AUSTRALIA WHEAT: PRODUCTION TO FALL FROM RECORD HIGHS AFTER EXTENDED DRYNESS

Dry conditions in Australia’s grain growing regions have reduced production potential of the marketing year (MY) 2023/24 wheat crop. Australia, a leading wheat exporter to Asia, is facing dry conditions after the warmest August in recent years. The deepening drought comes on the heels of three years of record-breaking Australian harvests following abundant rainfall and now sees slowly deteriorating conditions across portions of the wheatbelt. Rainfall deficits have expanded and soil moisture is below average in parts of the country, threatening wheat crops in one of the world's largest agricultural exporters.

Australia wheat production for MY2023/24 is forecast at 26.0 million metric tons (mmt), down 3.0 mmt or 10 percent from last month, and down 13.7 mmt or 34 percent from last year’s record. Harvested area is estimated at 12.6 million hectares (mha), up 0.1 mha from last month, but down 0.4 mha or 3 percent from last year.

Harvested area is estimated higher in conjunction with the latest information from the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) who estimate wheat area at 12.6 mha.

Yield is forecast at 2.06 tons per hectare (t/ha), down 11 percent from last month, and down 32 percent from last year’s record and 14 percent below the five-year weighted average of 2.38 t/ha (Figure 1).

Australia’s wheat prospects have gradually declined throughout the season after favorable rainfall in April was followed by very dry conditions in May. Favorable rains returned in June for most growing regions, however, July and August turned unusually dry (Figure 2). Winter crops, including wheat, enter flowering or reproduction in late August in the major producing states. According to the Australia Bureau of Meteorology, August soil moisture was below average (in the lowest 30% of all years since 1911) across a wide band from south-west Western Australia into southern South Australia, south-central and eastern Victoria, eastern Tasmania, and New South Wales and southern Queensland.

Declining soil moisture in the drier wheat growing areas has begun to stress the crop during the critical flowering period. Environmental factors that influence the flowering onset include the ambient temperature and day length. In Australia, depending on
location and local conditions, flowering of wheat typically begins in late August or early September and lasts for about a week. This corresponds to satellite-derived peak vegetation index values and greenness measures.

While recent dry and hot conditions are expected to harm yields in areas with low soil moisture, higher rainfall has boosted the outlook for some growers in southern New South Wales, Victoria and southern cropping regions in Western Australia.

Favorable early season precipitation, particularly in the southern reaches of the wheatbelt, increased soil moisture levels and benefitted germination and crop establishment. As a result, crops in the southern tier of the wheat producing states have favorable prospects, including southern portions of Western Australia, southern New South Wales, much of South Australia, and all of Victoria. Crop conditions are reflected in the accumulated NDVI in Percent Average Seasonal Greenness (PASG) (Figure 3).

The extended dry period in July and August, with several weeks of below average rainfall, resulted in a disparity in conditions between northern and southern wheat areas. The northern tier wheat areas include northern portions of New South Wales, northern wheatbelt of Western Australia, and most of Queensland where planting and establishment conditions were unfavorable. As a result, wheat is now experiencing stress due to a lack of available soil moisture (Figure 4).

Yields are expected to be below average in the more northerly extent of wheat growing areas. Rainfall is needed soon to avert further yield declines. According to the Bureau of Meteorology, the current outlook is for below-average rainfall for most of Australia in the coming months.

The eastern portion of the wheat belt stretches in a curve, inland from the Dividing Range, from central Queensland through New South Wales, Victoria, and southern South Australia. The western portion of the wheat belt continues around the southwest area of Western Australia. Wheat is a major winter crop in Australia with planting from April and the harvest starting in November. In the east, harvesting starts in central Queensland and progresses down the east coast to Victoria and South Australia, finishing during January. On the west coast, the wheat harvest runs from October through January.
Figure 1. Australia Wheat area, yield and production time series 1993 to 2023 (Source: PSD.)

Figure 2. Precipitation was below normal for the month of August in many regions of the wheat belt.
Figure 3. Percentage Average Seasonal Greenness shows mixed conditions in the Australia wheat belt with northern areas much below average while southern areas are above average.

Figure 4. Below normal soil moisture in Australia and portions of the wheat belt.
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