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U.S. DEPARTMENT OF AGRICULTURE

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Commodity Intelligence Report

Kazakhstan: Better MY 2022/23 Wheat Prospects than Last Year

Crop Trip Report

Wheat is Kazakhstan's most important commodity. The country is not only an important producer, but also a major exporter of wheat to the greater Central Asia region and Europe. About 80 percent of the crop is produced in the north-central oblasts of Aqmola, Qostanay, and North Kazakhstan (Figure 1). Specialists from the USDA Foreign Agricultural Service (FAS) offices in Washington and Nur-Sultan (Figure 2) traveled through this region and met with local producers, agronomists of agricultural enterprises, and directors of agro-holding companies. This crop-assessment travel tour was completed in mid-to-late June 2022, and its main objective was to assess the wheat-production prospects for the current year. Additional discussions were conducted to learn more about Kazakhstan's agricultural practices such as preferred crop rotation, fertilizer use, seed varieties, availability of government support, and market opportunities.

Kazakhstan MY 2022/23 Crop Statistics Overview

Wheat currently accounts for about 74 percent of Kazakhstan's total grains production (Figure 3). Kazakhstan is the 14th largest wheat producer in the world with an estimated 13.0 million metric tons (MMT) for marketing year (MY) 2022/23, which is 2 percent below the 5-year average of 13.3 MMT (based on the MY 2017/18 – MY 2021/22 average) (Figure 4). This year's wheat production, however, is a 10 percent increase relative to the drought stricken MY 2021/22 crop. Generally, harvested area has shown little fluctuation during the last 10 years and area is not expected to change much year-to-year. MY 2022/23 harvested area is estimated at 12.75 million hectares, which is essentially unchanged from last year's area. Yield is forecast at 1.02 metric tons per hectare, 10 percent higher than last year.

Barley is the second major grains commodity with 2.7 MMT for MY 2022/23. Kazakhstan also produces small quantities of corn, rice, oats, millet and rye, which account for roughly 10 percent of the total grains production.

Cotton production (300,000 480-pound bales for MY 2022/23 from an area of 125,000 hectares) is localized in the most southern part of the country. This is the only region that offers suitable climate conditions and provides adequate irrigation supplies needed for the cotton crop to grow properly.

For MY 2022/23, total oilseeds production is expected to amount to 1.6 MMT. Sunflowerseed, soybean, and rapeseed are the major oilseed commodities grown in Kazakhstan. During the last several years, overall production of oilseeds has marked a noticeable growth due to their better profitability compared to other crops. USDA estimates Kazakhstan sunflowerseed production at 1.1 MMT from an area of 1,050,000 hectares. Year-to-year production and area change is up by 7 percent and 12 percent, respectively. Profitability and technological advances have been driving sunflowerseed production steadily up in the last several years (Figure 5).

Crop Conditions

Kazakhstan plants spring wheat and virtually all wheat in Kazakhstan is dependent on rainfall. Planting typically occurs during the second half of May or once the soil temperature consistently remains above 5 degrees Celsius. Wheat grown in Kazakhstan varies in terms of maturity time; early varieties take about 80 days to grow, while late varieties are ready to be harvested approximately 100 days after planting. This provides a relatively broad harvest window, allowing farmers to plan and make the most efficient use of available machinery.

Water availability during planting is essential. Wheat growth in the region, however, is strongly dependent on July precipitation, when crops reach the critical yield formation stages. Lack of adequate moisture during this essential period can hamper grain formation and lead to lower yields.

Soil moisture conditions on the ground during FAS's travel in June 2022 were dry (Figure 6[A]). Wheat was properly emerged and was about 4-5 inches tall (Figure 6[B]). This year there were a few important rainfall events after planting that ensured overall good crop vigor in mid-June. Precipitation throughout July across all top three wheat producing oblasts, however, was below normal. This caused inadequate soil moisture, which in turn negatively impacted vegetation growth. The satellite-derived Normalized Difference Vegetation Index anomaly shows average to poor crop conditions with poorer conditions increasing in the eastern part of the main wheat areas of northern Kazakhstan (Figure7). Crop conditions have declined since early July, and crop conditions in Aqmola (28 percent of total production) and North Kazakhstan (24 percent of total production) are below average; vegetation status is best in Qostanay (27 percent of total production), where NDVI depicts near-average vegetation response (Figure 8).

Technology and Agricultural Practices

Soil moisture reserves, which are primarily supplied by the seasonal precipitation, and partially supplied by snowmelt, are critical for the proper crop growth throughout all major wheat growing areas in Kazakhstan. Some of the biggest challenges farmers in the northern part of Kazakhstan encounter include lack of adequate precipitation and strong winds, which can cause soil erosion and substantial snowpack removal. Even though this area receives a sufficient amount of snowfall, a large part of the snow can be blown away

from the fields, limiting the amount of soil moisture reserves that can be replenished by the snowmelt.

In an attempt to preserve or enhance the amount of water available to the crops, farmers often practice no-till management or apply deep plowing prior to planting; the latter pulls additional moisture from the deeper soil layer.

Farmers plant both domestic and imported seeds; most imported seeds are from Europe and Russia. Seed varieties differ in terms of soil moisture needs, price, and yield potential. Local varieties, for example, are often preferred, even though they are typically lower yielding, because they are more drought tolerant, thus, more suitable for the local climate conditions, and cheaper compared to foreign seeds. Additional seeds are produced in seed nurseries, which are common in Kazakhstan; parent seed is purchased from an American or European company and then grown in nurseries to replicate seeds. This, however, can lower seed quality and reduce yield potential year-after-year (Figure 9).

Crop rotation is a common practice in Kazakhstan. Crop alternatives and the rotation order vary between enterprises; however, the four-crop rotation scheme is the most popular rotation scheme utilized in the region. Often the first-year fields are left as fallow in order to help improve the soil moisture supplies. Wheat is then planted for a year or two. Wheat is most often followed by oilseeds, pulses, and sometimes oats or corn.

Farming in Kazakhstan is generally well subsidized; there are subsidies for fertilizers, herbicides, seeds, fuel, investment, equipment, and export promotion. All farms visited during the tour were well equipped with agricultural machinery, including tractors, seeders, and grain combines. High-technology machinery with GPS, of varying brands, are used.

Proper and timely fertilization and chemical treatments are essential for achieving optimal yields. Fertilization schedules and application rates differ widely: from fertilizing only once in several years (typically done the first year of rotation cycle when field is left as fallow) to fertilizing twice a year, once around planting and then after harvesting. Often amounts are determined based on soil analysis.

The contributions of Christopher Bielecki and the staff at USDA-FAS Nur-Sultan are highly appreciated and acknowledged.

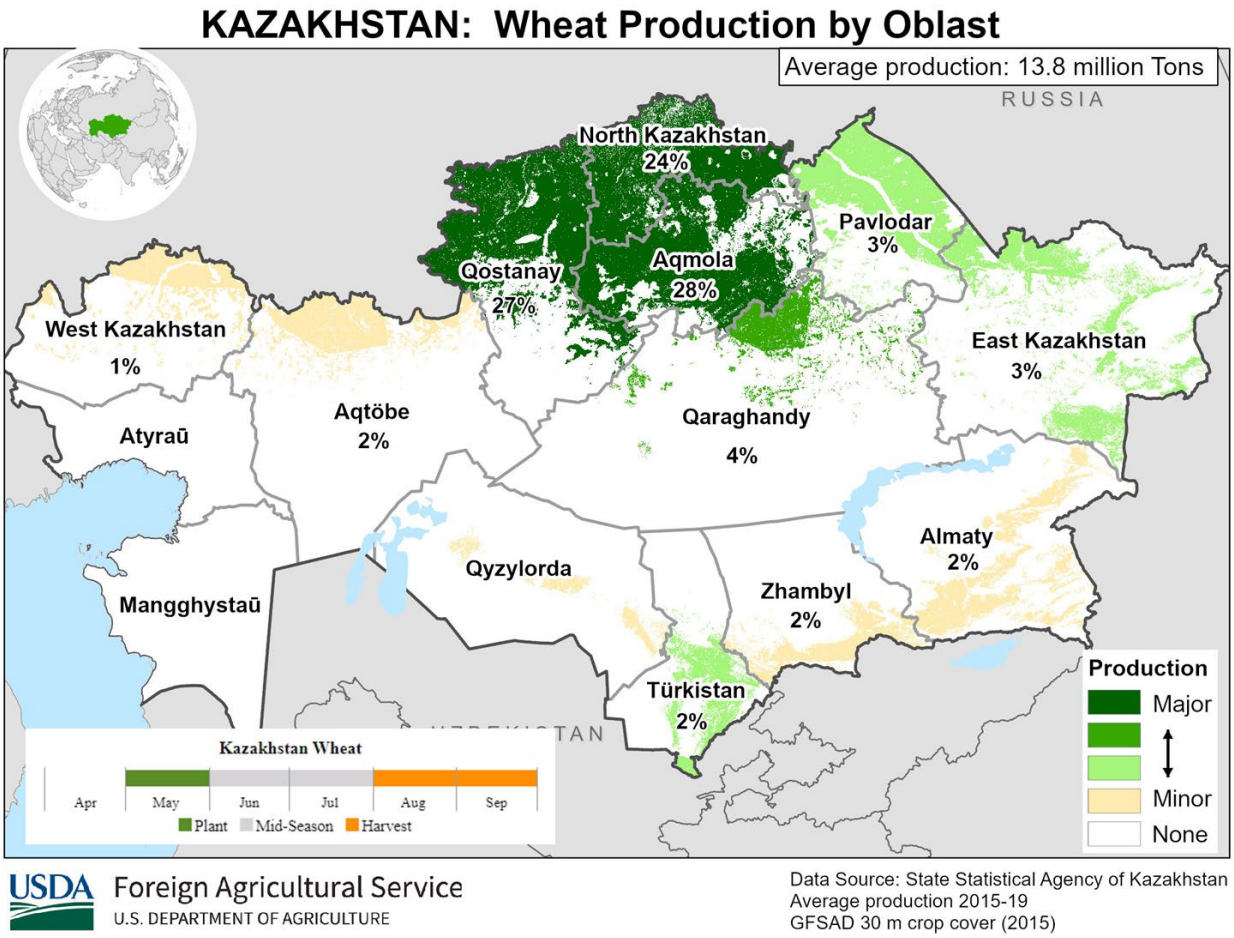

Figure 1. Kazakhstan Wheat Crop Production Map. Wheat is predominantly grown in the three northernmost oblasts of Aqmola, Qostanay and North Kazakhstan, which account for about 80 percent of the total wheat produced in Kazakhstan. Source: USDA Crop Explorer.

Figure 2. USDA-FAS team visiting a wheat area in Northern Kazakhstan. Right to left: Katie McGaughey (USDA-FAS Washington), Iliana Mladenova (USDA-FAS Washington), USDA-FAS-Nur-Sultan staff, and Christopher Bielecki (USDA-FAS Nur-Sultan Attaché). Source: USDA-FAS Katie McGaughey; photo taken June 2022.

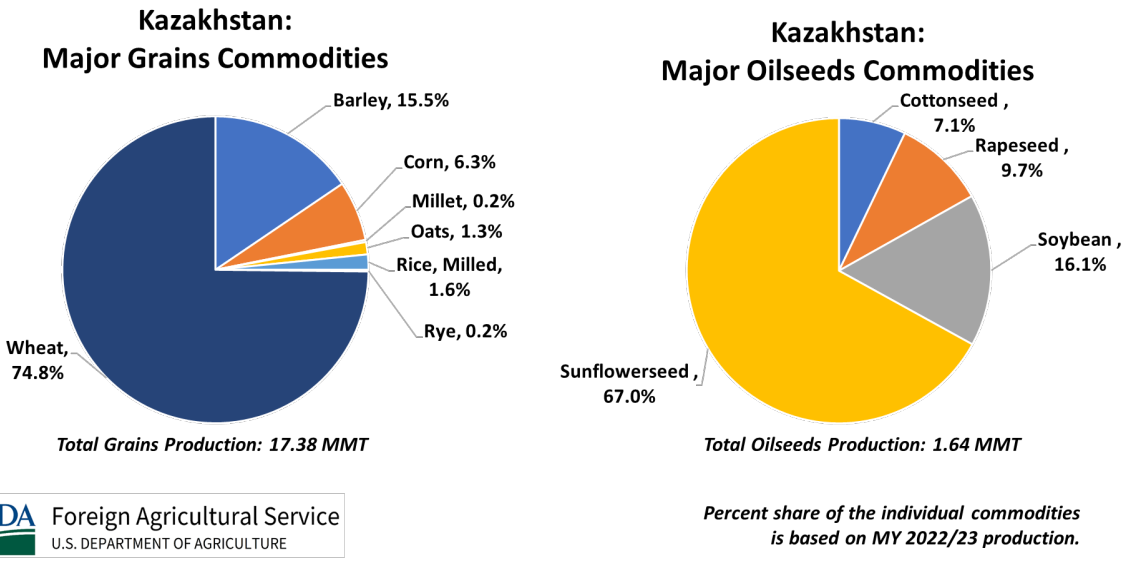

Figure 3. Summary of the major grains and oilseeds commodities grown in Kazakhstan. Percent share of each commodity is based on MY 2022/23 production. Source: USDA PSD Online.

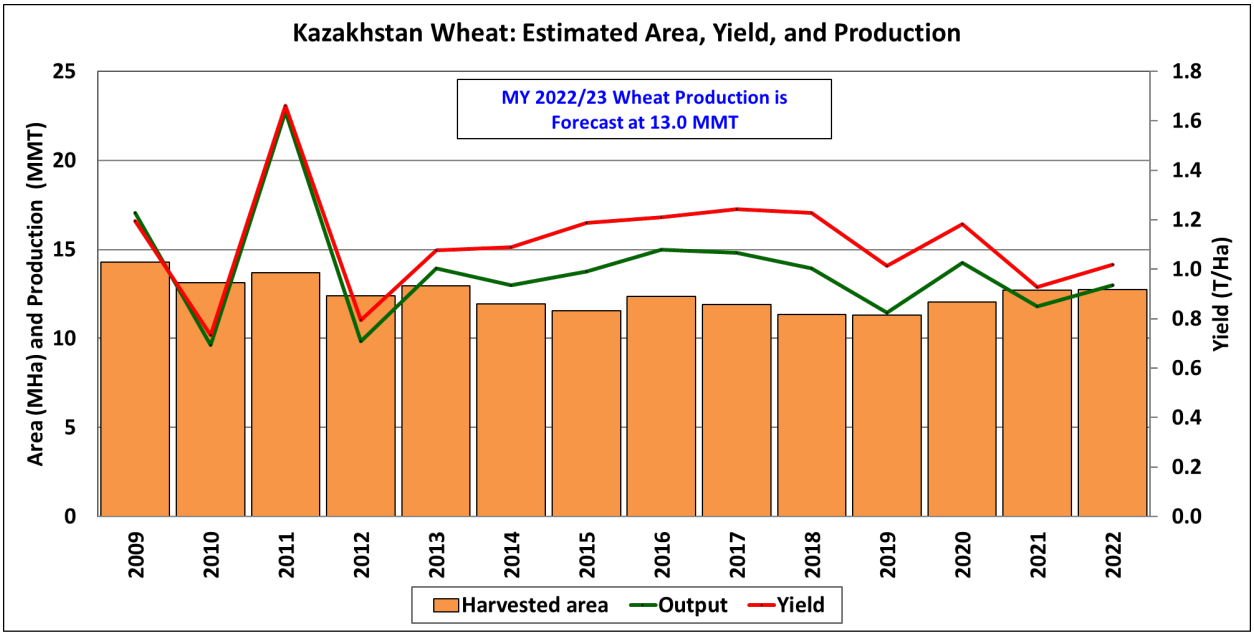

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Figure 4. Time series of Kazakhstan wheat production. Wheat is the country's most planted crop. It is predominantly grown in the most northern oblasts; the crop is planted in mid-late-May and harvested between August and September. Source: USDA PSD Online.

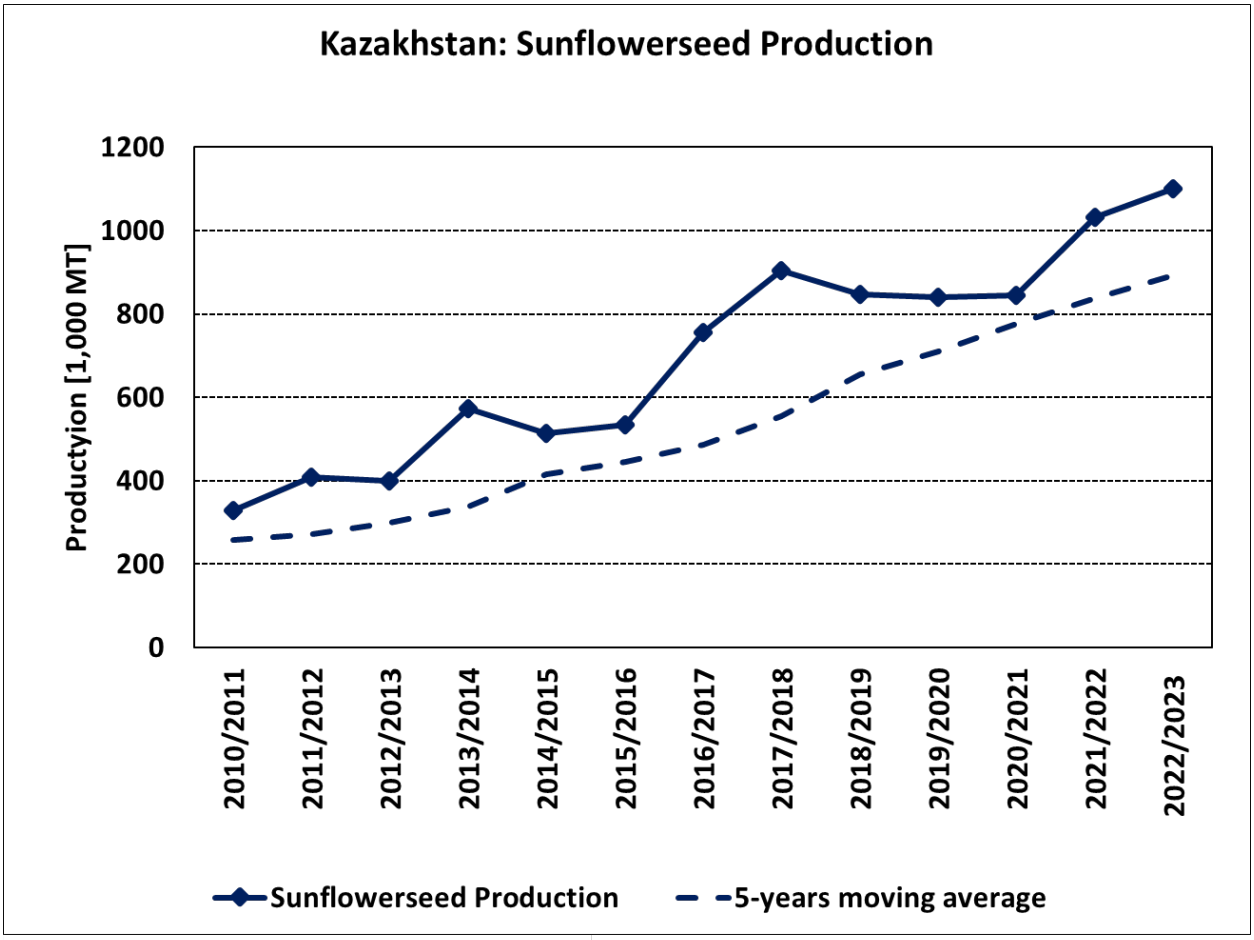

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Figure 5. Time series of Kazakhstan sunflowerseed production. Sunflowerseed is the country's major oilseed commodity with a total share of 62 percent. Source: USDA PSD Online.

Figure 6. Soil moisture [A] and crop conditions [B] in a wheat field in the oblast of Aqmola, Kazakhstan. Source: USDA-FAS Katie McGaughey; photo taken June 2022.

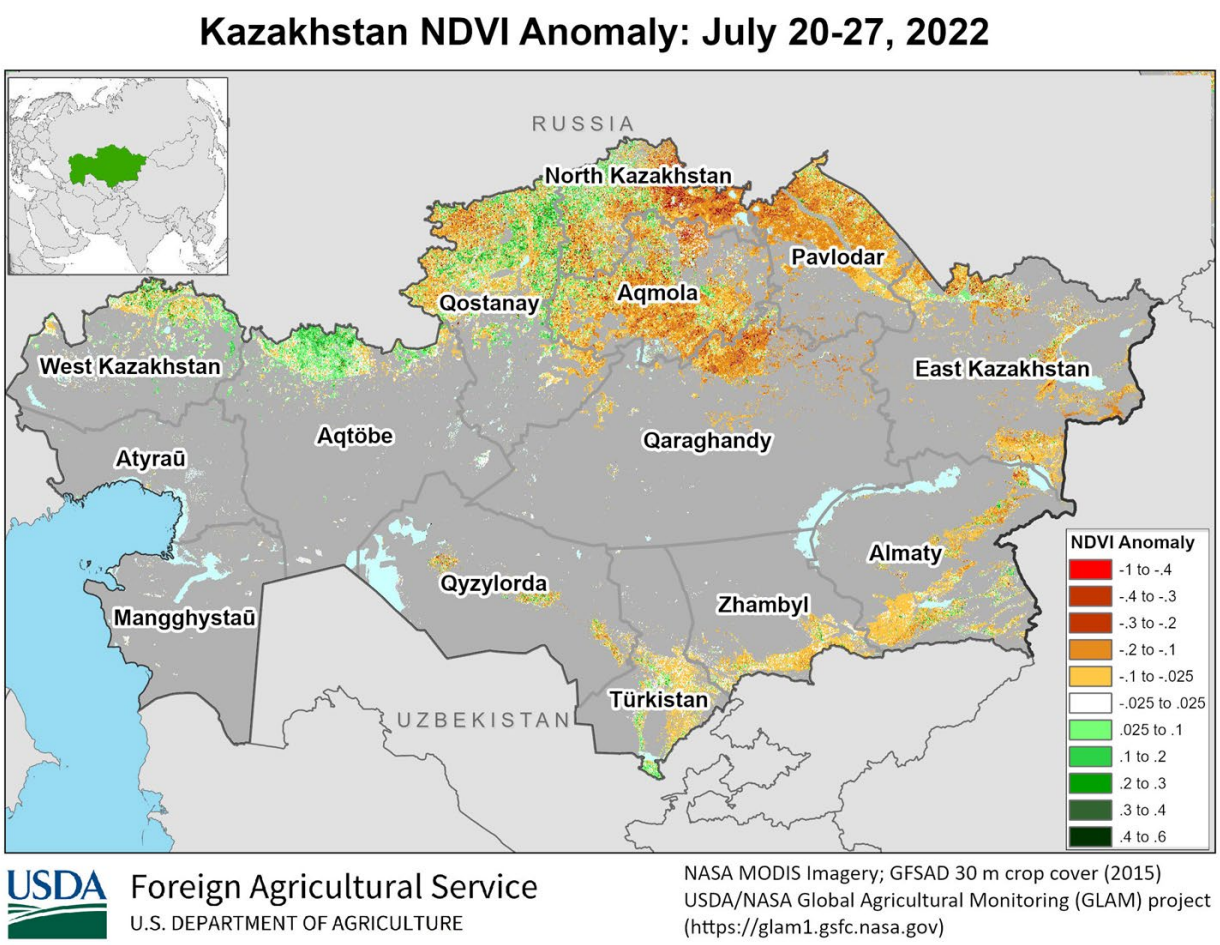

Figure 7. Crop-masked 8-day satellite-derived Normalized Difference Vegetation Index (NDVI) anomaly map ending July 27, 2022. Orange-red colors indicate below-average vegetation status caused by the lack of adequate soil moisture availability. Source: NDVI – USDA/NASA NDVI Anomaly, Global Agricultural Monitoring (GLAM); crop mask – GFSAD 30m crop cover (2015).

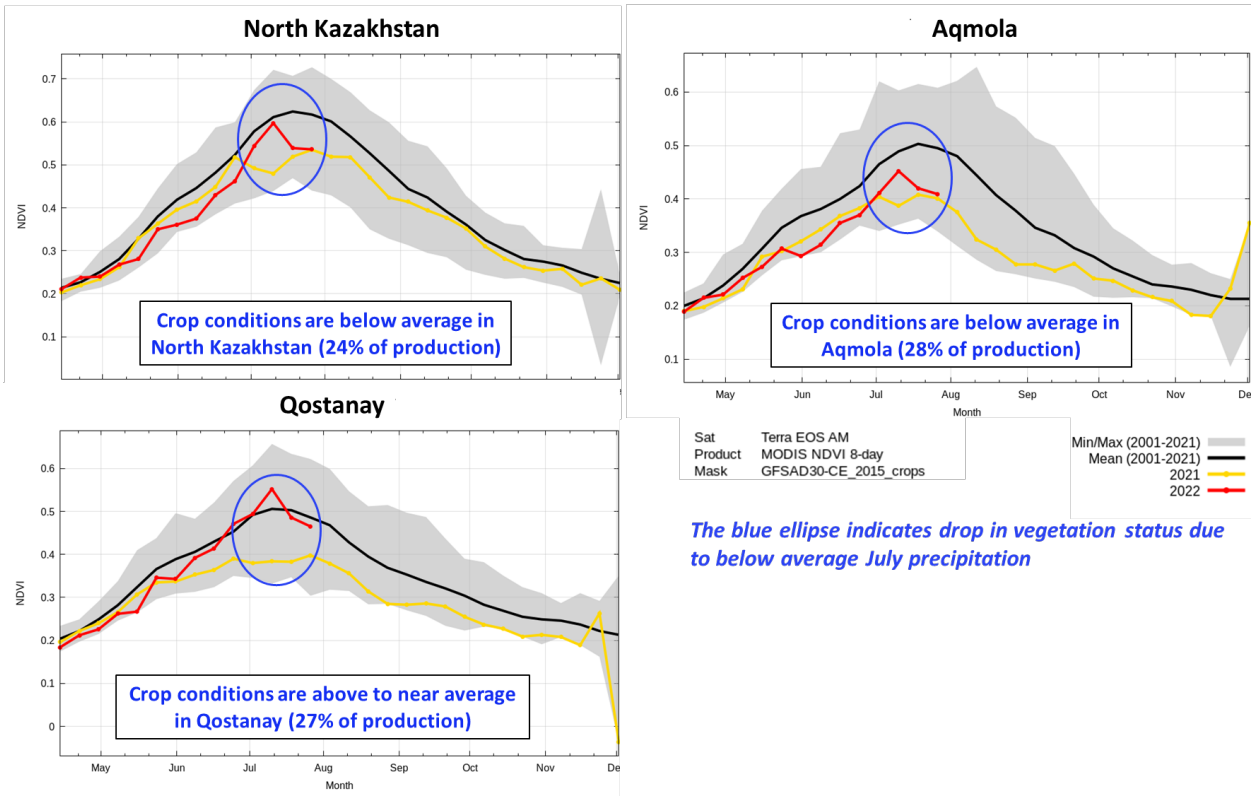

Figure 8. Satellite-derived Normalized Difference Vegetation Index (NDVI) time series showing the current vegetation status (red line) against last year's conditions (yellow line) and the long-term average response (black line). Source: NDVI – USDA/NASA NDVI, Global Agricultural Monitoring (GLAM); crop mask – GFSAD 30m crop cover (2015).

Figure 9. Seed nursery in North Kazakhstan. Source: USDA-FAS Katie McGaughey; photo taken June 2022.

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