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Commodity Intelligence Report

Canada In-Season Update for MY 2023/24, from the Peace River Valley, Alberta

Dry conditions returned to the Canadian Prairies during the summer of 2023. Much of the region received limited rainfall, particularly during critical crop development stages in mid-June through July (see Figure 1). This included several areas in the southern reaches of the Prairies which experienced some of the driest conditions in the last 40 years (see Figure 2). As crops reached maturity near the end of July, yield-reducing Extreme and Exceptional drought, as indicated by the Canadian Drought Monitor, had enveloped most of southern Alberta, and much of southwestern Saskatchewan, the major durum wheat-growing area (see Figure 3). Satellite-derived Normalized Difference Vegetation Index (NDVI) analysis at the beginning of August indicated widespread, below-average vegetation health throughout the agricultural areas of the Prairie provinces (see Figure 4). Yield expectations are below-average for the major grains and rapeseed crops predominately grown in the region.

Analysts from the World Agricultural Outlook Board (WAOB), USDA Foreign Agricultural Service (FAS), and FAS Ottawa conducted crop assessment travel in the Peace River Valley region in northwest Alberta during the second week of August 2023. Despite holding the shortest growing season in North America, due to latitude, this vital agricultural area produces more grain, annually, than the entirety of Manitoba. The trip included visits with farmers throughout the region, and tours of three grain terminals.

The predominant crops in the Peace River Valley are spring wheat, barely, and canola (rapeseed). Crop conditions in the Peace region were mixed, with a general pattern of average conditions to the south and east, and below-average conditions to the north and west (see Figure 4). This dichotomy followed the general rainfall patterns over the summer, which saw areas around Grande Prairie and High Prairie faring better than those near Peace River, High Level, and Dawson Creek (BC) (see Figure 1). Overall, Peace Country farmers and industry workers hold below-average yield expectations for marketing year (MY) 2023/24 field crops.

Rapeseed

Canada is the world's second-largest rapeseed producer, accounting for 21 percent of world production (see Figure 5); and it is the world's largest exporter of rapeseed. The Peace River Valley produces just under 6 percent of Canada's total rapeseed crop. Farmers in the region primarily grow standard varieties of canola, though some specialty

varieties are grown on contract. The crops observed were generally top-heavy, as early season dryness and high temperatures caused pods to drop due to heat blast. This led to empty stems lower on the plants, with greater pod development at the top, corresponding with later-season rains arriving (see Figure 6 and Figure 8). These later-season rains caused secondary flowering in many fields (see Figure 7). Overall, farmers in the Peace River region expect average to below-average yields this season. It is notable that the Peace River region escaped the worst of the summer drought experienced throughout most of the remainder of the Prairies. USDA estimates Canada rapeseed production at 18.2 million metric tons (mmt), on a below-average yield of 2.07 tons per hectare (t/ha). This represents 3 percent lower production than last year, despite a 2-percent increase in harvested area.

Wheat

Canada is the sixth largest wheat producer, accounting for 4 percent of global production (see Figure 5). It is the third largest exporter, though, with over 11 percent of world wheat exports. The Peace River Valley produces just under 4 percent of Canada's total wheat crop, and 5 percent of the country's spring wheat. Spring wheat fields were observed by FAS and WAOB analysts throughout the travel region (see Figures 9, 10 and 11). Crops were generally in below-average condition, with short heads and thin stands in some areas, particularly to the north and west. The potential of early harvest of poor-performing crops was noted by several farmers interviewed, and crops were already being harvested near Dawson Creek, BC, where conditions tended to be poor (see Figure 12). As with rapeseed, wheat farmers in the Peace River Valley expected below-average yields for the region. USDA estimates Canada's MY 2023/24 total wheat production at 31.0 mmt, a 10-percent year-over-year decrease. Yield is 14 percent lower than last year and is estimated at 2.92 t/ha.

Barley

Canada is the fifth largest barley producer with 6 percent of global production (see Figure 13); Canada's barley exports rank fifth with 9 percent of global trade. The Peace River Valley produces over 5 percent of Canada's barley crop. FAS and WAOB analysts observed several barley fields in the travel region. Weed pressure from wild oats in several barley fields was observed (see Figure 14), as well as secondary greening due to recent late-season rains (see Figure 15). Barley crops generally appeared to be in average to below-average condition throughout the region, and farmers reported expectations for below-average yields. USDA estimates Canada's MY 2023/24 barley production at 8.0 mmt, a 20-percent decrease from last year. Yield is estimated at 2.96 t/ha, 22 percent lower than last year.

Oats

Canada is the world's third largest oat producer with nearly 14 percent of world production (see Figure 13). Canada is the world's largest exporter of oats with 68 percent of global exports. Oats are grown throughout the Prairie provinces, but particularly in

Saskatchewan, where 52 percent of the total Canadian crop is produced. Oats were not observed during USDA's recent crop travel; however, the Peace River Valley produces 6 percent of Canada's total oat crop. Planted area for oats is down 36 percent from last year, and USDA estimates harvested area to be only 850,000 hectares. Provincial reporting indicates crop conditions for oats are similar to those of other grain crops of the Prairies, and below-average yields are expected. USDA estimates MY 2023/24 oat production to be 2.8 mmt, a 46-percent decrease from last year, with yield at 3.29 t/ha, down 12 percent year-over-year.

The contributions of Erin Danielson at the USDA Office of Agricultural Affairs in Ottawa are gratefully acknowledged.

Inadequate Rainfall in much of the Agricultural Region of the Prairies

Mid-Season, 2023

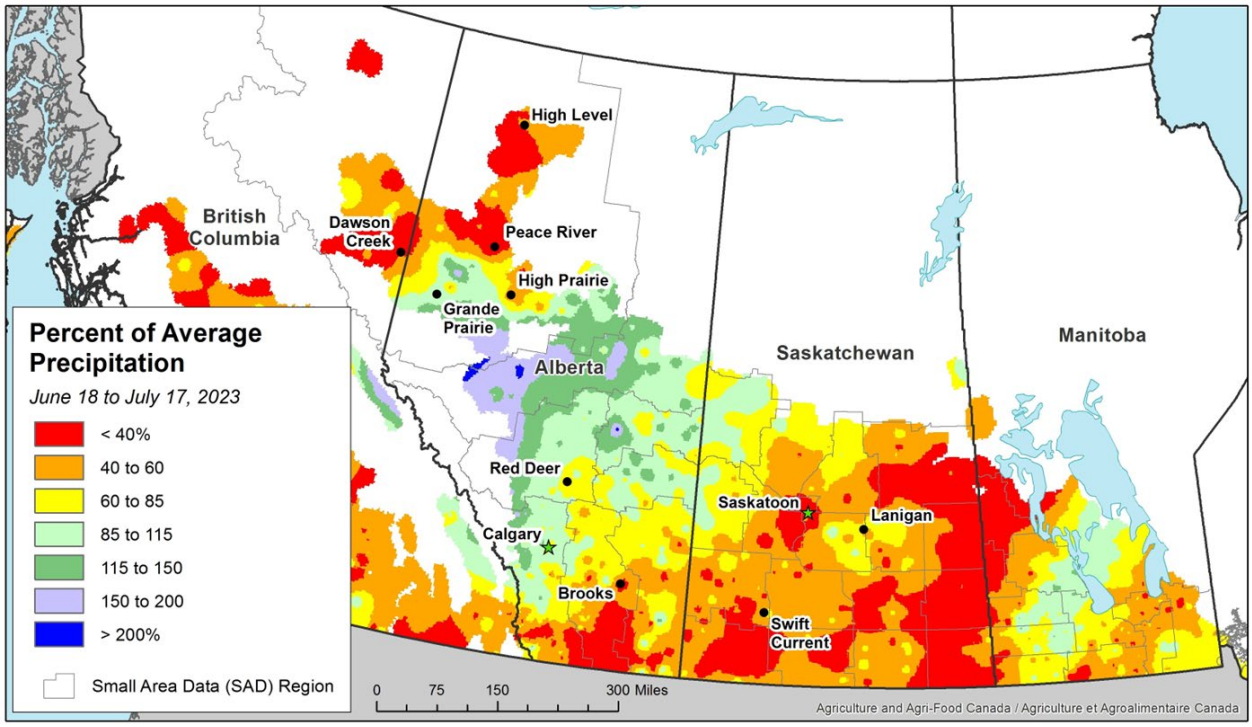

Figure 1. Dryness was pervasive throughout much of the Prairies during the critical crop development period of mid-June through mid-July. While some areas of central Alberta received abundant rainfall, most of the critical agricultural areas did not. Source: Agriculture and Agri-Food Canada (AAFC) Climate Services

Canadian Prairies: Precipitation Rank since 1981

May 6 to August 5, 2023

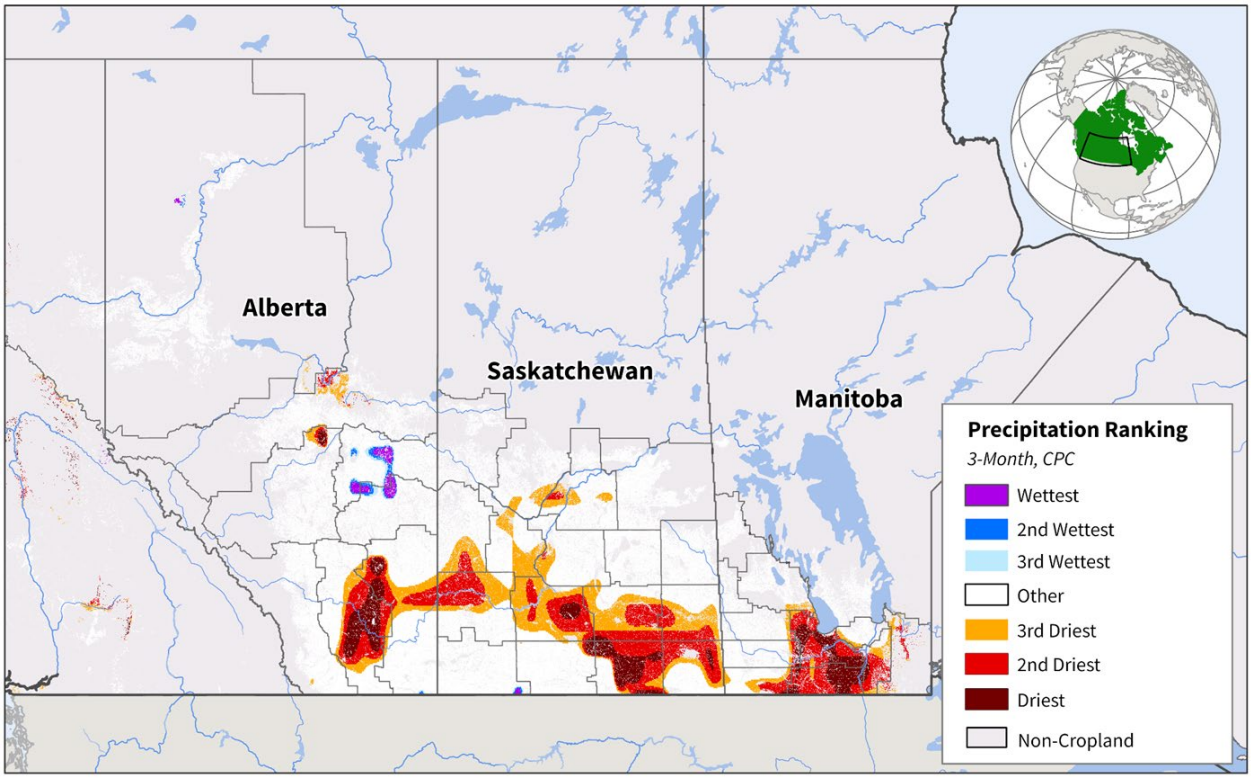

Figure 2. Several areas in the Prairies, particularly in the southern regions, experienced their driest conditions in 40 years. Sources: NOAA CPC Precipitation Rank since 1981, 3-Month; Agriculture and Agri-Food Canada (AAFC) Annual Crop Inventory 2022 Crop Mask

Canadian Prairies: Canada Drought Monitor

Conditions as of July 28, 2023

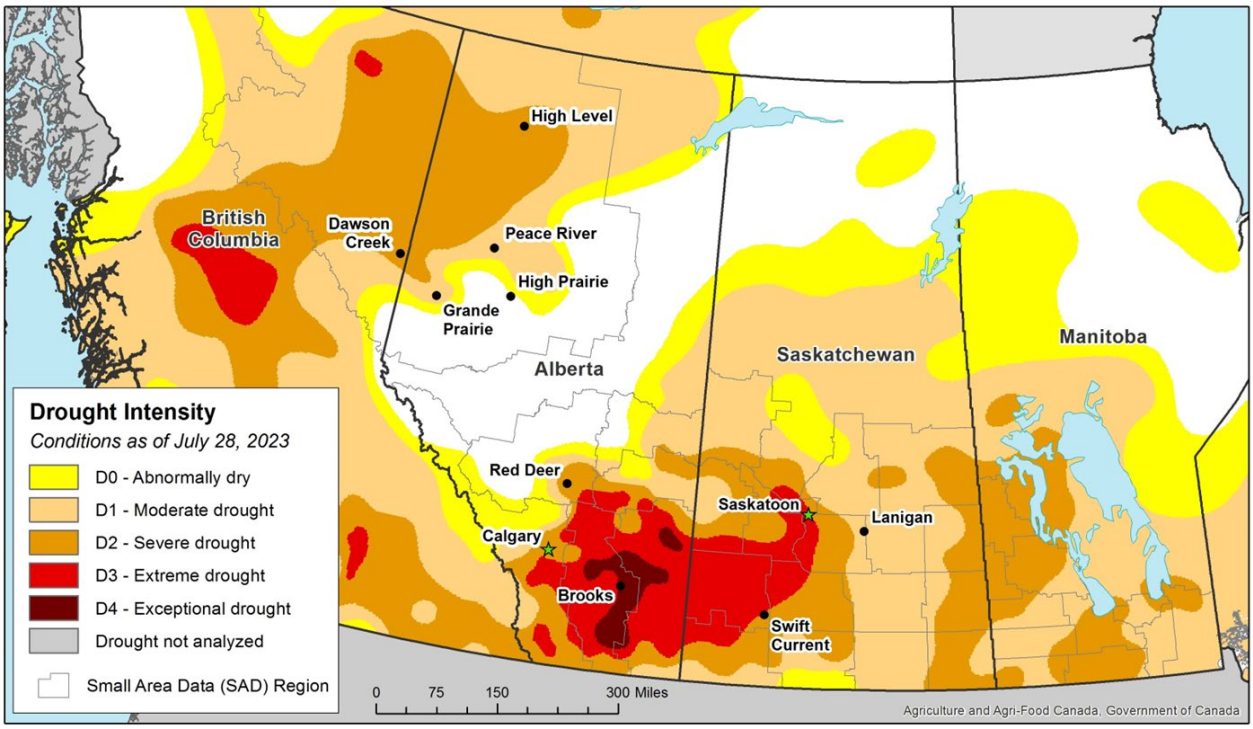

Figure 3. Dryness and drought expanded throughout much of the agricultural region of the Prairies, as the summer progressed. Yield-reducing D3 and D4 drought conditions were observed in southern Alberta and southwestern Saskatchewan, a critical durum wheat area. Southeastern portions of the Peace River Valley (near Grande Prairie and High Prairie) escaped the worst of the drought, unlike other areas of the region. Source: Agriculture and Agri-Food Canada (AAFC) Climate Services

Canadian Prairies: NDVI Anomaly

July 28 to August 4, 2023, 8-Day

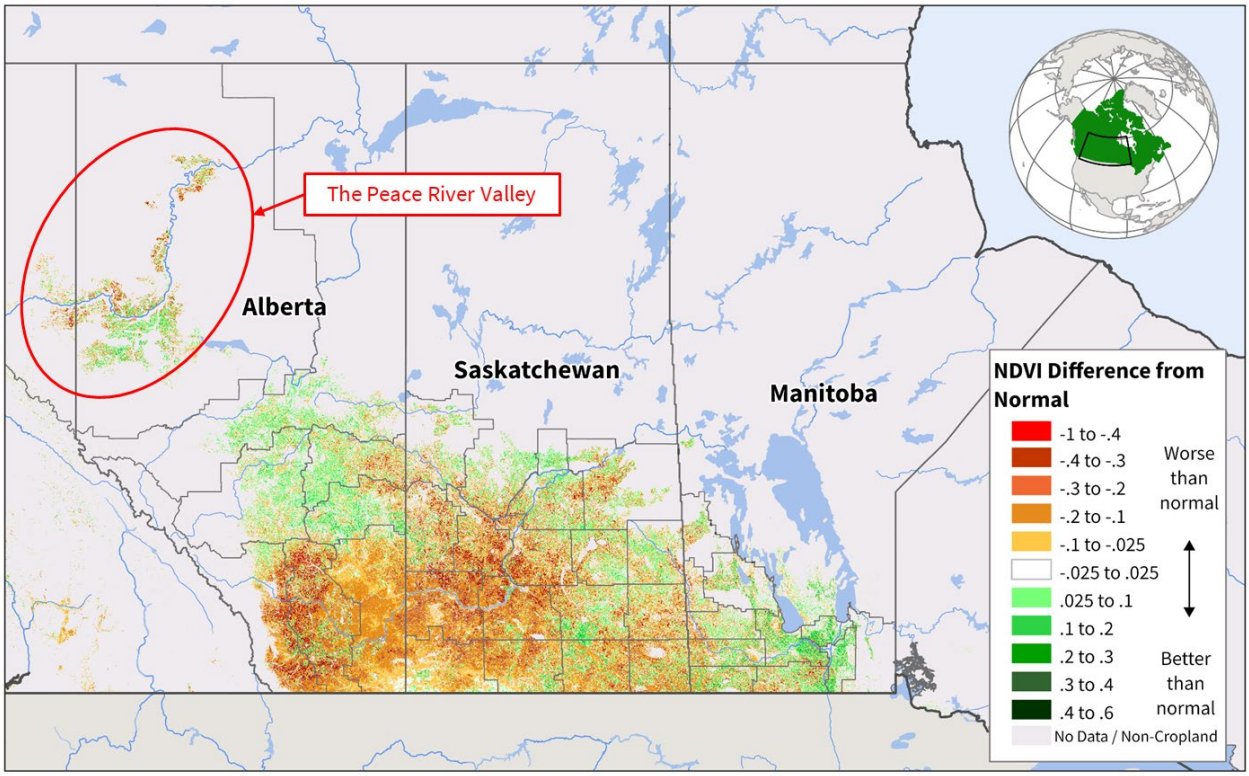

Figure 4. As crops reached maturity at the end of July, satellite-derived Normalized Difference Vegetation Index (NDVI) analysis indicated below-average crop conditions throughout the Prairies, particularly in southern Alberta and western Saskatchewan. NDVI indicated vegetation health in the Peace River Valley was mixed, with crops faring better in the southeast portions of the region, and worse in the north and west. Sources: NASA MODIS 8-Day NDVI Anomaly; Agriculture and Agri-Food Canada (AAFC) Annual Crop Inventory 2022 Crop Mask

Canada Rapeseed and Wheat Production: Percent of World Total, 2023

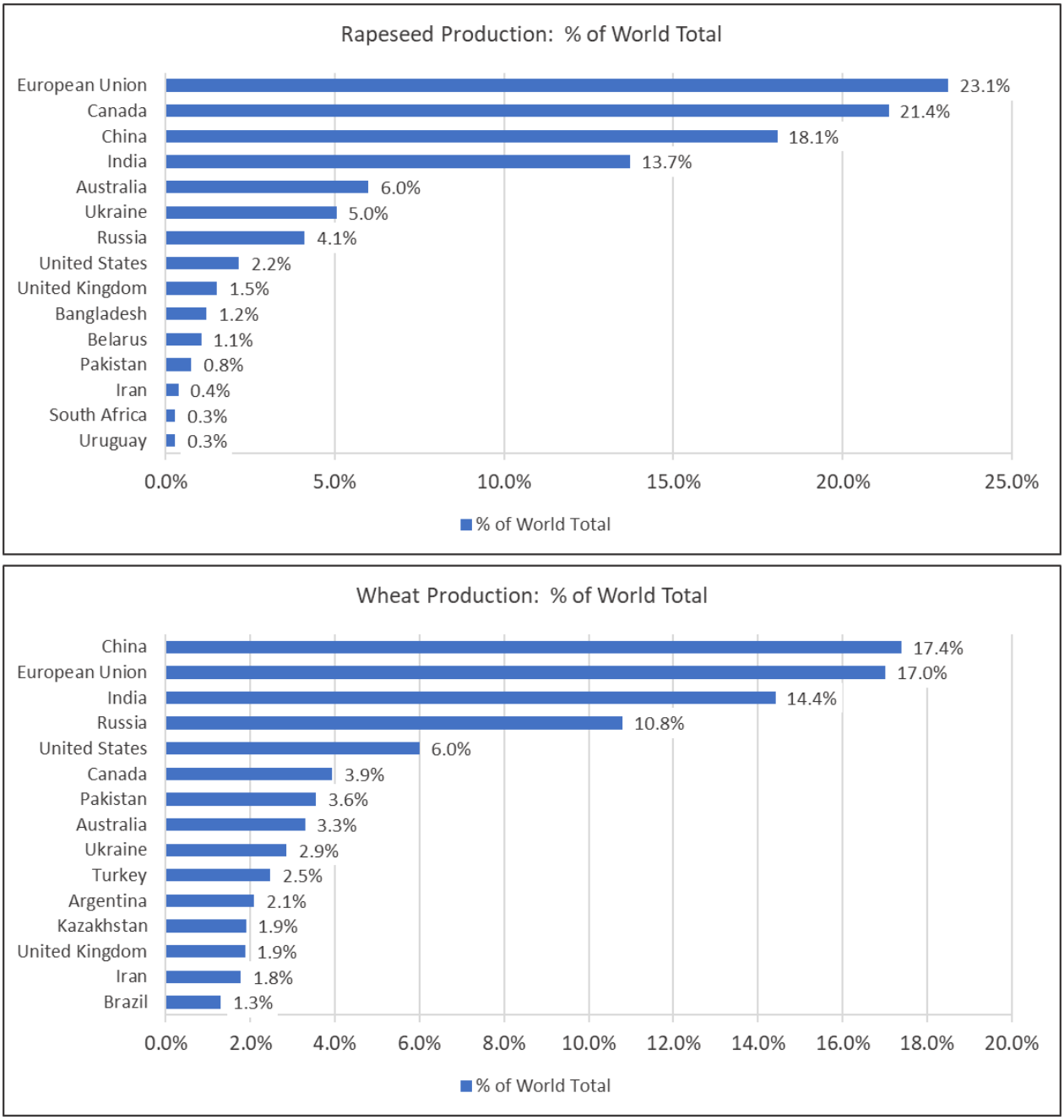

Figure 5. In 2023, Canada is the world's second-leading producer of rapeseed, and the sixth-largest producer of wheat. Source: USDA PSD Online

Canola (Rapeseed) in August 2023 near Valhalla Centre, Alberta

Figure 6. Average-to-below-average yields are expected for canola (rapeseed) crops in the Peace River region. Photo courtesy of Aaron Mulhollen, USDA Foreign Agricultural Service, August 2023.

Canola in August 2023 near Keg River, Alberta

Figure 7. Late-July rains in the Peace River Valley induced secondary flowering in many canola (rapeseed) fields, such as this one near Keg River, Alberta. Average-to-below-average yields are expected for canola in much of the region. Photo courtesy of Aaron Mulhollen, USDA Foreign Agricultural Service, August 2023.

Canola in August 2023 near High Prairie, Alberta

Figure 8. Heat blast due to hot, dry temperatures early in the season led to missing pods on canola plants throughout the Peace River region. Canola crops recovered with later-season rainfall; however, plants were top-heavy and laying over in many observed fields. Photo courtesy of Aaron Mulhollen, USDA Foreign Agricultural Service, August 2023.

Spring Wheat in August 2023 near High Level, Alberta

Figure 9. Spring wheat in below-average condition, near High Level, Alberta. Photo courtesy of Aaron Mulhollen, USDA Foreign Agricultural Service, August 2023.

Spring Wheat in August 2023 near Keg River, Alberta

Figure 10. Crop conditions for spring wheat were below-average in many areas of the Peace River region, including in this field near Keg River, Alberta. Photo courtesy of Aaron Mulhollen, USDA Foreign Agricultural Service, August 2023.

Spring Wheat in August 2023 near High Prairie, Alberta

Figure 11. Crop conditions were better in the southeast Peace River Valley, which received more rainfall during the critical June—July development period. Average yields were expected in this field of Canada Prairie Spring (CPS) wheat near High Prairie, Alberta. Photo courtesy of Aaron Mulhollen, USDA Foreign Agricultural Service, August 2023.

Harvested Field in August 2023 near Dawson Creek, British Columbia

Figure 12. Harvesting had already begun in more western areas of the Peace River Valley. Photo courtesy of Aaron Mulhollen, USDA Foreign Agricultural Service, August 2023.

Canada Barley and Oats Production: Percent of World Total, 2023

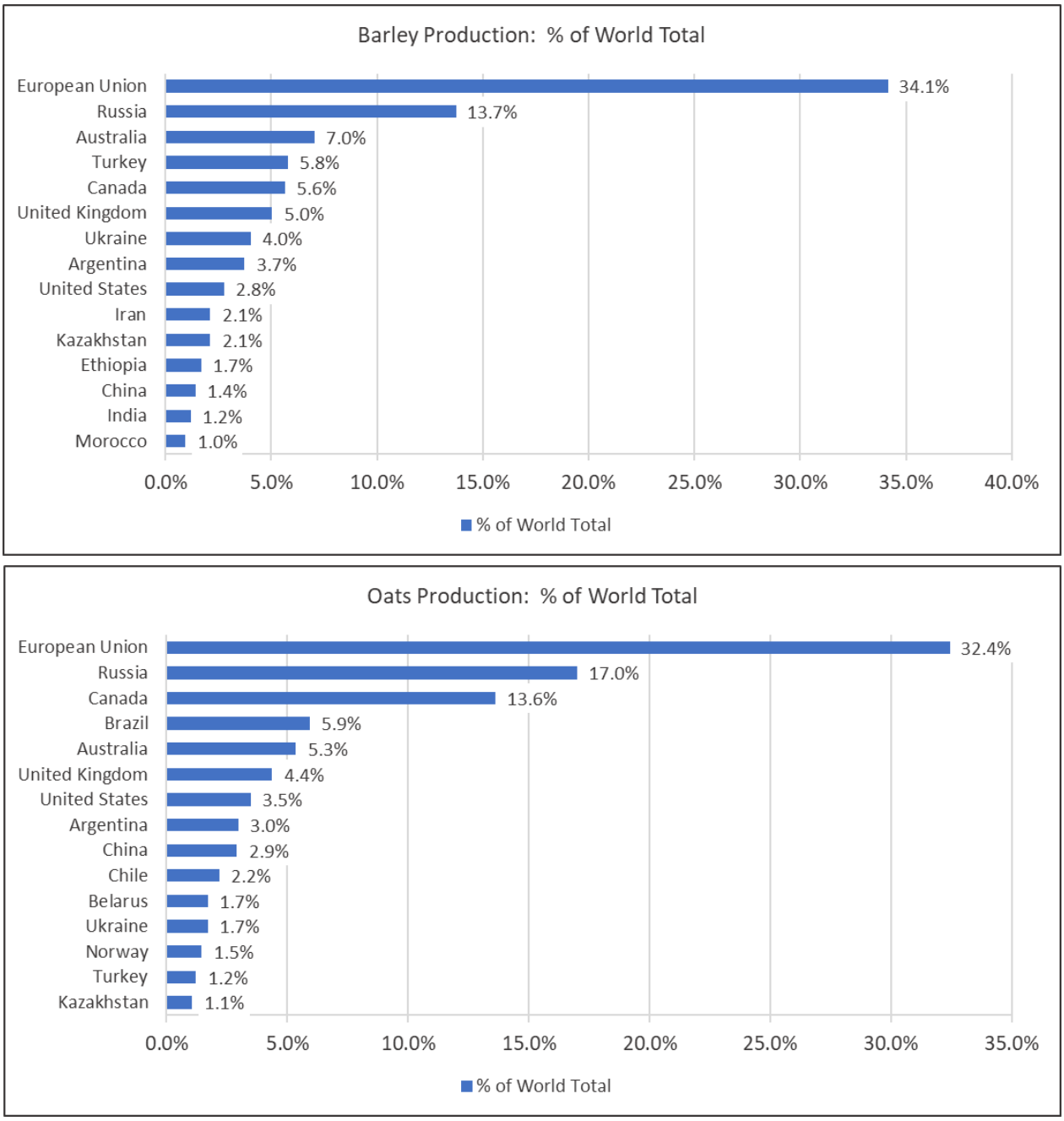

Figure 13. In 2023, Canada is the world's fifth-leading producer of barley, and the third-largest producer of oats. Source: USDA PSD Online

Feed Barley in August 2023 near High Prairie, Alberta

Figure 14. Weed pressure, particularly from wild oats, was observed in several barley fields near High Prairie, Alberta. Photo courtesy of Aaron Mulhollen, USDA Foreign Agricultural Service, August 2023.

Malt Barley in August 2023 near Valhalla Centre, Alberta

Figure 15. Croplands near Valhalla Centre, Alberta received inadequate rainfall in June and July. The barley in this field was in below-average condition, with short heads and secondary greening due to a recent rain. Below-average yields are expected for barley this year. Photo courtesy of Aaron Mulhollen, USDA Foreign Agricultural Service, August 2023.

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