2010/11 Winter Grain Prospects in the Northern Hemisphere Outside the United States

Prepared by the Joint Agricultural Weather Facility

This article summarizes early prospects for Northern Hemisphere winter grains outside the United States based on an assessment of weather and crop conditions from the autumn of 2008 to the present.

Winter Grains Summary: Prospects for winter grains (notably wheat, barley, and rye) are mostly favorable in the main production areas of the Northern Hemisphere, with some exceptions. In the countries comprising the European Union, the outlook for grains and oilseeds has declined in recent weeks due to a much drier-than-normal spring. Crop prospects are expected to rebound significantly from last year's exceptional heat and drought in Russia, Kazakhstan, and Ukraine. Meanwhile, persistent, timely precipitation in major growing areas of northwestern Africa maintained favorable winter grain yields for a second consecutive year. In contrast, a lack of autumn rainfall in portions of the Middle East led to poor planting and establishment, although the region's largest producer – Turkey – experienced favorable fall and winter weather. Indian farmers planted a record number of wheat acres in 2010/11. Prospects are therefore generally favorable, although late plantings and sluggish development put the crop at risk of heat stress in March. Prospects are mostly favorable for Chinese winter grains and oilseeds due to favorable autumn planting moisture and the timely arrival of spring rains. In Canada, winter wheat prospects are overall favorable, though some areas have experienced problems with excessive wetness. In contrast, drier-than-normal conditions in winter and spring reduced moisture for rain-fed sorghum in northeastern Mexico. Nationally, reservoir levels entering the winter dry season were comparable to those recorded in recent years, but the dry winter and spring have led to rapid declines in storage. In addition to the concerns with drought, an unusual late-winter freeze struck northern Mexico, causing significant damage to winter-grown corn.

European Union: The outlook for winter grains and oilseeds has declined over the past several months after a favorable start to the growing season. Precipitation during the fall was adequate for planting and establishment, although heavy rain in eastern portions of the continent delayed fieldwork and caused localized flooding. Likewise, heavy rainfall in northern Italy hampered planting efforts and may have forced producers to switch to spring-sown crops. The winter featured colder-than-normal conditions, most notably from Germany into Poland and the Baltic States. Nevertheless, temperatures during the winter seldom reached the threshold for freeze damage, reducing the threat for widespread winterkill or burnback. However, a late-February cold snap in Poland and eastern Germany may have caused some pockets of damage due to a shallow, patchy snow cover at the time. Precipitation during the winter was near to above normal, allowing for additional soil moisture recharge for early spring growth.

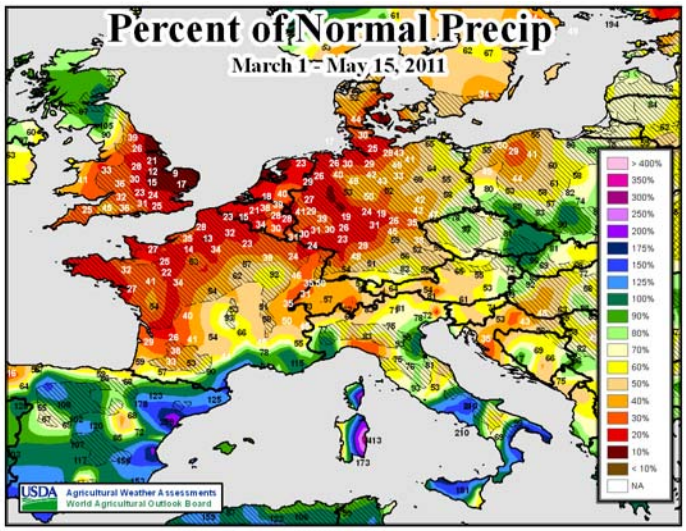

Figure 1: Percent of normal precipitation for the period March 1 to May 15, 2011, in Europe (wheat areas are denoted by the cross hatching).

As the spring commenced, winter crop prospects began to slip. Much drier-than-normal weather developed in early March across central and northern Europe as crops began to break dormancy. The dryness persisted into April and early May, adversely impacting reproductive to filling grains and oilseeds. Precipitation from March 1 through mid-May tallied less than 40 percent of normal across southeastern England, northern France, much of Germany, and northwestern Poland (Figure 1). Accompanying the dry weather was abnormal warmth, which accelerated crops into the reproductive to filling stages of development and increased water demands. Showers returned to portions of northern Europe during the latter half of May, although wheat, barley, and rapeseed had already reached the filling stage across

northern France and western Germany when the rain arrived. The rain was timely, however, for reproductive winter crops in Poland, and likely prevented further yield reductions in northern Germany. Offsetting potential yield losses in central and northern Europe was favorable weather in Spain, where persistent rainfall maintained adequate to abundant soil moisture for winter wheat. Conditions were also mostly favorable in the Balkans, although Hungary was likewise subjected to drier-than-normal weather for much of the winter and spring.

Ukraine: Current prospects for winter wheat are favorable following last year's heat- and drought-afflicted crop. A warmer-than-normal fall promoted winter grain planting and establishment, with above-normal rainfall in eastern portions of the country proving especially beneficial; eastern Ukraine was hardest hit by the heat and drought during the latter half of the 2010 summer. Near- to above-normal winter precipitation led to additional soil moisture recharge for spring growth. Despite colder-than-normal conditions during the winter, a persistently deep snowpack minimized the threat of winterkill. A drier-than-normal spring, particularly in northern Ukraine, reduced soil moisture as crops broke dormancy, although rain in early to mid-May was timely for jointing winter wheat.

Russia: Winter grains and oilseeds are expected to rebound sharply from last year's historic heat and drought. After one of the most extreme heat waves and droughts on record, producers benefited from a wet, warm autumn. The warmer- and wetter-than-normal conditions extended the growing season by almost one month and allowed crops to become sufficiently established before going dormant. A cold, snowy winter ensued, further improving crop prospects. The deep snowpack minimized winterkill and enabled additional soil moisture recharge. Cold weather lasted into the spring, which slowed greening and led to late-season snowfall in the Volga District. Despite the chilly conditions, the wet spring weather has further benefited winter grains from the Southern District northward into last year's primary drought areas, the Volga and Central Districts. Consequently, barring a sudden reversal of weather fortunes, winter grain and oilseed prospects in Russia are vastly improved over last year.

Northwestern Africa: For the third consecutive year, near- to above-normal rainfall led to favorable winter grain prospects. Overall, yields are expected to improve over last year, when a drier-than-normal fall impacted crop planting and establishment. This season's well-dispersed rainfall led to proper establishment and growth over most of the region, with no extreme heat or untimely freezes reported. One exception was western Algeria, where a drier-than-normal spring lowered soil moisture to unfavorable levels for reproductive to filling wheat and barley (Figure 2).

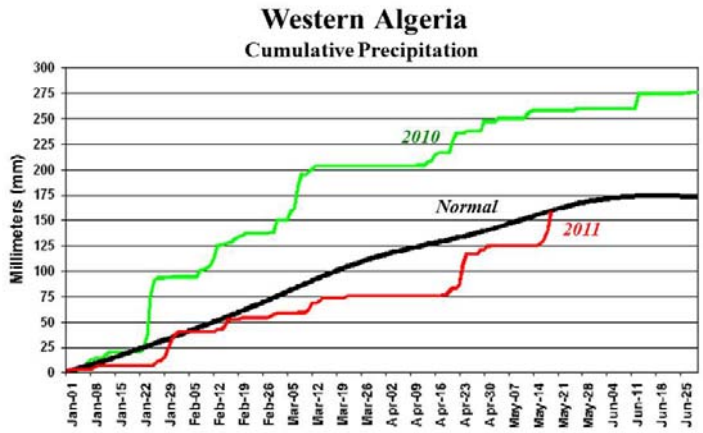

Figure 2: Seasonal comparison of cumulative precipitation for the period January1 to June 30 in western Algeria.

Middle East: Winter grain prospects are mixed, with favorable conditions in the west contrasting with lower yields farther east. In Turkey, near- to above-normal autumn precipitation provided adequate soil moisture for winter crop establishment. However, drier-than-normal conditions developed over southeastern wheat districts in November, reducing soil moisture during the early stages of crop development. The dryness in southeastern Turkey was short-lived, with rain returning in December and lasting throughout the winter and spring. Meanwhile, the remainder of Turkey saw plentiful precipitation from the fall into spring, raising crop yields over last year. In contrast, much drier-than-normal conditions developed during the autumn from northern portions of Syria and Iraq into northern and eastern Iran; the fall drought, which occurred on the heels of the summer dry season, left producers with little moisture for planting and establishment. Despite the gradual return of precipitation over the winter, wheat and barley yields suffered due to the lack of moisture in non-irrigated areas. Crop districts in northwestern and northeastern Iran likely saw the largest adverse impacts, with dry weather lasting into the first week of January (Figure 3). The spring has been accompanied by a marked reversal, with widespread, locally heavy rain improving soil moisture for winter grains and providing a late-season boost to irrigation reserves.

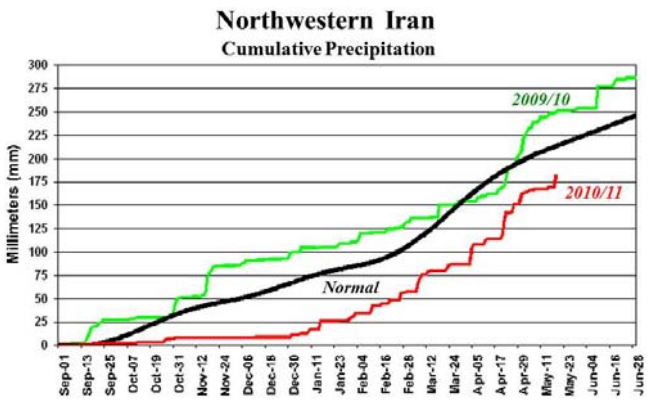

Figure 3: Seasonal comparison of cumulative precipitation for the period September 1 to June 30 in northwestern Iran.

India: Winter (rabi) wheat prospects are favorable for 2010/11. Record planted area was reported in India, boosting production estimates for the year. Normal to above-normal monsoon rainfall provided adequate to abundant moisture supplies. Although, soaking, late-season showers in northern India delayed wheat planting by nearly a month. In addition, below-normal temperatures during January slowed development. As a result, immature wheat experienced stress as March heat built into the region.

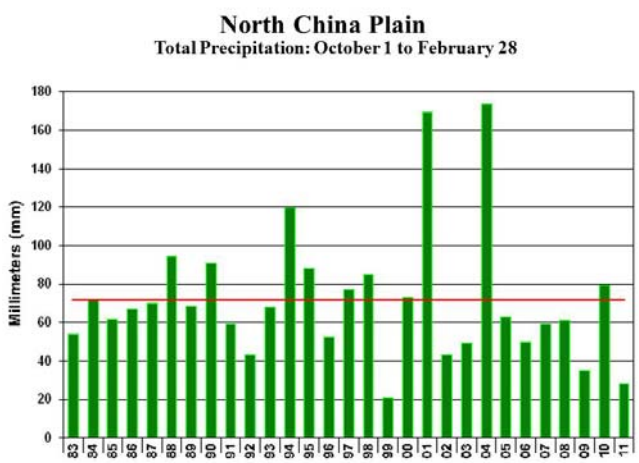

Figure 4: Comparison of rainfall on the North China Plain for the period October 1 to February 28 for the years 1983 to 2011.

China: Early autumn rainfall provided a beneficial boost to moisture supplies prior to winter wheat planting, while drier weather in October favored planting activities. Winter wheat also benefited from several weeks of warm weather before easing into dormancy around mid-December. Despite drier-than-usual weather in late autumn and winter (Figure 4), cold weather and adequate moisture reserves maintained good prospects, especially with the onset of timely rains in the spring. Dry weather will be welcomed in late May and early June for drydown and as harvesting commences.

Canada: Overwintering conditions were mostly favorable for wheat in the main production areas of Ontario. The 2010/11 winter was, overall, both wetter and cooler than the preceding season; several outbreaks of bitter cold were preceded by snowfall, helping to reduce the potential for winterkill. As a result of the above-normal winter precipitation, the region began the warm season with reduced levels of drought compared with those of the spring of 2010. However, the wetness continued well into the spring, necessitating early fieldwork to combat potential outbreaks of disease and pests and to replenish nutrients. The wetness also slowed the early stages of corn and soybean planting.

Winter precipitation was variable across the Prairies, with pockets of unseasonable wetness recorded in western and southeastern farming districts. As in eastern Canada, conditions were overall favorable for overwintering wheat, as snow cover was present in most areas during outbreaks of arctic air (temperatures falling well below -20°C). In addition, the moisture helped to alleviate the drought that plagued portions of Alberta and western Saskatchewan during the 2010 summer growing season. In the east, however, the combination of above-normal autumn and winter precipitation and late-melting snow led to significant spring flooding in southeastern Saskatchewan and Manitoba. In some cases, farmland was flooded to relieve pressure on levees farther upstream. Though the overall impact from the flooding on Canada's winter grain production should be negligible, spring grain and oilseed planting was delayed, and some fields may not sufficiently dry out before the close of the planting window.

Mexico: Drier-than-normal conditions prevailed in much of the country during the summer of 2010, but reservoir levels going into the winter growing season were comparable to those of recent years (Figure 5). This was partly due to significant flooding of the northeast from an early tropical storm. In early February, an unusual freeze swept across the north, causing significant damage to winter-grown corn, among other crops, in Sinaloa. No significant impact on winter wheat was reported. Nearly all of Mexico's winter wheat, predominantly grown in the northwest and on the southern plateau, is irrigated. However,

winter precipitation was less than that of last year throughout much of Mexico, resulting in higher levels of draw down from the major reservoirs. In northeastern Mexico (notably Tamaulipas), unseasonable dryness limited moisture for early development of winter sorghum, in marked contrast to last year's wet spring. According to the Agricultural Secretariat of Mexico (SAGARPA), winter sorghum accounts for nearly 40 percent of total national production, but only about 20 percent of the crop is irrigated. On average, Tamaulipas produces approximately 80 percent of Mexico's winter sorghum.

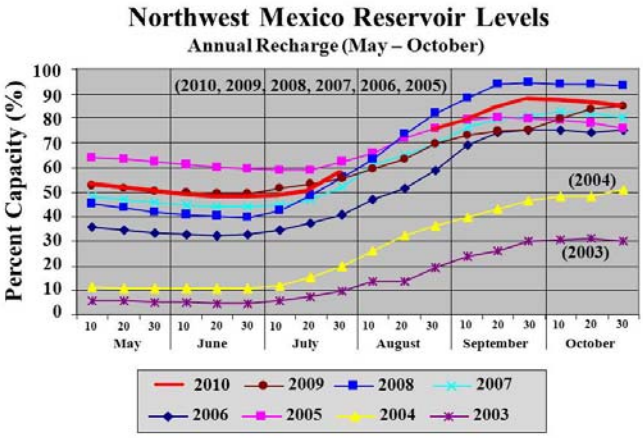

Figure 5: Annual summer reservoir recharge (2003 – 2008) in northwestern Mexico (SAGARPA/SIAP).