

SCENARIO OF CHILI IN PAKISTAN

BY

**MUHAMMAD TARIQ SARWAR AWAN ,
PAKISTAN**

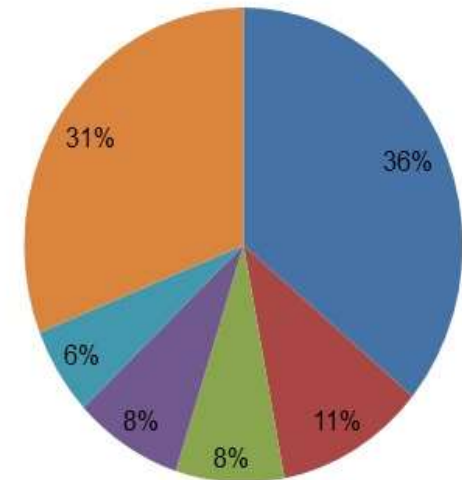


Pakistan

- Pakistan continues to remain among the top five producers in the world.
- The average yield of 1.7 tons per hectare contributes 1.5 per cent of the country's GDP.
- Production 90,000 MT
- 40,000 Hectares land

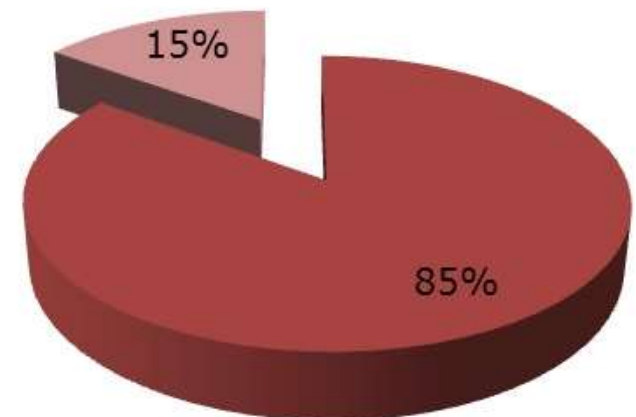
Major Red Chilli Producing Countries - 2009

■ India ■ China ■ Bangladesh ■ Peru ■ Pakistan ■ Other



Share of Sindh for Red Chilli in Pakistan

■ Sindh ■ Other Provinces



CHILIES ARE SOURCE OF:

VITAMINS

- Vitamin A
- Vitamin B
- Vitamin C
- Vitamin E

MINERALS

- MOLYBDENUM
- MANGNESE
- FOLIATE
- THIAMIN
- COPPER

GROWING CONDITIONS AND SEASONS

- Chilies are a warm-climate crop, most Chili cultivars grow well in areas where the average temperature is **30°C** for at least four to five months of the year.
- The optimal temperature is between **24°C and 32°C**.
- At lower temperatures growth becomes progressively poorer and despite being a warm season crop.
- At temperatures above 35°C coupled with dry winds, excessive flower drop may become a problem

FACTS

- Crop duration of chilies 150-180 days.
- Seed germination time is 5-7 days.
- About 40-45 days old seedlings should be used but there is a trend of own seeds for years.

USES

- PAIN KILLER
- ANTIBIOTIC
- ARYUVEDIC MEDICINES
- OLEORESINS

AFLATOXIN

- Aspergillus flavus
- Aspergillus Parasiticus
- FDA levels for Food and Feed are 20-30 ppb.
- Most potent aflatoxin are.
- B1 , B2
- G1 , G2
- M1 , M2
- ATOXICOL AND AFLATOXIN Q1
- NOTE: if aflatoxin contamination has occurred than it is not possible to destroy them by processing or cooking.

COMMON POST HARVEST DISEASES

- Damping off
- Anthracnose or fruit rot
- Die back
- Wilt
- Murda complex
- Leaf spots
- Powdery mildew

USAID STUDY IN PAKISTAN

- **PROBLEM 1:** growers don't buy seeds from breeders but save seed from years to years
- **PROBLEM 2:** Improper fertilizer (soil pH is high and Zinc is lacking).
- **PROBLEM 3:** No rejection of contaminated lots
- **PROBLEM 4:** Harvesting method
- **PROBLEM 5:** Drying procedure

PROMINENT RED CHILI VARIETIES IN PAKISTAN

- Desi Kunri
- Mexi Kunri
- Nageena Kunri
- Dandi Cut Mirpur Khas
- Talhari Winter Grown Chillies from Badin



Dundicut from Mirpur Khas



Red Chillies in Kunri

MAJOR CHILI VARIETIES IN SINDH

- Chilli varieties grown in Sindh are Ghotki, Loungi, Talhar and Sanam.
- The Ghotki variety is grown in Ghotki, Khairpur, Shikarpur and Kotri in February and March. The fruits of this variety are thin long, straight, or curved with little quantity of seeds inside. It is an early variety and farmers get good price for this variety.

LOUNGI VARIETY

- Loungi is grown in
- Mirpurkhas,
- Nawabshah,
- Sanghar and
- Tharparkar districts.
- This variety is familiar with growers because they get more prices. Its yield potential is 35-50 mounds per acre.

TALHAR VARIETY

- Talhar is grown in Badin, Thalhar and Tando Muhammad Khan and some areas of Hyderabad. This is a late variety. Nursery is raised in June, July and transplanting done in August. Its fruits are long, thick, just like finger and straight. Fruits are less pungent if supplied in green stages. Its yield potential is 80-100 maunds per acre.

SANAM VARIETY

- Sanam is mostly grown in Karachi division, but is successfully grown in Mirpurkhas and Hyderabad districts, also. This is grown both in winter and summer. Its fruits are long and cylindrical. The collection and selection of chili germplasm for resistance to diseases, tolerance to low and high temperatures, high yield with good fruit shape and colour should be the main goal.

PROBLEMS IN PAKISTAN

- Loss of color due to the long duration (10 to 12 days) required for drying, which is carried out in the open fields.
- the inability to invest in drying technology
- mal-cultural practices
- non availability of standard seeds
- Phytophthora or collar rot disease.
- Incidence of chili mosaic virus.
- Anthracnose which deteriorates fruit in chilies.
- Aflatoxin, a post-harvest problem which deteriorates the quality.
- Local hybrids are not available.
- bud mite.

PROBLEMS

- the produce is exposed to sun for 10-15 days in open yards, it is likely to get contaminated with foreign matter.
- This also results in poor colour for the product due to the bleaching effect of sun-rays.
- The produce can be dried within a period of 18 hours by using air drier for maintaining the temperature at 44-46C. The method not only saves time of drying operation but also imparts deep red color and glossy texture to the produce.

MAJOR PRODUCTION AREAS IN SINDH

- Sindh Produces 85% chili production in Pakistan.
- Average Yield is 1.74 MT/Hactare
- Kunri produces 55 % of Sindh Production
- Mirpur Khas
- Sanghar
- Badin
- Tando Muhammad Khan
- Khairpur
- Shikarpur
- Ghotki

MAJOR PRODUCTION AREAS IN PUNJAB

In Punjab, the main chili producing areas are

- Kasur,
- Okara,
- Pakpattan,
- Sahiwal,
- Multan,
- Sheikhpura,
- Khanewal,
- Vehari and
- Bahawal Nagar.

Major Production areas in KPK

In KPK, the main chili producing areas are

- Mohmand Agency,
- Bajour,
- Dir and
- Kohat.

Major Production areas in Baluchistan

In Baluchistan, the main chilli producing areas are

- Killa Saifullah,
- Khuzdar,
- Loralai and
- Musa Khel.

YEILD AND CROP DURATION

- Rain Fed Areas 200 to 400 kg
- Irrigated Areas 600 to 1000 kg
- Crop Duration 150 to 180 Days

LARGEST PRODUCERS

- The largest producers of chilies in the world
India 1.8 million tones
- China (1.4m tones),
- Mexico (0.8m tones) &
- Pakistan (0.7 m tones), however world Trade of Chilies is around 0.4 m tones.

IMPORTANCE OF CHILIES AND USES

- Red chilies are also a very good source of vitamins A, B, C,
- contain high quantities of magnesium, potassium, and iron.
- Red chilies are used primarily as spice in foods and beverages in whole form or in powdered form.
- In addition, red chilies are used as main ingredients in various types of sauces, vinegars, ketchups, and pickles.

COMMON PEPPERS

- A wide range of intensity is found in commonly used peppers:
- Bell pepper 0 SHU
- New Mexico green chile 0 - 70,000 SHU
- Fresno, jalapeño 3,500-10,000 SHU
- Cayenne 30,000-50,000 SHU
- Piri piri 50,000-100,000 SHU
- Habanero,
Scotch bonnet,
bird's eye 100,000–350,000 SHU

NOTABLE HOT CHILI PEPPERS

- Some of the world's hottest chili peppers are:
- [United States Carolina Reaper](#) 2.2M SHU
- [TrinidadTrinidad Moruga scorpion](#) 2.0M SHU
- [India Bhut jolokia](#) (Ghost pepper) 1.58M SHU
- [TrinidadTrinidad Scorpion Butch T](#) 1.463M SHU
- [United Kingdom Naga Viper](#) 1.4M SHU
- [United Kingdom Infinity chili](#) 1.2M SHU

PAKISTAN PRODUCTION BY PROVINCES

- Punjab produces 6.3-8.1 % ,
- Baluchistan 3.4 to 4.7 % ,
- KPK contributes only 0.6- 1.3 % ,
- Rest all production belongs to Sindh varying from 80-90% of total production.

FERTILIZER DOSE USED IN PAKISTAN

Fertilizer dose used for chilies in Pakistan is

- one bag of DAP,
- one of potassium sulphate before sowing,
- two to three bags of urea,
 - one bag is applied after 20 days of transplanting
 - the second at flowering stage,
 - third, if necessary, at fruit setting.

GREEN CHILLIES

- Green chillies are picked early in the morning or in the evening.
- These are protected from the sun to avoid quality deterioration.
- Ripe fruits are harvested at frequent intervals.
- Retaining fruits for a long period on the plant causes wrinkles and color fading.
- Soon after the harvest, the produce is heaped or kept in clean gunnies for one day for uniform color development of pods.
- Sun-drying is necessary to ensure complete dryness.
- Leveled and compacted floor is made for drying.

What to do with aflatoxin

- Aspergillus Flavus contamination in Pakistan is 29.3 % in Pakistan.
- Pesticide residue is also a problem

To avoid We need to :

- Select right varieties
- Dry at high temperatures of 60 degrees for 6 hours, and than reduce heat to 45 degrees for final drying.
- Ensure short time between harvesting and drying
- Remove diseased and injured chilies
- Dry to moisture content of 8 %.
- Store under cool and dark conditions
- Grind the powder shortly before shipment
- Pack quickly into air tight bags.