India Cotton: Record Area and Production

USDA estimates India’s harvested cotton area to reach record levels at 13.4 million hectares (mha), up nearly 1 percent from 2019 (Figure 1). Yields are forecast to reach 487 kilograms per hectare (kg/ha), down nearly 1 percent from last month and down nearly 2 percent from 2019 as farmers expand plantings in lower-yielding, non-irrigated areas and contend with pest infestations. Production is forecast at 30.0 million 480-pound bales, up nearly 2 percent from 2019/20.

Nationally, cotton area increased, however the three regions behaved differently. Cotton farmers in northern India sowed 33 percent more than the long-term average because cotton is not as labor intensive as rice. In central India, which comprises 75 percent of total cotton production, cotton planting is down nearly 7 percent from 2019 and down almost 4 percent from the long-term average as farmers in Gujarat switched to planting peanuts and farmers in Maharashtra switched to rice and pulses. In the southern planting region, cotton area is up 31 percent from last year and up 7 percent from the long-term average. Telangana, which is the largest producer in the south, expanded plantings by 36 percent from 2019. The significant increase in cotton area planted in Telangana is due to favorable government policy changes. The State Government of Telangana emphasized buying corn and rice, rather than growing it. Thus, farmers with irrigation capacity were encouraged to grow cotton instead of corn and rice, as evidenced by the cotton area changes (Figure 2).

Harvesting has commenced in northern India. The first picking has begun in the northern state of Haryana, and the second picking is likely to continue into early October if the weather remains favorable. However, harvesting in Punjab started in late September because of the decrease in availability of labor from COVID-19 restrictions.

In central India’s major cotton-producing areas of Gujarat, Maharashtra and Telangana, cotton is in boll development stage. Satellite-derived Normalized Difference Vegetation Index (NDVI) anomaly analysis is indicating strong crop vigor across these regions. However, there are reports of a few incidences of pink bollworm in Maharashtra, which could potentially impact yields. Farmers are reportedly taking control measures.

Yields are expected to be lower than last year. July and August floods caused crop damage in the Punjab and Rajasthan cotton-belt areas. Hot and humid conditions in late August caused incidences of diseases such as bacterial blight, cotton leaf curl virus, and pests such as whitefly. In addition, satellite-derived MODIS NDVI anomaly images in Punjab showed a decline in crop vigor in the areas impacted by the July and August floods. According to in-
country reports, in some areas cotton crops were flooded and inundated for extensive periods of time and did not recover completely. In most of those areas, MODIS-NDVI is showing crop vigor below 2019 but above the long-term average. However, the final assessment of crop damage and its impact on yields will not be entirely known until harvest is complete (Figure 3).

The 2020 southwest monsoon is showing some signs of withdrawal; rainfall across India has not been as intense in late August and early September. Typically, the southwest monsoon season ends around September 30. The India Meteorological Department rated the 2020 southwest monsoon as normal, however, it has been performing erratically throughout the season. The southwest monsoon was on time and covered the entire country within two weeks in June. However, in July and into mid-August, some cotton producers in central India, such as Madhya Pradesh, experienced dryness during the crop’s vegetative stages. Nevertheless, cumulative rainfall is rated as excessive, or above 20 percent of the long-term average, in the major cotton areas of Gujarat, Maharashtra and Telangana.

Cotton is grown only in the Kharif season from May to October. If late rains occur, harvesting can continue into February for extra pickings. Cotton is planted in northern India (Punjab, Haryana, and Rajasthan) in May, followed by central India (Gujarat, Maharashtra, and Madhya Pradesh) from June to mid-August, followed by southern India in late July into September (Figure 4). For this year, planting activities recently ended in the southern region, which includes the states of Andhra Pradesh, Telangana, Karnataka, and Tamil Nadu. The Government First Advance cotton planting was 3 percent higher than the long-term average, and up 3 percent from last year. The timely monsoon, availability of farm labor despite COVID-19 restrictions, and favorable minimum support prices (MSP) compared to other crops, helped boost plantings.
Figure 1. India Record Area Harvested. Source: USDA PS&D Online
<table>
<thead>
<tr>
<th>Region</th>
<th>States</th>
<th>Percent of Total Production</th>
<th>Area Planted As of September 18,2020</th>
<th>Average Area Planted for Kharif (mHa)</th>
<th>Percent Change Current Planting and Average Area</th>
<th>Sowing Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>Punjab, Haryana, Rajasthan</td>
<td>11</td>
<td>1.9</td>
<td>1.4</td>
<td>Up 33%</td>
<td>Completed</td>
</tr>
<tr>
<td>Central</td>
<td>Gujarat, Maharashtra, Madhya Pradesh</td>
<td>75</td>
<td>7.1</td>
<td>7.3</td>
<td>Down 3%</td>
<td>Completed</td>
</tr>
<tr>
<td>South</td>
<td>Andhra Pradesh, Karnataka, Tamil Nadu, Telangana</td>
<td>14</td>
<td>3.7</td>
<td>3.0</td>
<td>Up 23%</td>
<td>Completed</td>
</tr>
</tbody>
</table>

Figure 2. India Cotton Area Planted by Region. Source: India’s Department of Agriculture, Cooperation & Farmers Welfare
Figure 3. MODIS-NDVI Punjab Cotton Belt. Source: NASA-USDA
Figure 4. India Cotton Production. Source: India Ministry of Agriculture, Directorate of Economics and Social Statistics, Department of Agriculture, Cooperation & Farmers Welfare

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For more information and to access FAS databases and reports please visit:
Current World Agricultural Production Reports
https://www.fas.usda.gov/data/world-agricultural-production

Production, Supply and Distribution Database (PSD Online)
https://apps.fas.usda.gov/psdonline/app/index.html#/app/home

Global Agricultural Information Network (Agricultural Attaché Reports)

Crop Explorer
https://ipad.fas.usda.gov/cropexplorer/

NASA-USDA Global Agricultural Monitoring System (GLAM)
https://glam1.gsfc.nasa.gov/

Global Agricultural and Disaster Assessment System (GADAS)