GLOBAL CROP PRODUCTION REVIEW, 2008

Prepared by USDA's Joint Agricultural Weather Facility

The following is an annual review of regional crop production, comparing 2008 with the previous year. For both the northern and southern hemisphere, these summaries reflect growing season weather for crops that were harvested in the calendar year of 2008. Unless otherwise noted, statistics quoted are based on crop estimates released by the United States Department of Agriculture in February 2009.

Wheat and Coarse Grain Summary: In 2008, global wheat production rose 12 percent from 2007. Production increased in the United States, Canada, Russia, Ukraine, China, India, Turkey, Morocco, Brazil, Australia, and most of the major producing countries in the European Union. Wheat production declined in Argentina, Iran, Kazakhstan, and Pakistan. The country-level changes in 2008 wheat production from 2007 are shown in Figure 1. Global coarse grain production rose 2 percent in 2008. Production increases in Russia, Ukraine, Turkey, China, Mexico, Brazil, South Africa, Australia, and most of the major producing countries in the European Union offset production declines in the United States, Canada, Argentina, and India.

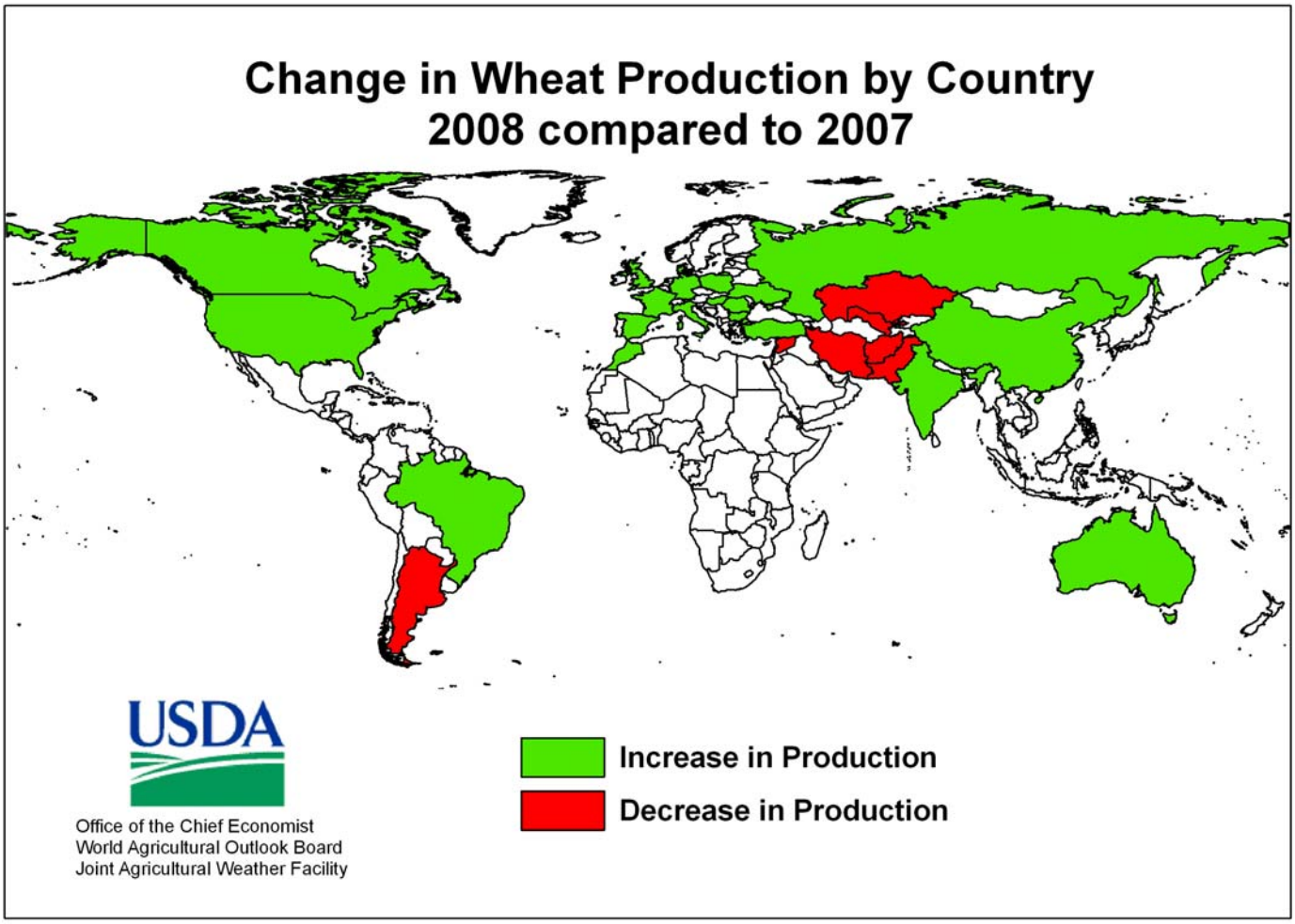

Figure 1. Change in wheat production by country (2008 versus 2007).

In the United States, wheat production increased 22 percent from 2007, with production totals up for all major classes of wheat (winter, spring, and durum). Durum production was up 18 percent from 2007, despite lower yields in all production states except California. A much larger harvested area (22 percent above last year) accounted for the rise in durum production. Spring wheat production climbed 14 percent from 2007, with higher yields reported in all states except Colorado, Oregon, Utah, and Washington. Winter wheat production, up 25 percent from the previous year, exhibited the largest increase among wheat classes. Growing conditions were favorable in all major winter wheat production areas. Hard Red Winter (HRW) wheat production was up 8 percent from 2007, despite a smaller planted acreage. The HRW growing season was dramatically better in Oklahoma, where production was up 70 percent from the previous year. Soft Red Winter (SRW) wheat production showed a phenomenal 74 percent increase from 2007, when an April freeze severely damaged the crop. White Winter wheat production was up 14 percent from last year. Meanwhile, U.S. corn production was down 7 percent from 2007. However, U.S. production was second only to last year's record high. The U.S. corn yield also attained the second-highest level on record (3.91 metric tons per hectare, versus 4.07 in 2004).

In Canada, wheat production rose over 40 percent on the combination of higher yields and area. In Ontario, timely showers in the autumn of 2007 created nearly ideal planting conditions, reportedly leading producers to plant a record level of winter wheat acreage. Generally favorable growing conditions, including limited instances of frost damage and pressure from disease and pests, favored high yields. Most Prairie farming areas recovered from a drought that began to develop during the summer of 2007 (Figure 2), supporting higher spring wheat yields, although pockets of unfavorable dryness persisted in Alberta's central and northern growing areas. In contrast, coarse grain production fell slightly on reduced area. Production of corn, primarily grown in Ontario, fell 9 percent despite higher yields. Prairie barley production rose 7 percent as vastly improved yields offset a more than 10 percent reduction in acreage.

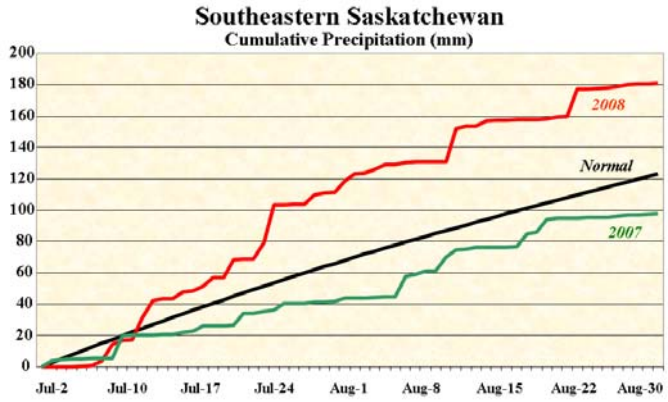

Figure 2. Summer rainfall comparisons (2008 vs. 2007) for southeastern farming areas of Saskatchewan.

In the European Union (EU-27), wheat production was up over 25 percent. Gains of 19 percent or more were noted in the region's top three producers (France, Germany, and the United Kingdom). Favorable spring rainfall and a lack of winterkill were in sharp contrast to last year's untimely spring freeze and drought, greatly improving winter grain yields. In the Balkans, where excessive dryness and heat slashed last year's winter wheat production, a remarkable turn around was noted in Bulgaria (80 percent) and Romania (150 percent). Likewise, Europe's coarse grain production rose 17 percent; increases of more than 90 percent were reported in Romania and Hungary, while more modest improvements were observed in France and Germany (16 and 21 percent, respectively).

In Russia, total wheat production rose 29 percent in 2008, mainly due to a significant increase in winter wheat production. The combination of highly favorable weather along with a 20 percent year-to-year increase in winter wheat area resulted in record winter wheat production (up 52 percent). Winter wheat is mostly grown in the Southern District and southern areas of the Central and Volga Districts. In the autumn of 2007, timely showers and unseasonably mild weather benefited winter wheat emergence and establishment. The mild weather promoted later-than-usual plant

growth prior to dormancy. Overwintering conditions were mostly favorable for winter wheat. However, there was a period of very cold weather from January 4-12 that stressed the crop. Despite the cold weather in early January, crop losses due to winterkill were below average. In March, a sharp rise in temperatures caused rapid snowmelt and the winter wheat crop broke dormancy 2 to 3 weeks earlier than usual. Above-normal precipitation fell in the wake of winter dryness, boosting soil moisture reserves. The combination of timely rains along with a lack of stressful heat during the reproductive and filling periods in May and June resulted in a 26 percent increase in winter wheat yield.

Growing-season weather conditions for spring wheat were mixed and less favorable than those for the winter wheat crop. Spring wheat is grown from the Volga District eastward through the Siberia District. In May, periods of warm, dry weather allowed rapid spring grain planting in most areas. During the growing season, generally favorable weather benefited spring wheat development in the central Volga District, most of the Urals, and northern Siberia. Elsewhere, periodic heat and dryness stressed the crop and lowered yield prospects, especially in the eastern Volga District and southern areas in the Siberia District. Overall, spring wheat yield and production were only slightly lower than 2007 but higher than the averages for the previous five years (2003-2007). Russian coarse grain production increased 39 percent, mainly due to favorable weather in most areas where rye, barley, and corn are grown. Rye production rose 15 percent, while barley and corn production rose 48 and 67 percent, respectively.

In Ukraine, wheat production rose sharply in 2008, increasing 86 percent from the previous year's drought-reduced crop. Most of the wheat grown in Ukraine consists of winter varieties. In the fall of 2007, the combination of near- to above-normal precipitation and above-normal temperatures favored winter wheat emergence and establishment. Winter wheat entered dormancy in late November, 1 to 2 weeks later than usual. During the winter, unseasonably mild weather provided favorable overwintering conditions for winter wheat, although well-below-normal precipitation limited moisture recharge. Crop losses due to winterkill were well below average. In March, unseasonably mild weather prompted winter wheat to break dormancy about 2 to 3 weeks earlier than usual. Above-normal precipitation in March and April followed winter dryness, boosting soil moisture for winter grain development. In May, widespread showers and cool weather boosted yield prospects for winter wheat as it advanced through the reproductive phase of development. Overall, wheat yields increased sharply (57 percent) from the previous year. Favorable weather also led to a significant increase in coarse grain production (80 percent). Growing-season weather was markedly improved over the previous year (Figure 3), leading to increases in barley (110 percent) and corn (54 percent) production.

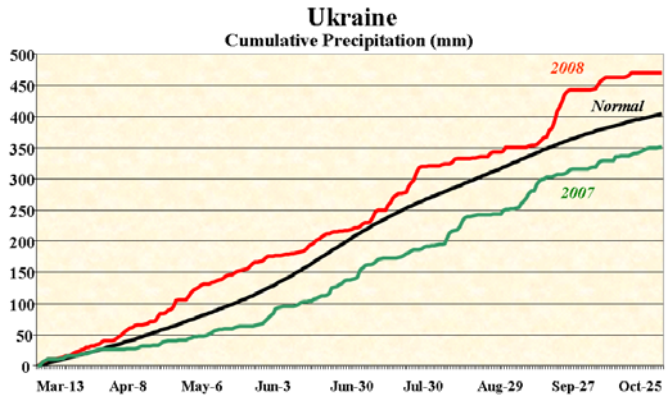

Figure 3. Comparison of seasonal cumulative rainfall during the 2007 and 2008 growing seasons (March to October) in Ukraine.

In Kazakhstan, spring grains (mostly spring wheat and spring barley) historically account for about 95 percent of total grain production. Most of the wheat (96 percent) grown in the country consists of spring varieties, while spring barley typically accounts for about 80 percent of Kazakhstan's coarse grain production. In 2008, growing-season weather conditions in major spring grain producing areas of north-central Kazakhstan were less favorable than the ideal weather conditions of the previous year. Periods of heat and dryness during the growing season led to a 25 percent decrease in

wheat production and a 23 percent decrease in coarse grain production. However, wheat and coarse grain production were only slightly below their averages for the previous five years (2003-2007).

In the Middle East, drought in eastern growing areas contrasted with generally favorable weather farther west. Turkish winter wheat production increased 8 percent from 2007 due to timely spring rainfall, although dryness began to grip the region as crops neared maturity. In Iran, expanding drought cut wheat production 33 percent, while extreme drought in Syria depleted soil moisture and irrigation reserves, resulting in substantial crop losses (down 50 percent versus last year). The same drought also adversely impacted winter wheat in northern Iraq, with remote-sensing data indicating extreme stress on vegetation in Iraq's primary winter wheat areas.

In northwestern Africa, a marked turn around from last year's drought resulted in substantial improvement in crop yields. Moroccan wheat production shot up by more than 120 percent, while barley production increased almost 60 percent. Despite the favorable weather nearly region-wide, late-season dryness returned to southern Morocco, trimming crop expectations somewhat (Figure 4).

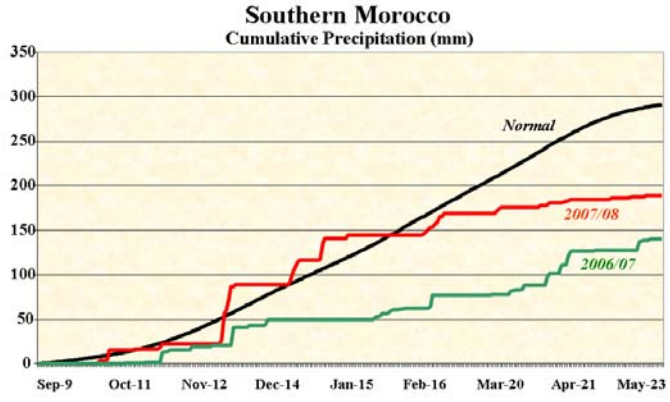

Figure 4. Comparison of seasonal cumulative rainfall during the 2006/07 and 2007/08 winter-spring growing seasons (September to May) in southern Morocco.

In China, wheat production rose 3 percent from 2007 based on adequate irrigation and favorable harvest weather. Abundant rainfall across major corn producing areas aided yield increases compared to the reduced crop of 2007. As a result, production increased nearly 10 percent.

In India, wheat production rose 3 percent courtesy of elevated yields due to favorable winter and spring weather. Conversely, Indian coarse grain production declined (8 percent) as a result of a late monsoon onset in central India as well as a 2 percent drop in total area planted. In Pakistan, wheat production fell 8 percent from last year due to spring dryness and freezes, which adversely impacted reproductive crops.

In the Southern Hemisphere, 2008 Australian wheat production increased 46 percent relative to 2007 estimates, while barley production declined 3 percent. In Western Australia, near- to above-normal rainfall throughout most of the growing season benefited winter grains. Although dry weather during August was unfavorable for jointing winter grains, abundant rainfall during September and October was timely for reproductive to filling crops, helping offset the negative impacts of the August dryness.

Farther east, near-normal autumn and early winter rainfall spurred winter grain emergence in South Australia and Victoria, while relatively dry weather in southern New South Wales delayed planting and slowed germination. The unwelcome dryness expanded throughout much of southeastern Australia as winter grains advanced through the reproductive and filling stages of development, causing winter wheat and barley production in this region to fall well short of potential for the third consecutive year. Dry weather also caused some planting delays in northern New South Wales and Queensland, but generally favorable weather aided winter wheat development during the remainder of the growing season.

In South Africa, corn production jumped 80 percent from the 2006/07 season due to a combination of abundant growing season rainfall (Figure 5) and an

area increase of about 400,000 hectares. Yields averaged nearly 60 percent higher than those recorded in the markedly drier previous growing season (3.99 metric tons per hectare versus 2.52 for the 2006/07 growing season).

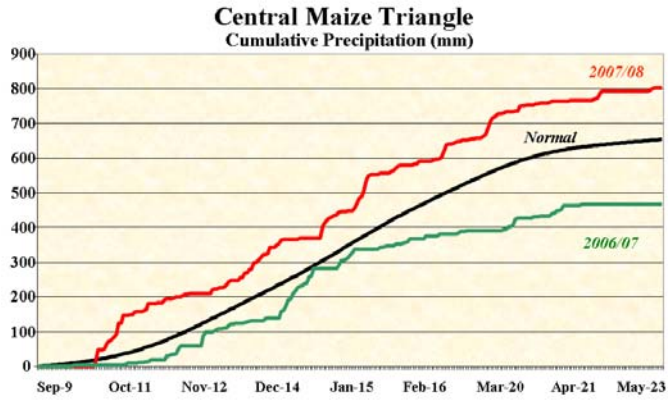

Figure 5. Comparison of seasonal cumulative rainfall during the 2006/07 and 2007/08 growing seasons (September to May) in the South African corn belt.

In Argentina, corn production fell about 7 percent, as higher area failed to offset a reduction in yield caused by periods of untimely summer heat and dryness. Yields were about 20 percent lower than those obtained during the exceptionally good 2006/07 season (6.40 metric tons per hectare versus 8.04). In contrast, corn production in Brazil rose nearly 15 percent, partly due to favorable late-season weather conditions that improved production of the winter (safrinha) corn crop over that of the previous season (Figure 6).

Argentine wheat production fell more than 40 percent from that harvested at the end of 2007 due to a severe drought that began during the autumn planting season and lasted well into the spring. Wheat production rose for a second year in Brazil, despite untimely wetness that hampered harvesting toward the end of 2008.

Oilseed Summary: Global oilseed production rose 4 percent in 2008. Production increased in the United States, Canada, Russia, Ukraine, Indonesia, Pakistan, China, Brazil, and most countries in the European Union, and declined in Turkey and Argentina.

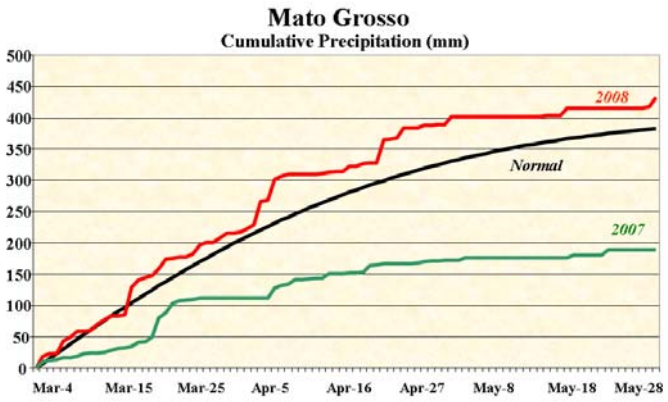

Figure 6. Comparison of late-season rainfall accumulations (March to May) during the 2006/07 and 2007/08 growing seasons in Mato Grosso, Brazil.

In North America, U.S. soybean production was the fourth highest on record, up 11 percent from 2007. A lower soybean yield (5 percent below last year) was more than offset by a record-high harvested area (16 percent above 2007). Canadian oilseed production rose nearly 30 percent. Production of soybeans, mostly produced in Ontario, rose over 20 percent due to better growing season weather and a slight area increase. Similarly, canola production jumped over 30 percent from 2007 as the impact of long-term drought diminished in key production areas of the Prairies.

In the European Union, oilseed production improved 11 percent. Minor area-related decreases in Germany, the United Kingdom, and the Czech Republic were more than offset by production gains in the Balkans (Romania and Hungary up 86 and 39 percent, respectively) as well as the EU-27's largest oilseed producer, France (up 7 percent). Rapeseed production improved 3 percent despite a 5 percent drop in area planted due to favorable overwintering conditions and abundant spring rainfall.

In Russia and Ukraine, sunflower production rose 30 and 55 percent, respectively in 2008. Mostly favorable weather during the growing season and fall harvest period along with an increase in harvested area led to the production increases in both countries.

In China, soybean planting increased in 2008 after

area was reduced last year in favor of planting corn. Adequate rainfall in Manchuria and on the North China Plain raised yields and consequently production rose 20 percent from 2007. Similarly, a major increase in planted area helped boost rapeseed production nearly 10 percent above that of last year, despite a series of severe winter storms that clipped yields slightly.

In India, total oilseed production increased 5 percent from 2007. Of note, winter rapeseed production was up 21 percent from last year, which was attributed to favorable rainfall and an increase in crop yield. Summer oilseed production increased due to near- to above-normal monsoon rainfall as well as an increase in area planted. In particular, 8 percent gains were reported for soybeans and peanuts, while a modest decline (1 percent) was noted in sunflower production.

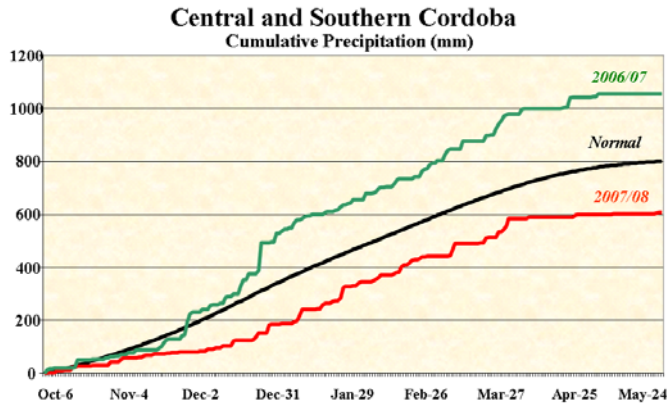

Figure 7. Comparison of seasonal cumulative rainfall during the 2006/07 and 2007/08 growing seasons (October to May) in Cordoba, Argentina.

Brazilian oilseed production rose slightly, due mainly to a 3 percent rise in soybean acreage, with yields virtually unchanged from the previous season. Brazil harvested a record 61 million metric tons of soybeans in 2008 despite one of the latest starts to the rainy season in recent years in many key production areas. In contrast, oilseed production in Argentina dropped slightly, fueled by a drop in soybean production of more than 2 million tons (46.2 million metric tons versus 48.80 in 2007). Lower yields due to summer dryness in central Argentina (Figure 7) failed to offset a modest increase in acreage.

Rice Summary: World rice production rose 2 percent in 2008. Rice production was higher than 2007 levels in Pakistan, India, Bangladesh, China, and most of Southeast Asia.

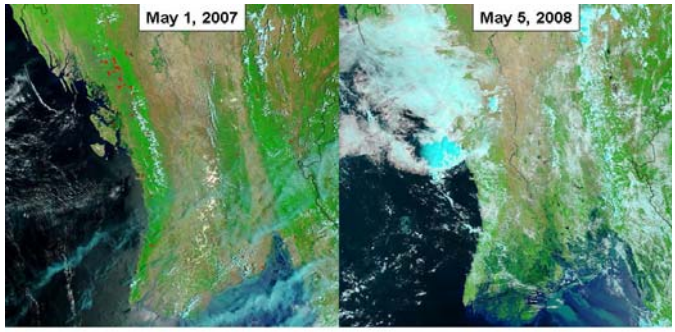

Figure 8. Comparison of land area on May 1, 2007 and flooded areas on May 5, 2008, after Tropical Cyclone Nargis made landfall.

In China and across Southeast Asia, rice production rose slightly based on generally favorable growing conditions and increased area. However, production dipped in Vietnam and in Burma, where Tropical Cyclone Nargis caused extensive damage to the main growing area (Figure 8). Increases in rice production were noted across South Asia.

Cotton Summary: Global cotton production fell 9 percent in 2008. Production increased in Pakistan and Brazil and declined in the United States, Argentina, Turkey, China, India, and Uzbekistan.

In the Northern Hemisphere, United States cotton production was down 32 percent from 2007. Much of the decrease in production was due to a 26 percent decline in harvested area, although the U.S. yield was down 8 percent from last year. Hurricane Gustav in the central Gulf Coast States and drought in parts of Texas were among the adverse factors affecting the nation's cotton belt. Meanwhile in Turkey, area planted to cotton dropped 27 percent, resulting in a similar decrease in total cotton production (down 26 percent). Likewise, drought caused Syrian cotton production to fall 17 percent, as wells and other irrigation reserves dried up. In India, cotton production declined 7 percent as

planted acreage and yields decreased. In addition, a delayed monsoon onset in central India (Figure 9) likely caused producers to switch to shorter-season, lower yielding varieties of cotton. Production in Pakistan rose 3 percent in response to abundant monsoon rainfall and increasing yields. In Uzbekistan, cotton production fell 9 percent in 2008 due to a hot, dry spring and a shortage of irrigation water. In China, despite favorable weather and an increase in yields, production fell slightly based on less area.

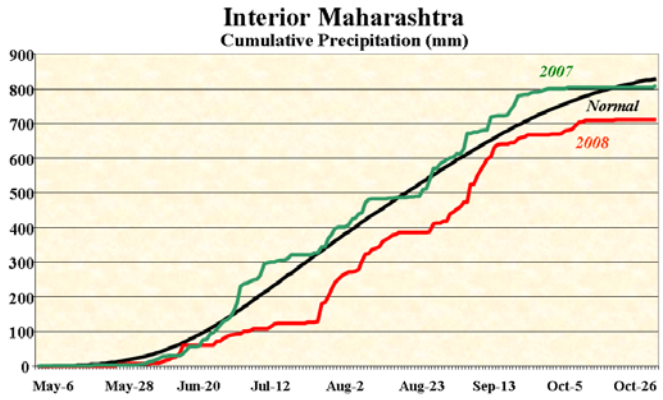

Figure 9. Comparison of seasonal cumulative rainfall during the 2007 and 2008 summer growing seasons (October to May) in Maharashtra, India, depicting this year's late start to the rainy season.

In the Southern Hemisphere, near- to above-normal rainfall benefited Australia cotton development throughout much of the 2008 growing season. Despite the generally favorable weather, cotton production fell 55 percent relative to 2007 estimates primarily due to a significant reduction in the planted acreage in the wake of persistent, long-term drought. Production rose about 5 percent in Brazil, as improved yields offset a slight decline in area. In Argentina, however, area fell more than 20 percent (310,000 hectares versus 400,000 in the 2006/07 campaign), failing to offset a substantial increase in yields (494 kilograms per hectare versus 435 the previous season).