

= Cotton production in Pakistan =

Cotton production is integral to the economic development of Pakistan . The nation is largely dependent on the cotton industry and its related textile sector , and the crop has been given a principal status in the country . Cotton is grown as an industrial crop in 15 % of the nation 's land during the monsoon months of May to August , known as the kharif period , and is grown at a smaller scale between February and April . Record production of cotton was reported at 15 million bales of 470 pounds (210 kg) each in the form of phutti (seed cotton) during 2014 ? 15 , which was an 11 % rise compared to the previous season (2013 ? 14) . Production @-@ wise , as of 2012 ? 13 , Pakistan occupied the fourth position among the cotton growers of the world , the first three being China , India and the United States , in that order . In respect of exports of raw cotton , Pakistan holds third position , and is the fourth in consumption (about 30 and 40 per cent of its production) . It is the largest exporter of cotton yarn .

= = History = =

The earliest known historical traces of cotton were found at Mehrgarh near the city of Quetta , making Pakistan one of the first regions of cotton cultivation . Cotton was discovered in threads on a copper bead at a burial site dated to the Neolithic period (6000 BC) . The mineralised threads were subject to metallurgical analysis with a combination of a reflected @-@ light microscope and a scanning electron microscope , revealing that they were of cotton (genus *Gossypium*) . Cotton cultivation became more widespread during the Indus Valley Civilisation , which covered parts of present day eastern Pakistan and northwestern India . Archaeobotanical evidence of seeds has been traced to 5000 BC in Mehrgarh , though it is not clear if they belonged to a wild or cultivated variety . Use of cotton cloth in the Indus Valley cities of Mohenjo @-@ daro and Harappa dates to 2 @, @ 500 BC . Cotton pollen has been recorded at Balakot . At Harappa (Mature Harappan period 2500 @-@ 2000 BC) , evidence of cotton threads has been found tied to the handle of a mirror , an antiquity from a female burial site , and around a copper razor . There is also much other evidence of cotton in some form , such as Malvaceae (flowering plant) pollen type , similar to *Gossypium* in Balakot (Mature Harappan period , 2500 @-@ 2000 BC) ; as seeds at Banawali (Mature Harappan , 2200 @-@ 1900 BC) , Sanghol (Late Harappan , 1900 @-@ 1400 BC) , Kanmer , Kacchh (Late Harappan , 2 @, @ 000 @-@ 1 @, @ 700 BC) , Imlidhi Khurd and Gorakhpur (1300 @-@ 800 BC) ; as fibres in Late Ochre @-@ Coloured Pottery at Sringaverapura (1200 @-@ 700 BC) ; and in Hallur as seeds and fragments of the Early Iron Age (950 @-@ 900 BC) .

= = Growing regions = =

Cotton is purely a cellulose fibre crop , one of the four major crops in the country , and is known by popular epithets as ? King cotton ? and ? white gold ? . It forms the primary input for the textile industry of Pakistan .

Cotton is integral to Pakistan 's economy . According to an analysis in the USDA Foreign Agricultural Service report of 2015 , it is grown as an industrial crop in 15 % of the nation 's land . It is grown during the monsoon months of May to August , known as the kharif period . It is also grown on a smaller scale between February and April .

Cotton is grown mostly in the two provinces of Punjab and Sindh , with the former accounting for 79 % and the latter for 20 % of the nation 's cotton growing land . It is also grown in Khyber Pakhtoon Khawah (KPK) and Balochistan provinces . The total land area of cotton cultivation was reported as 2 @, @ 950 @, @ 000 hectares (7 @, @ 300 @, @ 000 acres) during the 2014 ? 15 growing season . Generally , small farmers with land holdings less than 5 hectares (12 acres) in size form the largest group of growers ; farmers holding less than 2 hectares (4 @. @ 9 acres) account for 50 % of the farms . Land holdings with 25 hectares (62 acres) under cotton cultivation form less than 2 % of farms . According to a 2013 estimate , there were 1 @. @ 6 million farmers (out of a total of 5 million in all sectors) engaged in cotton farming , growing more than 3 million hectares .

== Varieties ==

Farmers have widely adopted *Bacillus thuringiensis* (Bt) cotton since its first trial in Sindh province in 2002 . It is now used in 95 % of the area . The Punjab Seed Council has approved the use of 18 Bt cotton and non Bt varieties for cultivation . These are : 12 BT varieties FH 114 , CIM 598 , SITARA 009 , A one , BH 167 , MIAD 852 , CIM 573 , SLH 317 , TARZAN 1 , NS 141 , IR NIBGE 3 , MNH 886 , and six non BT varieties NIBGE 115 , FH 941 , FH 942 , IR 1524 , Ali Akbar 802 and NEELAM 121 . In Sindh province , local Sindh varieties of cotton are also grown in about 40 % of the area . They are generally planted from April to July , and harvested during August to December .

== Production ==

Cotton serves as the base for the nation 's industrial sector . Production of cotton was reported at a record high of 15 million bales of 470 lbs each in the form of phutti (seed cotton) during 2014 to 2015 ; this was an 11 % increase compared to the previous season (2013 to 2014) . Its phenomenal growth was from 1.38 million bales in 1961 to 11.138 million bales in 2014 , with the estimated 2014 to 2015 figures showing a further increase to 15 million bales . Between 1980 to 1981 and 1990 to 1991 , the growth in production was rapid , with production rising from 0.70 million to 2.2 million tonnes , which was called the " magic year " of Pakistan 's cotton industry . This was attributed to better pest control measures , use of improved seed types and increased use of fertilisers . The cotton and textile industries are integrated and account for 1,000 ginneries , 425 textile mills , and 300 cottonseed crushers and oil refiners . Cotton hybrids , created by crossing the Bt gene into traditional varieties , have been developed by local firms dealing with seeds . In Sindh province cotton is grown in more than one million acres in the districts of Benazirabad , Hyderabad , Jamshoro , Mirpur Khas , Naushero Feroz , Sanghar , Badin , Sukkar , Ghotki , Tharparkar , Thatta and Umar Kot .

In terms of production , Pakistan is at the fourth position among the cotton growers of the world ; the first three are China , India and the United States , in that order Raw cotton exported from Pakistan holds third position in the world as per records of 2012 to 2013 . Consumption wise it holds the fourth position (about 30 and 40 per cent of its production) . It is the largest exporter of cotton yarn .

Cotton produced within the country is of medium staple . Hence long staple cotton is imported to produce quality fabrics for export . Medium staple cotton , also called standard medium staple cotton is American Upland type with staple length varying from about 1.3 to 3.3 centimetres (0.51 to 1.30 in) . Long staple cottons have relatively longer fibre , are expensive and used mostly to make fine fabrics , yarns , and hosiery . The country 's economic development is largely dependent on the cotton industry and its related textile sector , and this has given a principal status to cotton in the country . Apart from use in textiles in the form of cotton lint , yarn , thread , cloth , and garments , its seeds are used for oil extraction .

== Diseases ==

Viruses and pests affect yield of Bt cotton varieties . Cotton leaf curl virus , which is a plant pathogenic virus of the family Geminiviridae , stunts plant growth seriously affecting yield . Pests like White Fly , Mealy Bugs , Aphids , Pink Boll Worm infect the plants reducing yield .

== Exports ==

474,091 bales of 470 lbs each were exported during the 2014 to 2015 season , an increase from 382,006 bales in 2014 to 2015 . The cotton and textile industries play a dominant role in exports ;

cotton accounts for 55 percent of country 's export earnings , and Pakistan has a 14 % share of the world 's cloth exports . The European Union (EU) granted Generalized System of Preferences " Plus " status to Pakistan in 2013 , which has promoted textile exports to the EU .

= = Legal framework = =

Though a bio @-@ safety regulatory system was part of the 18th Amendment to the Constitution of Pakistan that " devolved " several functions to the provinces , the system is still unclear with regard to regulators who can oversee the approval of new seed technologies . In this context the three regulatory acts which are under approval stage are the Plant Breeders ? Rights Act , Amendments to the 1976 Seed Act , and the Biosafety Law . According to the USDA Foreign Agricultural Service report of 2015 , passage of these laws is crucial to the introduction of new biotech events .