.	2020-21	75.65 (0.41)	18308.03 (99.59)	18383.68 (100.00)
9.	2021-22	74.21 (0.42)	17686 (99.58)	17760.81 (100.00)
10.	2022-23	73.62 (0.45)	16182.4 (99.55)	16256.02 (100.00)
Compound growth rate (%)		1.57*	11.22*	11.15*

Source: Directorate of Horticulture, Shimla

Note: Figure in the parentheses indicates percentages of the totals.

*Significant at 5% level of significance.

4. CONCLUSION

The mushroom industry in Himachal Pradesh is witnessing a rapid growth rate especially in private farms where it was growing significantly at the compound annual growth rate of 11.22 per cent over the decade. Public sector was also growing significantly (1.57 %) but the pace was much lesser than the private farms. There was decrease in production consecutively in two years especially during the year 2021-22 and further decline was found in 2022-23 in both public as well as private farms. Solan, Shimla, Kangra and Kullu are the prominent district for mushroom cultivation due to suitable climatic condition. While white mushrooms are the primary variety cultivated in the state, but there is also a growing interest in the other types like oyster mushrooms. The incentives and subsidies provided by the government to marginal and small farmers at one hand and imparting training to interested persons with latest technical knowhow has augmented the number of growers and mushroom production to a comparable level of many other leading states of India.

REFERENCES

- Goswami, K.B. (2025). Trends in the Acreage, Yield and Output of Key Crops in Jammu and Kashmir. *Econ. Aff.*, 70(01): 97-105.
- Kangotra A and Chauhan SK. 2014. Economic viability of button mushroom cultivation in Himachal Pradesh, India. *Indian Journal of Agricultural Research*, 48(2): 134-139
- Mohd T, Hairazi R and Rozhan A.2013. Understanding the Mushroom Industry and its marketing strategies for fresh produce in Malaysia. *Economic and technology management review* 8: 27-37
- Mulazimogullari E, and Ceylan F. 2023. Profit efficiency of mushroom cultivation in Antalya, Turkiye. *Mediterranean Agricultural Sciences*, 36(2): 71-76
- Pandey AK, Rajan S, Sarsaiya S and Jain SK. 2020. Mushroom for the national circular economy. *International Journal of Scientific Research in Biological Sciences* 7(6): 61-69
- Ram S and Ram S. 2007. Cost-Benefit analysis of mushroom cultivation. *Indian Journal of Agricultural Economics* 41(4): 256-261
- Raut J. 2019. Current status, Challenges and Prospects of Mushroom Industry in Nepal. *International journal of Agricultural Economics* 4(4): 154-160
- Sachan S, Gohain N, Jawla SK, Maisnam G and Yadav A. 2019. Cost-Benefit Analysis and Marketing of Mushroom in Haryana. *Annals of Biology*35 (2): 343-347
- Thakare AB, Gupta SP and Kad MD. 2006. Economics of mushroom production in Chattisgarh plain. *New agriculturist* 17(1): 9-18
- Thakur MP. 2014. Present status and future prospects of tropical mushroom cultivation in India: a review. *Indian phytopathology* 67(2): 113-125
- Zamil MF and Cadilhon JJ. 2009. Developing small production and marketing enterprises: mushroom contract farming in Bangladesh. *Development in Practice*19 (7): 923-932