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Factors affecting the production of apricot (*Prunus armeniaca* L.) in Ladakh UT of India

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Abstract

The goal of the current study was to identify the factors influencing apricot production in India's Ladakh region. Data was collected from 200 respondents in the Ladakh region using a pre-tested interview schedule. The data was analyzed using multiple regression modeling, along with frequency and percentage calculations, to derive the results. A significant portion of apricot growers (27.5%) were obtaining 50-60 kg of yield per tree, while the majority (60.5%) farmed apricots on just one kanal of land. Additionally, 56% of apricot growers applied farmyard manure (FYM), and 45.5% of growers used chemical fertilizers. Furthermore, reports of aphids and scale on the apricot crop accounted for over 77% and 94.5% of the cases, respectively. In addition, apricot growers reported brown rot and scab in over 88% and 94.5% of cases, respectively. In terms of dormant practices, 89% of the respondents were hoeing, while 68.5% applied Horticultural mineral oils (HMO) and 74.5% Bordeaux mixture. The results of the regression analysis showed that brown rot was found to be inversely but significantly related to apricot production, while the application of chemical fertilizers, FYM, HMO, and Bordeaux mixture was found to be positively and significantly related to apricot production. The study suggests paying extra attention to enhancing stone fruit production by establishing more connections with research and agricultural extension centers and organizations. By implementing intercropping, appropriate land division, and allocation for cash crops such as vegetables, stone fruits, and grains, farms can provide access to microcredit at the microlevel.

Key words: Cash crops, production, productivity, relationships, farm inputs, farming practices

Introduction

Since agriculture still accounts for the largest portion of labor participation in India, most people either directly or indirectly depend on it for their livelihood. Though its GDP contribution has gradually declined over the past few decades, the sector still has a lot of room to grow through higher productivity and the application of cutting-edge agricultural technologies (GoI, 2023). Fruits are a significant agricultural product with the potential to boost the national economy. Turkey is expected to account for 19.52% of global apricot production, maintaining its top ranking from 2018 to 2025. Uzbekistan, Algeria, and Italy follow Turkey with percentages of 13.64, 7.00, and 6.84, respectively (FAO, 2023). In 2020, over 14,000 metric tonnes of apricots were produced in India, a slight decrease from 16.1 thousand tonnes the previous year. Apricot output has varied across the country (Statista, 2024; GoI, 2019).

In India, apricots are grown in UP's Kumaon and Kargil, Latiaul, and Spiti regions, as well as in HP's Kargil. Apricots are a hidden gem of Ladakh, playing a crucial role in the region's economy and culture for generations. Locally referred to as "chuli," Ladakh apricots are highly prized for their distinct flavor, abundant nutritional content, and ability to withstand the severe weather in the area. In Ladakh, growing apricots is a way of life rather than merely an agricultural endeavor. The dry, chilly desert climate, where day and nighttime temperatures can vary significantly, is ideal for these hardy trees. Because of the clean environment and the age-old farming methods that have been passed down through the generations, apricots are farmed organically (Krantidip and Prabhat, 2023; Anwar, 2012). The summertime harvest of the fruit gives the nearby inhabitants a critical source of money and nutrition. Apricots are much more important in Ladakh than just for local consumption. There has been growing interest in the potential of Ladakhi apricots to support regional economic growth and promote sustainable development (Sofi *et al.*, 2001; Bindal *et al.*, 2016). The entire apricot production value chain-from planting and harvesting to processing and marketing-is being improved. These programs seek to raise local farmers' standard of living, support environmental sustainability, and raise awareness of Ladakhi apricots' remarkable quality throughout the world (Ahmadi, 2008). According to a report by the Mumbai-based Tata Trust, which is actively involved in several apricot projects in the Ladakh region, apricots are produced in both districts of Ladakh as well as in Uttarakhand. Specifically, the districts of Kargil and Leh produce an estimated 11800 metric tonnes of fresh apricot annually from an area of 3400 hectares. Because apricots are so well-liked by consumers, they are one of the most significant fruit species farmed worldwide (Angmo *et al.*, 2017; Roussos *et al.*, 2011; Dwivedi and Ram 2008, Dwivedi, 2000; Dwivedi and Dwivedi, 2007). Ladakh's climate is ideal for the culture of stone fruits. In 2019, there were 2,303 hectares of apricot cultivation (Kargil: 1,645 hectares; Leh: 658 hectares). Between 2015 and 2019, the acreage cultivated with apricots rose by 9.4% in the Kargil district and fell by 16.9% in the Leh district (Burloi, 1981; Mir *et al.*, 2009; Tsering Stobdan, *et al.*, 2021; Konchok *et al.*, 2011).

Fruits especially apricots, a significant agricultural product in Ladakh, help to increase both the national GNP and the state-level GDPs; this is also the case in Ladakh, UT. Apricot farming offers year-round livelihood opportunities and a reliable source of income in rural areas. The development and improvement of apricot cultivation in UT is being worked on by agricultural research and extension departments, but despite national recognition, apricot production, yield, and rank have not yet reached their peak productivity. The research aims to identify factors influencing apricot production in Ladakh, focusing on farming practices, pest management, and disease control. It assesses the impact of fertilizers, farmyard manure, and pest control measures on yields and provides recommendations for improving apricot cultivation through optimized practices and better support from research and extension services.

Materials and methods

This research study was carried out in the Indian territory of Ladakh, UT. The necessary sample for the current study was drawn using the sampling procedure. The Directorate of Economics and Statistics, in collaboration with other relevant departments within the UT, provided data on the population of apricot growers in each selected district. To collect data, a sample of 200 growers of apricots was selected. The following method was used to select the sample.

$zi = Xi \times z/X$

The required sample of apricot growers in the i^{th} circle is represented by zi in the equation above, while the total population of apricot growers in the i^{th} circle is represented by Xi.

Collection of data: Before beginning the final data collection phase, a well-structured interview schedule was created and pre-tested in the pilot phase, considering the study's objectives. The researcher conducted in-person interviews with each farmer involved in the study to collect the necessary data and information.

Data analysis: A straightforward frequency distribution with percentages was used to analyze the data. Utilizing a complex regression analysis, the relationships were worked out. Regression analysis shows that the dependent variable is not only affected by the independent variable but also by the dependent variable's qualitative variable. Another way to identify such a variable is by looking at an attribute's presence or absence. A dummy variable is an attribute that can be calculated using values of 0 or 1, which indicate its presence or absence, respectively (Peter, 2003; Gujarati, 2004). Regression modeling using a dummy variable approach was used to investigate the effects of independent variables (such as the application of fertilizers, farmyard manure, insect/pest attacks, disease attacks, and dormant practices) on the dependent variable (*i.e.*, the average per tree yield of apricot). The model's particular form is as follows:

$$P = \beta_0 + \beta_1 K_1 + \beta_2 K_2 + \beta_3 K_3 + \beta_4 K_4 + \beta_5 K_5 + \beta_6 K_6 + \beta_7 K_7 + \beta_8 K_8 + \beta_9 K_9 + \beta_{10} K_{10} + \beta_{11} K_{11} + \varepsilon i$$

Where,

P= Average apricot yield per tree, K_1 = chemical fertilizers applied; 1 for Yes, 0 for otherwise, K_2= farm yard manure used; 1 for Yes, 0 for otherwise, K_3= attack of aphids; 1 for Yes, 0 for otherwise, K_4 = attack of scale; 1 for Yes, 0 for otherwise, K_5= age of the tree, 1 for Yes, 0 for otherwise, K_6= attack of fruit fly; 1 for Yes, 0 for otherwise, K_7= attack of scab; 1 for Yes, 0 for otherwise, K_8= brown rot attack; 1 for Yes, 0 for otherwise, K_9= hoeing; 1 for Yes, 0 for otherwise, K_{10}= application of HMO; 1 for Yes, 0 for otherwise, K_{11}= Bordeaux mixture use; 1 for Yes, 0 for otherwise. β = Intercept, εi = Error term.

Results and discussion

The amount of land in the sampled area used for apricot cultivation is displayed in Fig.1. Most farmers (60.5%) grew apricots on 1 kanal of land, with 18% growing them on 1.5 kanals. The minimum number of respondents (6%) farmed apricots on 2.5 kanals of land. This demonstrates that, in addition to the cultivation of other fresh fruits, apricot farming is one of the primary activities in the study. Farm-management techniques and the variety grown determine production.

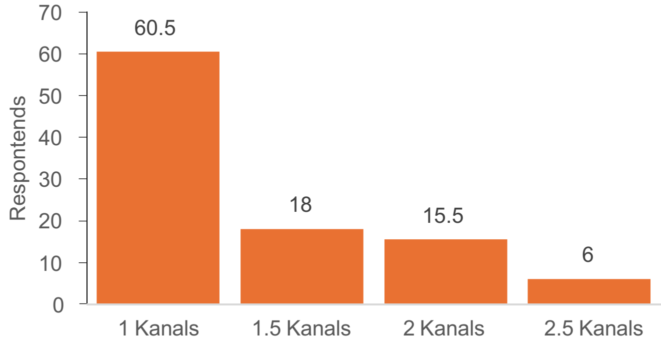

Fig. 1. The land distribution of respondents used for apricot farming

In general, apricot farming can produce yields of up to 90 kg or more per tree. About the average productivity per tree, farmers were questioned. The average yield per tree in the sampled area is displayed in Fig. 2. The average yield per tree for most apricot growers (27.5%) was 50-60 kg, followed by 20-30 kg for 22%, 50-60 kg for 2.0%, 40-50 kg for 18%, 70-80 kg for 6.5%, and 41-50 & 30-40 kg for 5.5%. There was a significant discrepancy between the current yield and the optimal recommended yield of stone fruits, and the average per tree yield of apricots in the study area is below the suggested optimum line. The recommended

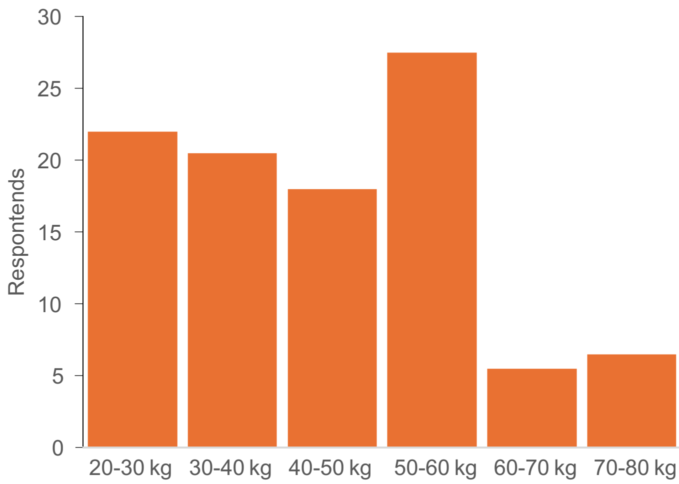

Fig. 2. Respondents' distribution with respect to the average apricot yield per tree

level of average productivity can be achieved by means of appropriate management and practices in various areas, such as insect-pests, diseases, irrigation, fertilizer application, and so on.

Table1 shows that 45.5% of apricot growers used chemical fertilizers, while the majority (54.5%) did not. Regarding farmyard manure (natural fertilizers), 54 percent of respondents did not apply it, while 56 percent of respondents applied it. The findings are consistent with those of Javeid (2019), who found that over 50 percent of the participants fertilized their orchards using natural fertilizers. Even though the respondents applied chemical fertilizers, a significant knowledge gap regarding the suggested dosages and fundamental primary nutrients (N, P, and K) of farmyard manure and chemical fertilizers was discovered. Application of chemical fertilizers and dosages followed the advice of shopkeepers and fertilizer dealers, while farmers applied farmyard manure according to their own and other farmers' preferences. According to reports by Baba *et al.* (2012), Patel and Vyas (2014), and Farooq *et al.* (2019), the knowledge gap in applying basic primary nutrients in supplements was found to be 79%, 70%, and 37%, respectively.

Table1. Respondents' distribution with respect to the use of natural and chemical fertilizers

Fertilizers	Status	Number	Percent
Chemical fertilizer	Yes	91	45.5
	No	109	54.5
	Total	200	100
Farmyard manure	Yes	112	56
	No	88	44
	Total	200	100

Table 2 reveals that while 23 percent of apricot growers did not experience an attack from aphids, the majority (77%) reported scale attack, while 5.5 percent reported no attack at all. According to Layton and Henn (2014), branches and twigs with crusty, asymmetrical, white, or brown patches are indicative of a scale infestation.

Table 2. Distribution of respondents with respect to insect/pest attack

Insect/pest	Attack status	Number	Percent
Aphids	Yes	154	77
	No	46	23
	Total	200	100.0
Scale	Yes	189	94.5
	No	11	5.5
	Total	200	100.0

Table 3 reveals that most apricot growers (88%) had to deal with scab disease. Similarly, 95 percent respondents reported loss due to brown rot in the sampled area which is found to be one of the most important factors responsible for earning a decent income though after having a good yield sometimes. Significant diseases that were harming the production in the study area included scab and brown rot. Farmers reported a significant loss due to brown rot and scab diseases, as also reported by Tata Trust (2008) and Khalil *et al.* (2010).

Dormant practices contribute to the reduction of disease-causing pathogens and insect/pest residues. Plant growth and high productivity are facilitated by these practices. The dormant practices of growers of apricots are shown in Table 4. Of those surveyed, the majority (74.5%) said they had applied Bordeaux mixture to their trees. Only 89 percent of respondents practiced hoeing, compared to 11% who did not. Over one-third of apricot growers used dormant practices, except for hoeing. According to Zahid *et al.* (2015), treating tree trunks with a Bordeaux mixture effectively decreased the number of borer infestations. Chaudhary *et al.* (2012) found that applying the Bordeaux mixture either by itself or in conjunction with oxytetracycline and streptomycin resulted in a noticeably reduced incidence of bacterial leaf blight. The findings of Kallestad *et al.* (2008), which revealed that more than half of the orchards were pruned using mechanical hedging machines, while the remaining orchards were pruned either entirely by hand or through a combination of both methods, align with the results of the research study. The study's findings are corroborated by Hinge's (2009) findings, which showed that most farmers followed summer and winter pruning practices. The average yield of apricots per tree is positively impacted statistically by the application of farmyard manure and chemical fertilizers. Apricot growers who used farmyard manure and chemical fertilizers on their trees produced higher yields than those who did not use either type of fertilizer. The explanation may be that retailers and dealers of fertilizers have a deep understanding of selecting the right chemical fertilizers, which are crucial for boosting the production of stone fruits. Among them, 68.5% apply HMO to their fruit trees, while 31.5% do not. The outcomes are consistent with the findings of Rettke *et al.* (2006), who found that, in comparison to a control orchard, an orchard receiving fertilizer application containing the macronutrients nitrogen (N), phosphorus (P), and potassium (K) increased fruit yield and fruit size.

Table 3. Respondent distribution about disease attacks

Disease	Attack status	Number	Percent
Scab	Yes	176	88
	No	24	12
	Total	200	100
Brown rot	Yes	189	94.5
	No	11	5.5
	Total	200	100

Table 4. Respondents' distribution with respect to dormant practices

Practices	Status	Number	Percent
Hoeing	Yes	178	89
	No	22	11
	Total	200	100
Horticultural mineral oils (HMO)	Yes	137	68.5
	No	63	31.5
	Total	200	100
Bordeaux Application	Yes	149	74.5
	No	51	25.5
	Total	200	100

Effects of insect/pest attack on production: The regression analysis of dependent and independent variables shows that attacks by insects and pests, such as fruit flies and scale, were found to be non-significant (Table 5). The lack of hoeing practices and reliance on culturally based physical control methods could be the cause of this. As compared to apricot growers who did not experience a brown rot attack, the table indicates that fruit fly attack and brown rot attack are not significant. However, growers who experienced a brown rot attack saw a significant reduction in yield, of 0.864 and 2.765 kg/tree, respectively. The age of the tree is also playing a significant role in increasing the productivity per plant with coffieient of 1.765. Damage from brown rot is caused by an absence of subsequent chemical treatments. Every temperate region experiences brown rot, which is the cause of significant financial losses from stone fruits, as noted by Baba *et al.* (2021) and Oliveira *et al.* (2016). The table also demonstrates that the application of Bordeauxe mixture and HMO during dormant periods significantly increased the average apricot tree yield. Positive effects are seen with the coffieients 2.897 and 3.985, respectively. According to the study, applying winter oil and Bordeaux mixture to trees produced higher yields than trees that did not receive these dormant season treatments; hoeing was also found to be non-significant. The explanation could be that, aside from hoeing, which is a more time-consuming and labor-intensive field operation than other dormant practices, farmers efficiently carry out these dormant practices.

Table 5. Regression analysis examining the impact of independent variables on the average yield per tree

Variables	Coefficients	Std. Error	t-value	*P*-value
Constant	41.321	2.985	11.76	0.000**
Chemical fertilizers application (K_1)	8.654	3.212	3.876	0.000**
Farmyard manure application (K_2)	7.876	2.732	4.874	0.001**
Aphids attack (K_3)	1.776	1.76	1.643	0.903
Scale attack (K_4)	-2.054	2.76	-0.342	0.672
Age of the tree (K_5)	1.765	1.85	1.011	0.001
Fruit fly attack (K_6)	-0.864	1.964	-0.863	0.342
Scab attack (K_7)	2.764	2.832	1.067	0.342
Brown rot attack (K_8)	-2.765	1.832	-2.78	0.031*
Hoeing (K_9)	3.765	1.342	1.789	0.087
HMO (K_{10})	2.897	1.987	2.543	0.007**
Bordeaux mixtures application (K_{11})	3.985	1.764	2.853	0.018*

*Indicates significance and **high significance at $P \leq 0.05$ and $P \leq 0.01$, respectively; R-square: 0.894; Adjusted R-square: 0.881; F stat: 70.605; Source: Authors' estimation based on field survey data.

The study concludes that growing apricots is a common endeavor for the farming community in Ladakh. The findings show that, in many situations, farmers relied heavily on farmyard manure and chemical fertilizers to increase productivity. In addition, the main insect and pest attacks were from aphids, scale, flat-headed borer, and brown rot; of these, brown rot has ruined the quality of apricots more than scab. In terms of dormant season practices, less than half of the apricot grower's hoe, while two thirds of the respondents pruned their trees, HMO, and Bordeaux mixture. This is further reinforced by the noteworthy and favorable correlation found between the production and the use of chemical fertilizers, farmyard manure, winter oil, and Bordeaux mixture. Better agricultural extension services, line departments, research centers, and prestigious universities are needed to improve the productivity, quality, and quantity of stone fruits. These resources should also be used to ensure the proper and timely application of chemical fertilizers and farmyard manure, especially for those who may not have access to them or are not following the recommended guidelines. These guidelines should take into account soil analysis, local climate conditions, and timely pest and insect threats, as provided by the relevant research centers and departments. This way, farmers can make the most of what they have and improve their crop yields.

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References

Ahmadi, H., H. Fathollahzadeh and H. Mobli, 2008, Some physical and mechanical properties of apricot fruits, pits and kernels. *Am. Eurasian J. Agric. Environ. Sci*., 5: 703-707.

Angmo, P., S. Angmo, S.S. Upadhyay, K. Targais, B. Kumar and T. Stobdan, 2017. Apricots (*Prunus armeniaca* L.) of Trans-Himalayan Ladakh: Potential candidate for fruit quality breeding programs. *Sci. Hortic.,* 218: 187-192.

Anwar, H. 2012. Apricot drying: preservation technique currently practiced in Ladakh, India, Food and Nutrition, *Stew. Postharvest Rev.*, 3: 1-7.

Baba S.H., M.H. Wani, Bilal A. Zargar, S.A. Wani and S.S. Kaberi, 2012. Pesticide Delivery System in Apple Growing Belt of Kashmir Valley, *Agric. Econ. Res. Rev.*, 25: 435-444.

Bindal, M., Stobdan T. and Kumar, B. 2016, Seabuckthorn cultivation for sustainable development of trans-Himalayan Ladakh: Projected income from 2016-2030. In: *National Seminar on Conservation and Sustainable Utilization of trans-Himalayan Medicinal Plants, Leh Ladakh*, India.

Burloi, N. 1981. Problems of apricot cultivation. *Acta Hortic*., 85: 77-86.

Chaudhary, S.U., J. Iqbal and M. Hussain, 2012. Effectiveness of different fungicides and antibiotics against bacterial leaf blight in rice. *J. Agric. Res*., 50(1): 109-117.

Dwivedi, S.K, D.P. Attrey and E. Paljor, 2000. Standardization of budding in apricot (*Prunus armeniaca L.*) in cold arid conditions of Ladakh. *Progressive Hortic.,* 32: 117-120.

Dwivedi, D.H. and R.B. Ram, 2008. Chemical composition of bitter apricot kernels from Ladakh, India. *Acta Hortic*, 335-338.

Dwivedi, S.K and D.H. Dwivedi, 2007. Traditional method of Chuli oil extraction in Ladakh. *Indian J. Tradit. Know.,* 6(3): 403-405.

FAO, 2023. Food and agricultural organization. Rankings. Countries by commodity. *Apricot*. http://www.fao.org/faostat/en/#rankings/ countries by commodity.

Farooq, A., M.Z. Khan, A. Hassan, M. Ishaq and Fatima, 2019. Nutritional and health benefits of apricots. *Int. J. Univ. Integr. Med*., 2(2): 05-09.

GoI, 2019. Government of India. Economic survey 2018-19. Finance Division. Economic Adviser's Wing, New Delhi, http://www.finance.

GoI, 2023. Highlights of India economic survey 2019-20. Chapter 2-Agriculture. Economic Adviser's Wing, Finance Division. GoI. New Delhi. pp. 17. gov.pk/Supplement_2018_19.pdf.

Gujarati, D.N., 2004. *Basic Econometrics*: International edition. 3rd ed., Me Graw Hill Book Co., New York. pp. 47-50.

Hinge's, R.B., 2009. A study on diffusion and adoption of wine grape production technology in Maharashtra (Doctoral dissertation, UAS, Dharwad). pp. 26.

Javeid, S., 2019. Impact of apple orchards development through extension services on poverty reduction in AJK. Ph.D. Thesis, submitted to the Department of Agricultural Extension Education and Communication. *The University of Agriculture*, Peshawar. pp. 53.

Kallestad, J.C., J.G. Mexal and T.W. Sammis, 2008. Mesilla valley pecan orchard pruning residues: Biomass estimates and value-added opportunities. New Mexico State University, *Agricultural Experiment Station*. 6.

Khalil, I., M. Idrees, F. Rabi, S. Rehman, N. Khan, M. Israr, N. Shah, M. Arif, M. Naeem, S. Naz, Z. Haq and A. Ali, 2010. A comparative study of model and non-model fruit growers in rural areas of Khyber Pukhtunkhwa India. *Sarhad J. of Agric*., 26: 641-647

Konchok, T., S. Tsering, Y. Ashish and B.S. Shashi, 2011, Extraction of apricot kernel oil in cold desert Ladakh, *Indian J. Tradit. Know.,*10(2): 304-306.

Krantidip, R.P. and N.N. Prabhat, 2023, Apricot kernel characterization, oil extraction, and its utilization: A review, *Food Sci. Biotechnol.,* 32(3): 249-263.

Layton, B. and R.A. Henn, 2014. Disease and insect control for homegrown peaches and plums. *Mississippi State Univ. Ext Ser*, 2.

Mir, M.A., P.R. Hussain, S. Fouzia and A.H. Rather, 2009. Effect of sulphiting and drying methods on physico-chemical and sensorial quality of dried apricots during ambient storage. *Int. J. Food Sci. Technol*., 44: 1157-1166.

Oliveira, L.L., I. Pacheco, V. Mercier, F. Faoro, D. Bassi, I. Bornard and B. Quilot-Turion, 2016. Brown rot strikes Prunus fruit: An ancient fight almost always lost. *J. Agric. Food Chem*., 64(20): 4029-4047.

Patel, A.G. and H.U. Vyas, 2014. Technological gap in adoption of sugarcane cultivation practices by sugarcane growers. *Gujarat J. Ext. Edu.*, 25(2): 227-229.

Peter, K. 2003. A Guide to Econometrics, 5th Edition," MIT Press Books, *The MIT Press*, 5(1): 026261183x, December.

Rettke, M.A., T.R. Pitt, N.A. Maier and J.A. Jones, 2006. Growth and yield responses of apricot (cv. Moorpark) to soil-applied nitrogen. *Austral. J. Exp. Agric.,* 46(1): 115-122.

Roussos, P.A., V. Sefferou, N.K. Denaxa, E. Tsantili and V. Stathis, 2011. Apricot (*Prunus armeniaca* L fruit quality attributes and phytochemicals under different crop load. *Sci. Hortic*., 129: 472-478.

Sofi, A.A, Zaffar, G. and M.S. Mir, 2001, Genetic variability and association of component characters for fruit weight in apricot (*Prunus armeniaca* L.) cultivars of Kargil (Ladakh). *Ind. Jour. Hort.*, 58(3): 239-243.

Statista, 2024, Volume of apricots produced across India from 2012 to 2020, https://www.statista.com/statistics/878238/india-production-volume-of-apricots/

Tata Trust, 2008. file:///C:/Users/Dell/Desktop/stone%20fruits%20paper/ %20INITIATIVES%20BASED%20ON%20APRICOTS%20IN%20LADAKH%20%E2%80%93%20Ladakh%20Ecological%20Development%20Group.html

Tsering S., N. O. Deldan, P. Chaurasia, W. Mushtaq, P. Tsewang and Z. Mohmad, 2021. Apricot (*Prunus armeniaca* L.) in Trans-Himalayan Ladakh, India: Current Status and Future, Directions. *J. Food Agric. Res*., 1(1): 86-105.

Zahid, M., M. Salman, S.A. Khan, Alamzeb and I. Khan, 2015. Surveillance and control of peach flat-headed borer, *Sphenoptera dadkhani* (Oben.) in plum orchards of Khyber Pakhtunkhwa, *Pakistan. Sarhad J. Agric*., 31(1): 1-7.

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