

Potato: An important food crop in Pakistan

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Potato is the most important crop in Pakistan after cereals with a potential of earning a significant amount for foreign exchange. After meeting the domestic consumption and procurement of seed for the next growing season, the marketable surplus averages well over 1 million tonnes.

Potato has been an important food crop for growers and consumers not only in Pakistan but all over the globe. It is a crop that can generate high production and more income with more nourishing value. It attained its high rank among the most important crops due to its high volume of production and benefits. Its high returns attract the farmer to cultivate more and more. Globally it is playing a key role in food security and rising as a big source against hunger. It is assuming that one day it will be a leading crop and the hunger from the earth will be eaten by it.

In Pakistan, at the time of independence the total area under potato cultivation was about 3,000 hectares and now the figure has jumped high and it has increased to 179,300 hectares. Increase in

area under cultivation shows that how much our farmers are interested to grow potato.

Freshly harvested potato tubers contain about 79% moisture contents and 21% dry matter. Of total dry matter about 60-80% is starch in the form of amylose and amylopectin. Its nutritional value can be revealed by the presence of vitamins (B1, B2 and B6), minerals (potassium, phosphorus and magnesium), folate, pantothenic acid and riboflavin. In addition to this research activities explored its medicinal value. Presence of soluble and insoluble fibres help in preventing constipation, protect from colon cancer and decrease absorption of dietary cholesterol which leads to lower plasma LDL cholesterol. Recent studies suggest that flavonoids, antioxidants and quercetin present in potato tubers have anti-cancer and cardio-protective properties and also protect our human body from

infectious agents and scavenge harmful, pro-inflammatory free radicals.

Starch from potato tubers is extensively used in paper, wood, textile and pharmaceutical industry where it is used as binder, texture, adhesive and filler agent. Oil drilling firms make use of potato starch for washing the boreholes. Tubers may contain toxic alkaloids as solanine and chaconine. Formation of solanine in tubers is indicated by greenish discoloration with sprouts on potato skin.

In Pakistan potato cultivation is categorized in three growing seasons as spring, summer and autumn crop with different geographical locations. In spring season it is grown in plains and lower hills of Balochistan and KPK province in January-February with harvesting in April-May. Summer crop is sown in northern hilly areas and Azad Jammu and Kashmir in March-May with harvesting in August-September. Autumn sowing is done in plains and southern Punjab, Sindh and plains of Balochistan in September-October and harvesting is done January-February. In total annual production, share of spring, summer and autumn crop is 7-10%, 15-20% and 70-75% respectively. For total area under cultivation for potato, share of Punjab is 83%, Sindh is 1%, KPK is 10% and Baluchistan is 6%. Punjab has highest share for production and area which is contributed by autumn and spring crop. Major potato producing districts in Punjab are Okara, Sahiwal, Kasur, Sialkot, Sheikhupura, Narowal, Lahore, Pakpattan, Jhang, Tobe Tek Singh and Gujranwala, in KPK are Nowshera, Dir and Mansehra, in Baluchistan are Pishin, Kila Saaifulla and Kalat. Area and production of potato of Pakistan are given **Table-1**.

Table 1: Area and Production of Potato

Year	(Hectares)	
	Area (000 Hectares)	Production (000 Tonnes)
2012-13	174.4	3,802.2
2013-14	161.9	3,507.1
2014-15	170.5	3,997.6
2015-16	177.3	3,977.6
2016-17	179.3	3,849.5

Source: i) Pakistan Economic Survey 2016-17.

ii) Pakistan Bureau of Statistics.

Pakistan is a large potato producing country yet per hectare yield is only 19.34 tonnes which is about 45.66 tonnes lower than that of developed countries as USA and Holland where average per hectare yield is 65 tonnes and 45.5 tonnes respectively.

About 5000 varieties of potato exist worldwide. In Pakistan both white and red skin varieties are cultivated but red skinned are mostly liked by consumers. Red skin varieties include Desiree, asterix, lady roseta, krouda, rodeo, cardinal, ultimas, lal-e-faisal, and simphonia while diamant, santana, Ajax, patrones, multa and sante are white skin varieties being cultivated commercially.

World Production

Potatoes are vegetables but they contain a lot of starch (carbohydrates) that make them more like rice, pasta and bread in terms of nutrition. Globally potato is fourth largest food crop after rice, wheat and maize. China is the top country on global scale for potato production where 95.99 million tonnes were harvested in 2016. India produced 45.34 million tonnes of potato in 2016.

Despite health concerns, potato chips are one of the most common snack foods in the world with billions of packets being consumed every year. **Table-2** show World major countries producing potatoes in the world.

Exports

Surplus potato produced locally is exported to UAE, Malaysia, Afghanistan, Sri Lanka, Indonesia, Qatar Kuwait and Saudi Arabia. In 2015-16, 402,434

tonnes potato was exported to above mentioned countries and about Rs. 8.42 billion export revenue is generated by potato yearly. Russia is another big market where demand of Pakistani potato is on rise. Export of potato from Pakistan increased from Rs 10.29 billion in 2014-15 to Rs 402.43 billion in 2015-16. Country-wise exports of potato from Pakistan are given in **Table-3**.

India has always been playing an active player in the field and is expanding both production and export of potato internationally and regionally. The situation is thought-provoking for Pakistan, particularly.

World exports

Global sales from potatoes exports by country amounted to US\$3.7 billion during 2016 for products in their raw form, while the value of shipments for prepared or preserved potatoes including frozen French fries represents an additional \$8.5 billion.

Overall, the value of raw potatoes exports increased in value by an average 7.6% for all exporting countries since 2012 when raw potatoes shipments were valued at \$3.5 billion. Total prepared or preserved potatoes shipments depreciated by 9.9% over the

Table 2: World Largest Potato Producing Countries

Rank	Country	Potato Production (Tonnes)
1	China	95,987,500
2	India	45,343,600
3	Russian Federation	30,199,100
4	Ukraine	22,258,600
5	United States	19,843,900
6	Germany	9,669,700
7	Bangladesh	8,603,000
8	France	6,975,000
9	Netherlands	6,801,000
10	Poland	6,334,200
11	Belarus	5,913,710
12	United Kingdom	5,580,000
13	Iran Islamic Republic	5,560,000
14	Algeria	4,928,030
15	Egypt	4,800,000
16	Canada	4,620,000
17	Peru	4,570,670
18	Malawi	4,535,960
19	Turkey	3,948,000
20	Pakistan	3,802,200
21	Brazil	3,553,770
22	Belgium	34,796,000
23	Kazakhstan	3,343,600
24	Romania	3,289,720
25	Nepal	2,690,420

Source: Food and Agriculture Organization of the United Nations (FAO)



same 5-year period. **Table-4** shows World top 15 countries that exported the highest dollar value worth of unprocessed raw potatoes during 2016.

Future Prospects

Potato is one of the principal cash crops of Pakistani farmers and the primary exportable horticulture commodities from the country. It is the fourth most significant crop in term of bulk of production. Pakistan has become self-sufficient in potato production for its domestic use and seed development. More than 95% seed for potato cultivation produced locally. Punjab produces almost 90% of the potato crop. Potato is sown here on around half a million acres with chances of better exports and profitable returns.

Enhancement in the production of potato is just due to the application of modern technologies and utilization of new seed varieties. White potatoes and the red potatoes are the major contributors in potato production by volume in Pakistan. Potato is exported to UAE, Malaysia, Afghanistan, Sri Lanka, Indonesia, Qatar Kuwait and Saudi Arabia. Due to the application of modern techniques in the production of potato, Pakistan is not only fulfilling its requirements for local consumption but it is also exporting potato.

References

1. Ministry of Food Security and Research, Government of Pakistan
2. Pakistan Bureau of Statistics.
3. Pakistan Economic Survey-2016-17, Ministry of Finance
4. Trade Development Authority of Pakistan ♦

Table 3: Export of Fresh Potatoes From Pakistan

Quantity: Tonnes
Value: Rs. Million

Country	2015-16		2014-15	
	Quantity	Value	Quantity	Value
Afghanistan	82,414	3,052	173,900	6,668
Malaysia	35,384	656	18,507	352
Sri Lanka	96,739	1,736	49,538	940
UAE	1,255,001	1,879	35,680	616
Oman	17,857	260	4,327	252
Qatar	12,678	236	4,083	69
Kuwait	8,071	117	5,520	95
Russian Federation	12,678	235	4,082	69
Singapore	5,004	96	2,840	55
Saudi Arabia	153	3	54	1
All others	2,498,365	150	48,890	1,180
Total	4,024,344	8,420	347,421	10,297

Source: Pakistan Bureau of Statistics.

Table-4: World Major Potato Exporting Countries 2016

Rank	Country	Value US\$ Million	% Share of Total Exports
1	Netherlands	669.9	18%
2	France	603.4	16.2%
3	Germany	349.2	9.4%
4	Canada	228.1	6.1%
5	China	227.2	6.1%
6	Belgium	210.2	5.7
7	United States	203.6	5.5
8	Egypt	162	4.4
9	United Kingdom	150.9	4.1
10	Spain	136.2	3.7
11	Israel	90.4	2.4
12	Italy	71.9	1.9
13	India	60.3	1.6
14	Denmark	58.3	1.6
15	Cyprus	52.7	1.4

Source: Food and Agriculture Organization of the United Nations (FAO)

