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## Status of area and production of apricot (*Prunus armeniaca* L.) in Cold Arid Ladakh

**Mansoor Ali, Mohd Mehdi, Stanzin Lakdan, Tsering Dolkar, Lobzang Stanzen, Permendra Singh and Sharafat Hussain**

**Abstract**

Apricot (*Prunus armeniaca* L.) belongs to family Rosaceae. Horticulture is emerged as an important sector of Jammu and Kashmir it is known as back bone of State economy. Its contribution in the state gross domestic product is estimated to about 21.89% for year 2016-2017. The area under the fruit in Jammu and Kashmir has increased from 2.95 lakh hectare in 2007-2008 to 3.38 lakh hectare in 2015-2016 likewise the production has increased from 16.36 Lakh MT's in 2007-2008 to 24.94 Lakh MT's in 2015-2016. Ladakh particularly known as Cold Arid Region in Northern most of India is located between 34.5° to 34.7° North latitude, 76.2° to 76.5° East longitude and at an altitude of 2,500-2,750 meters a.m.s.l. The present status of apricot both area and production wise is 792 hectare and 1514 hectare, 1923 MT and 3775MT in District Leh and Kargil respectively. Apricot (*Prunus armeniaca* L.) being main fruit crop and cash crop of ladakh region has enormous scope and potential for further improvement in future with the understanding of importance of soil health management, availability and the use of improved plant materials particularly suitable to the agro climatic conditions of the area and by inducing post harvest technologies.

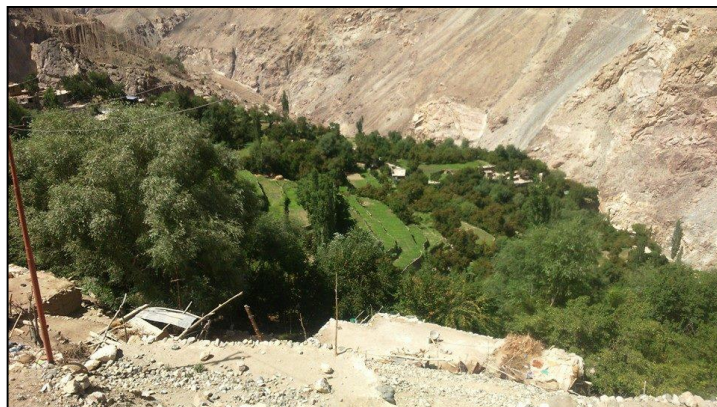
**Keywords:** Apricot, Area, Production, Ladakh

**Introduction**

Apricot (*Prunus armeniaca* L.) belongs to family Rosaceae mostly grown in the temperate regions of the world i.e Western and Central Asia, Europe, North Western Himalaya and Western Tibet. In origin it is said to be native to china and in India it is mostly grown in the Jammu and Kashmir, Himachal Pradesh and parts of Uttrakhand. Ladakh region comprises of two districts (Leh and Kargil) in Jammu and Kashmir and extends over an geographical area of 96,701 km<sup>2</sup> accounting for 43% area of state and 75% of cold arid regions of India. It is situated between 34.5° to 34.7° North latitude, 76.2° to 76.5° East longitude and at an altitude of 2,500-2,750 meters a.m.s.l. Apricot (*Prunus armeniaca* L.) is widely spread over the whole Ladakh with abundance in district kargil and lower belts of district Leh. Lower belts include the area from Saspol to Batalik, Nubra Valley and larger portion of district kargil. Ladakh being a cold arid region characterized by dry climate and precipitation is mostly in the form of snow and glacial melting with short growing period extended from april to august. Soils are mostly sandy loam in nature with low organic carbon and nitrogen content. The review of the area and the production of the region is becoming important from the aspect of knowing the present status and the future scope as the limited studies were carried out in this region.



**Plate 1:** Gharkhon Village (District Kargil).



**Plate 2:** Apricot Orchards of Chulichan Village (District Kargil).

### Status of Apricot (*Prunus armeniaca* L.) in Ladakh

Horticulture is emerged as an important sector of Jammu and Kashmir it is known as back bone of State economy. Its contribution in the state gross domestic product is estimated to about 21.89% for year 2016-2017. The area under the fruit in Jammu and Kashmir has increased from 2.95 lakh hectare in 2007-2008 to 3.38 lakh hectare in 2015-2016 likewise the production has increased from 16.36 Lakh MT's in 2007-2008 to 24.94 Lakh MT's in 2015-2016 (Economic survey

Jammu and Kashmir, 2017). The total area under the production of apricot in Jammu and Kashmir during 1999-2000 was 3,953 hectares and production of about 6604 metric tones in which distict leh and Kargil contribute the major part of the area and production with annual production of 3694 metric tones from an area of 1798 hectares (Anonymus 2001). The area, production and productivity of fruits in Jammu and Kashmir State of last three years were tabulated in Table 1.

**Table 1:** Area, Production & Productivity of fruits (All fruits) J&K State

Year	Kind of fruit	Area	Production	Productivity
		(Lakh Hect.)	(Lakh MTS)	Per Hect.
2014-15	Fresh	2.44	14.55	5.96
	Dry	1.12	2.57	2.29
	Total	3.56	17.12	8.25
2015-16	Fresh	2.42	22.18	9.16
	Dry	0.96	2.76	2.87
	Total	3.38	24.94	12.03
2016-17	Fresh	2.42	19.59	8.09
	Dry	0.97	2.76	2.84
	Total	3.38	22.35	10.93

**Source:** (Economic Survey Jammu and Kashmir, 2017)

Konchok, T., (2011) [6] reported in their study extraction of apricot oil in cold desert ladakh, India that only apricot covers around 54% that is 707 hectare of total area under fruit crops in leh district and the approximate annual yield is about 2956 metric tones per year. While the major portion of about 85% is dried to extent its availability throughout the season. As per the report of the Tata Trust Mumbai based company presently working on many apricot project in ladakh region has reported that both the districts Leh and Kargil produce an estimate of 11800 metric tonnes of fresh apricot from an area of 3400 hectares. Out of the total production only about 1200 metric tonne is consumed as a fresh apricot because of its highly preshiable nature and some obligations for export beyond the ladakh (Tata Trust., 2017) [3]. According to the report published (2017) in Reach Ladakh Magazine in conversation with district horticulture officer Leh reported that around 200 verities of apricot are growing in ladakh. Some of the verities are Halman, raktse karmo, Khantey, Narmo, Margolam, Nari, Lila tilli, Qoban, Australian, Amba, within an area of 791.57 hectare with production of 1923.41tons.

### Material and Methods

A comprehensive survey was conducted in both Districts of Ladakh (Leh and Kargil). The present study was based on the secondary data collection. The present survey was conducted

under the guidance of programme co-ordinator K.V.K Kargil and are participated by research scholars from SKUAST-K and SKUAST-J. The main source of data collection include economic survey, Directorate of horticulture Kashmir, District horticulture office Kargil, District horticulture office Leh, magazines, reports and journals. The data has been analyzed, arranged and interpreted through tabulation.

### Results and Discussion

In pursuing the objectives of the survey the data on the area and annual production of apricot year wise was tabulated from 2001 to 2017. The data in Table 2 revealed that the area under the apricot in 2001, district Leh and Kargil was 633 hectare and 1249 hectare respectively, with a production of about 2650 MT and 1295 MT respectively. While as the present status in 2017 with respect to area and production it was 792 ha and 1514 ha, 1923 MT and 3775 MT in district Leh and Kargil respectively. The total area covered under both district in 2001 was 1882 hectare while as in 2017 it reached about 2306 hectare and in terms of production it was 3945 MT in 2001 compared to 5698 MT in 2017. The year-wise data of area covered and production in apricot from 2001 to 2017 were tabulated in Table 2 and 3. The area and production under different fruit crops in district Leh were also tabulated in Table 4.

**Table 2:** Area under Apricot from 2001 to 2017 in Ladakh Region.

Year	Area (Hect.)		
	District Leh	District Kargil	Total
2001-2002	633	1249	1882
2002-2003	652	1289	1941
2003-2004	678	1314	1992
2004-2005	768	1746	2514
2005-2006	815	1808	2623
2006-2007	839	1878	2717
2007-2008	-	-	-
2008-2009	777	1277	2054
2009-2010	800	1340	2140
2010-2011	816	1367	2183
2011-2012	867	1415	2282
2012-2013	775	1451	2226
2014-2015	790	1467	2257
2015-2016	792	1503	2295
2016-2017	792	1514	2306

Source: (Directorate of Horticulture Kashmir, 2018)

**Table 3:** Apricot Production from 2001 to 2017 in Ladakh Region

Year	Production (MT)		
	District Leh	District Kargil	Total
2001-2002	2650	1295	3945
2002-2003	2700	1315	4015
2003-2004	5285	4548	9833
2004-2005	2906	6299	9205
2005-2006	2916	6310	9226
2006-2007	3135	6670	9805
2007-2008	2990	4557	7547
2008-2009	3140	4785	7925
2009-2010	3234	5152	8386
2010-2011	3396	5410	8806
2011-2012	2602	2707	5309
2012-2013	3118	5351	8469
2014-2015	2400	4876	7276
2015-2016	3189	1741	4930
2016-2017	1923	3775	5698

Source: (Directorate of Horticulture Kashmir, 2018)

**Table 4:** Area and Production under different fruits in District Leh (2016-2017)

Name of fruits	Area (hect.)	Production (MT)
Fresh Fruits		
Apricot	791.57	1923.41
Apple	797.67	4327.30
Pear	2.69	9.06
Peach	4.31	7.38
Plum	31	53
Grapes	2.01	9.01
Cherry	67	1.31
Dry Fruits		
Almond	2.12	1.03
Walnut	4.70	109.46
Total	1703.07	6440.96

Source: (District Horticulture officer Leh)

apricot. The value addition of apricot products will bring a good return to the orchardist which ultimately improves their socio-economic conditions. Though the area and production was increasing gradually but it is not upto the mark compared to the other nations which are known for the apricot production, quality and value added products of apricot. So there is ample need of further research and monitoring to achieve the landmarks in these fields.

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#### Conclusion

It has been concluded that apricot being main fruit crop and cash crop of Ladakh region has enormous scope and potential for further improvement in future with the understanding of importance of soil health management, availability and the use of improved plant materials particularly suitable to the agro climatic conditions of the area and by inducing post harvest technologies. Limited marketing facilities and quarantine law for export of apricot outside the districts is one of the major drawbacks in the production and quality of