United States Department of Agriculture

Foreign Agricultural Service

October 23, 2019

Commodity Intelligence Report

Mixed Harvest Results for 2019/20 European Union Crops

Weather conditions throughout Europe were less than ideal during the 2019/20 crop season. Early expectations for wheat, barley and rapeseed were high but during June, EU winter crops suffered from drought in Spain and central Europe **(See Figure 1)**. The regional drought in central Europe reduced yield potential below early expectations for both wheat and rapeseed. In addition, extremely high temperatures across much of Europe in June ended further growth and kernel development **(See Figure 2)**. Winter barley did well, as its growth had mostly been completed before temperatures reached damaging levels; barley finished its most sensitive

vegetative periods prior to the spring drought. During mid-to-late July, staff from USDA's Foreign Agricultural Service (FAS) traveled in Germany, Austria, and the Czech Republic to observe crop conditions and meet with agricultural experts about issues facing cereal and oilseed producers. Observations and discussions revealed the effects of a difficult season for both rapeseed and wheat. This report will further discuss 2019's weather effect on Europe's winter crops (rapeseed and wheat) and summer crops (corn, sunflower, and soybeans). Barley is both a winter and summer crop in Europe.

Rapeseed: Rapeseed is grown in most of the EU, but it is concentrated in the northern regions **(See Figure 3).** Production fell more in rapeseed than in any other crop. Dryness at planting in August and September 2018 led to poor stand establishment and reduced area **(See Figure 4).** The EU restriction of neonicotinoids (in all EU countries but Romania), has created a major challenge for farmers. In the past, planting seeds were coated with neonicotinoids to prevent insect infestation during early plant growth stages. Without the insecticide, when the tender plants emerge in autumn, they are highly subject to insect damage.

This season, EU rapeseed area fell dramatically for several reasons: the insecticide ban has caused farmers to switch to other crops; market prices for rapeseed have been low; and drought last summer lingered into the early fall planting period which resulted in poor emergence and some fields had to be re-sown with other crops.

Rapeseed in Romania suffered from poor emergence after exceptional autumn dryness. Yields also suffered this year due to the drought, evidenced by only a few side branches which were developed on rapeseed plants **(See Figure 5)**. These branches typically have a significant number of pods (containing seeds), but this year they failed to develop, lowering yields. Finally, the actual size of rapeseed kernels was smaller and the oil inside the seeds was less than normal **(See Figure 6)**. Rapeseed area has been declining over the last several years and will likely continue falling during future years. Unfortunately for many producers, particularly in the northern and central countries, there are few feasible alternative winter crops, so rapeseed will continue to remain in the rotation.

Barley: Barley in the European Union is a mixture of both spring and winter barley. Winter barley mostly fared well. Barley is harvested earlier than wheat and was not affected by the drought and heat that occurred in June. Barley production is estimated at 61.6 million metric tons (mmt) or 5.8 mmt (10 percent) above last year, and 4 percent above the 5-year average. Farmers in Spain sow more barley than any other EU country, but it suffered badly from extreme conditions -- both high temperatures and drought. USDA estimates Spain's barley output at 6.9 mmt, 23 percent below last year and the 5-year average.

Wheat: Despite torrid temperatures and dry conditions, total EU wheat results were about average. Wheat is grown extensively throughout Europe, including in the same areas as rapeseed **(See Figure 7)**, however it was not as detrimentally affected by the weather as was rapeseed. Rapeseed has an earlier planting window which was more affected by autumn drought and the rapeseed crop is more susceptible to pests. In central Europe, while wheat fared better than rapeseed, it remained below its potential. FAS personnel observed wheat fields and discussed conditions with farmers during the July tour in central Europe. Some wheat fields, particularly those on poor soils, showed significant yield reductions due to weather (**See Figure 8 and Figure 9**). Most farmers in central Europe, however, were expecting average yields.

Overall, 2019/20 EU wheat production is estimated at 152.0 mmt and yield is estimated at 5.83 tons per hectare, up significantly from last year's drought-affected crop. Production is estimated at 1 percent above the 5-year average and yield is estimated at 3 percent above the 5-year average **(See Figure 10)**. FAS personnel observed an average crop in central Europe, while other areas, such as the Balkans, had favorable weather which contributed to boosting the total EU crop.

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Corn: One of the largest summer crops in the EU is corn. USDA estimates 2019/20 production at 64.8 mmt, 0.6 mmt above last year and 0.3 mmt above the 5-year average **(See Figure 11)**. The corn harvest typically begins in September and lasts into November. Dryness and heat negatively affected the crops in northern and central Europe, but beneficial moisture in the Balkans is expected to produce near-record crops in Bulgaria and a bumper or record crop in Romania. Satellite derived Normalized Difference Vegetation Index (NDVI) from mid-to-late summer depicts poor vegetation conditions in Germany (Central Europe) and good vegetation conditions in Romania (Balkans). These conditions correspond to the peak of the corn growing season and measure plant stress **(See Figure 12)**. Production for corn in France is estimated to be 12.6 mmt, or 1 percent below last year and 12 percent below the 5-year average.

Other Crops: Sunflowers, which are more drought tolerant than corn, did well in most of the EU during 2019. Production is estimated at 9.8 mmt compared to 9.5 mmt last year, and a 5-year average of 9.0 mmt **(See Figure 13)**. While sunflowers performed well in the Balkan countries where the crop is traditionally grown, production in France is estimated to be two percent below the 5-year average due to unfavorable dryness in the southwest. Sunflowers in Europe are usually harvested in September. Soybeans are not a major crop in the EU with production estimated at 2.6 million tons in 2019/20 **(See Figure 14)**.

Farmers' Concerns: EU farmers believe that increasing governmental restrictions are making them less competitive. Yields in western Europe, particularly in France, have stagnated in recent years **(See Figure 15)**. Farmers explained that they are restricted from applying inputs and treatments at optimal times or in optimal amounts to improve yields. There are total or partial restrictions, covering specific periods of the season, while other restrictions are always in place. The European Commission has banned the use of neonicotinoids because of their effects on pollinators. Most member states have already restricted genetically modified crop options.

Organic farming is increasingly popular in the EU, but farmers wonder how much more the organic niche market can increase. Due to the higher prices, the organic market is more limited than the one for conventionally grown crops. Austria is the EU's largest per capita producer of organics with over one-third of its arable area being organic. Austria has small farms, and organics have become a profitable niche for them, but they worry about increasing organic competition from other EU countries like Germany.

This report was made possible due to the invaluable contributions, support and expertise of USDA (FAS) Berlin, Germany; Vienna, Austria; and Prague, Czech Republic.

Figure 1: Standardized Precipitation Index (SPI) showing June 2019 drought

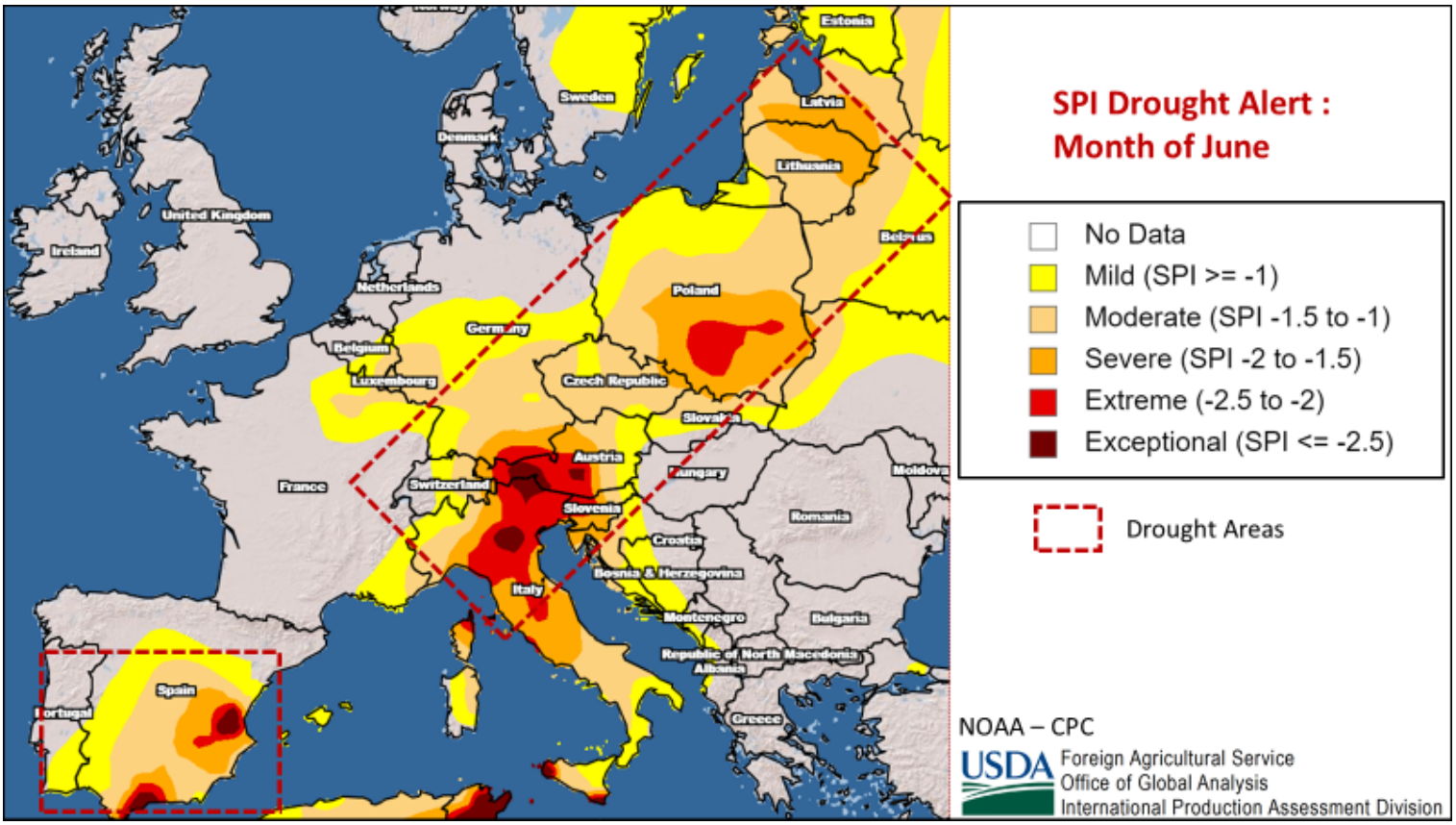


Figure 2: Maximum June temperatures

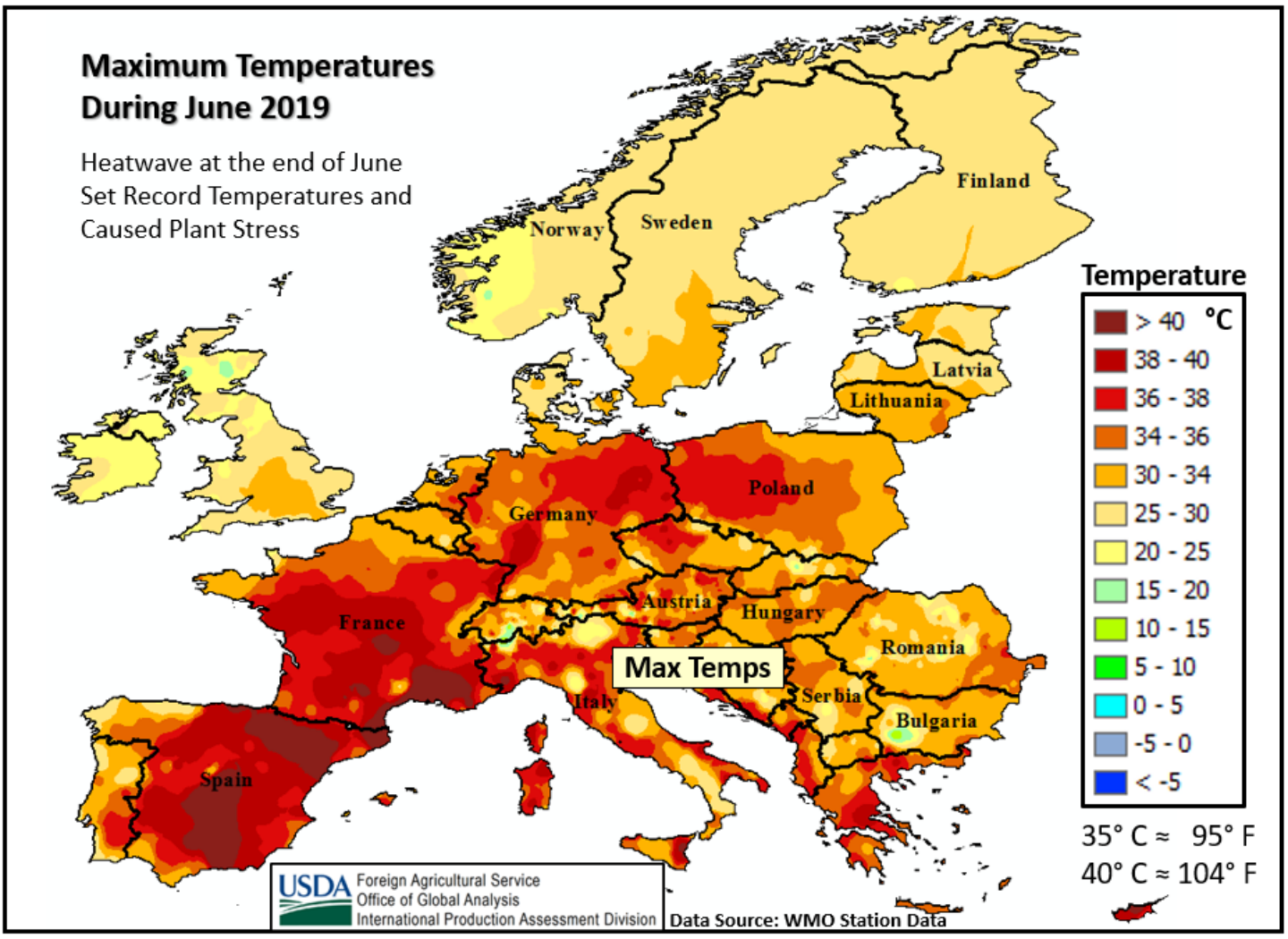


Figure 3: Europe rapeseed production map

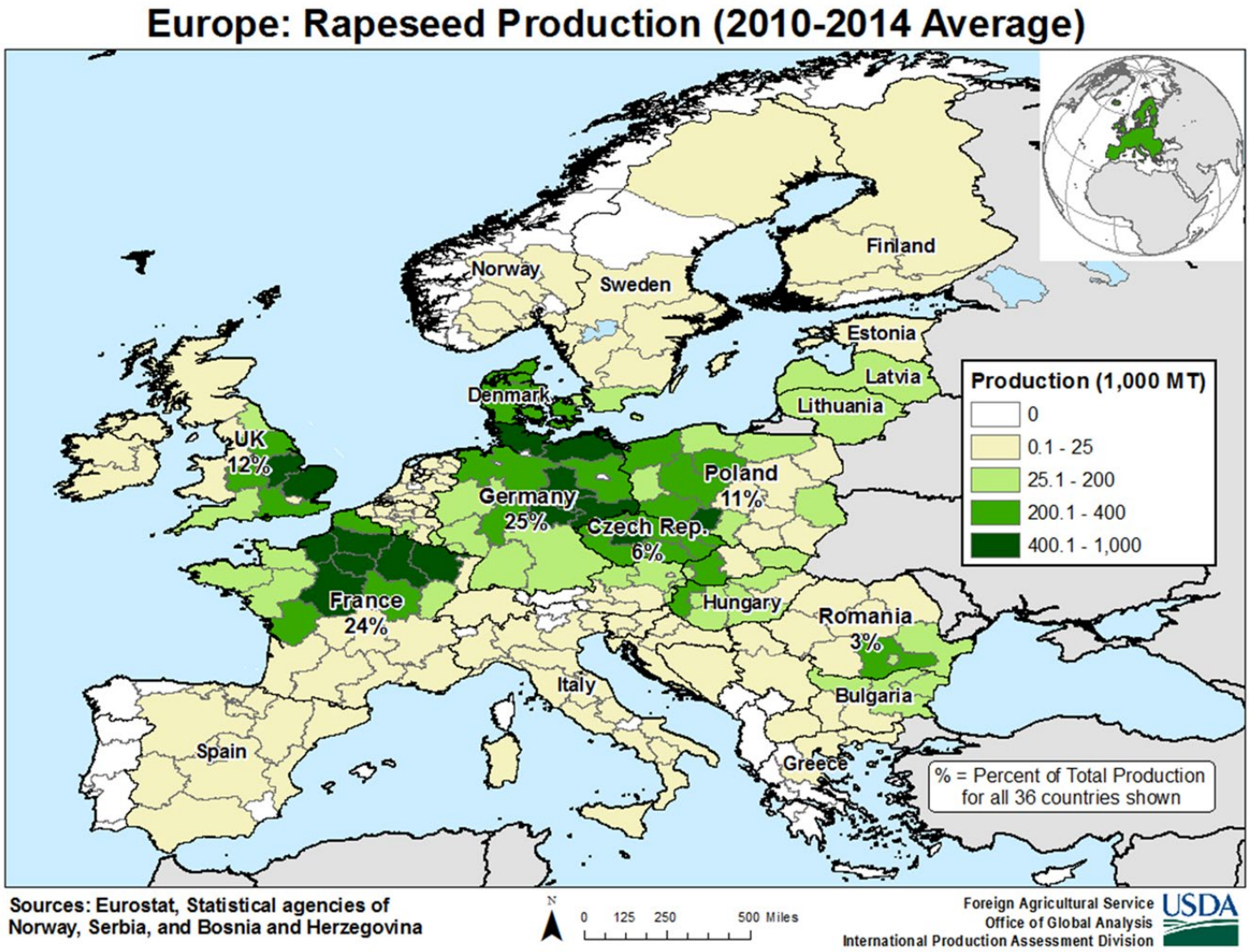
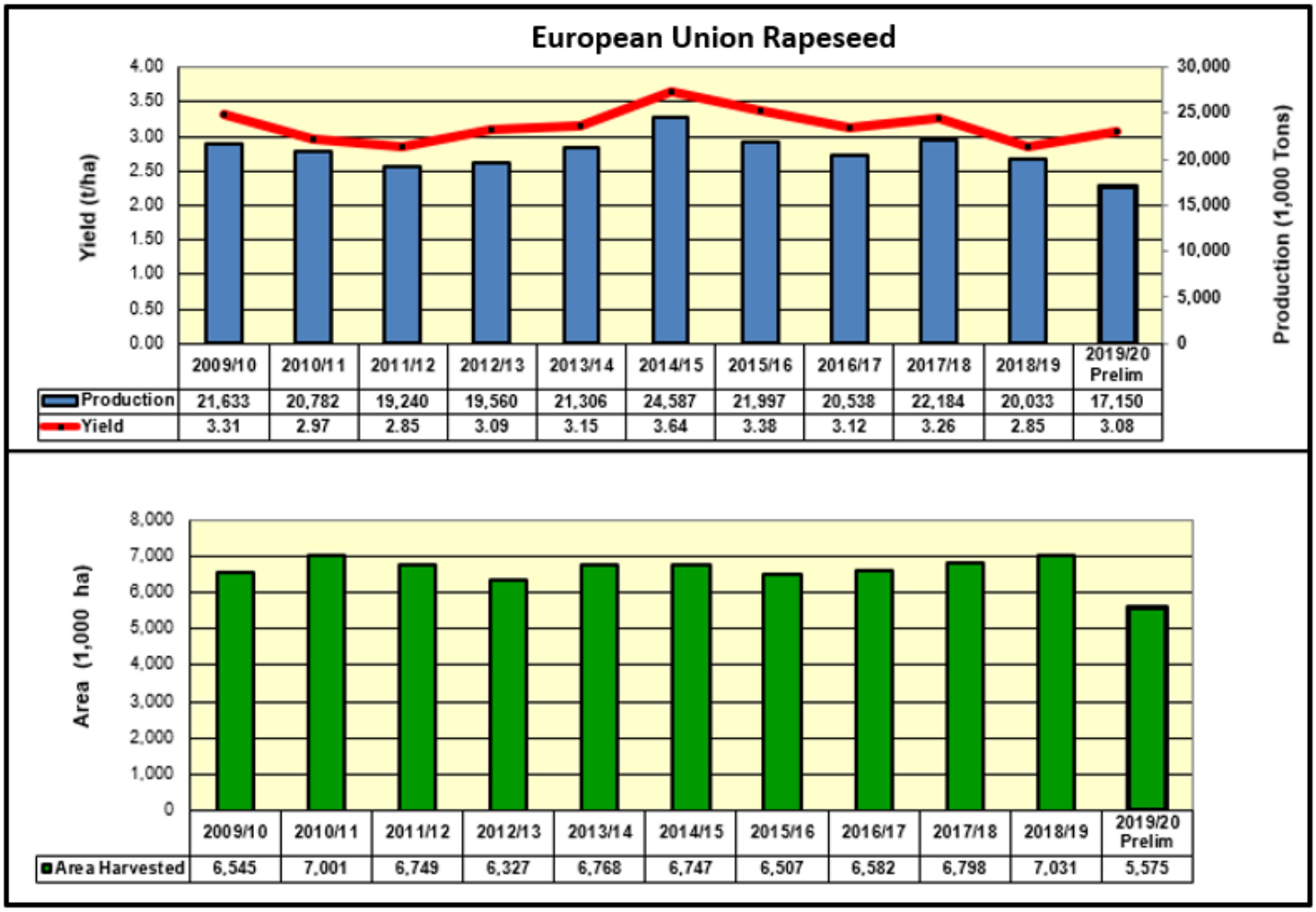


Figure 4: EU rapeseed area, yield and production



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Source: USDA PSD Online

Figure 5: Poor stands of rapeseed with few side branches

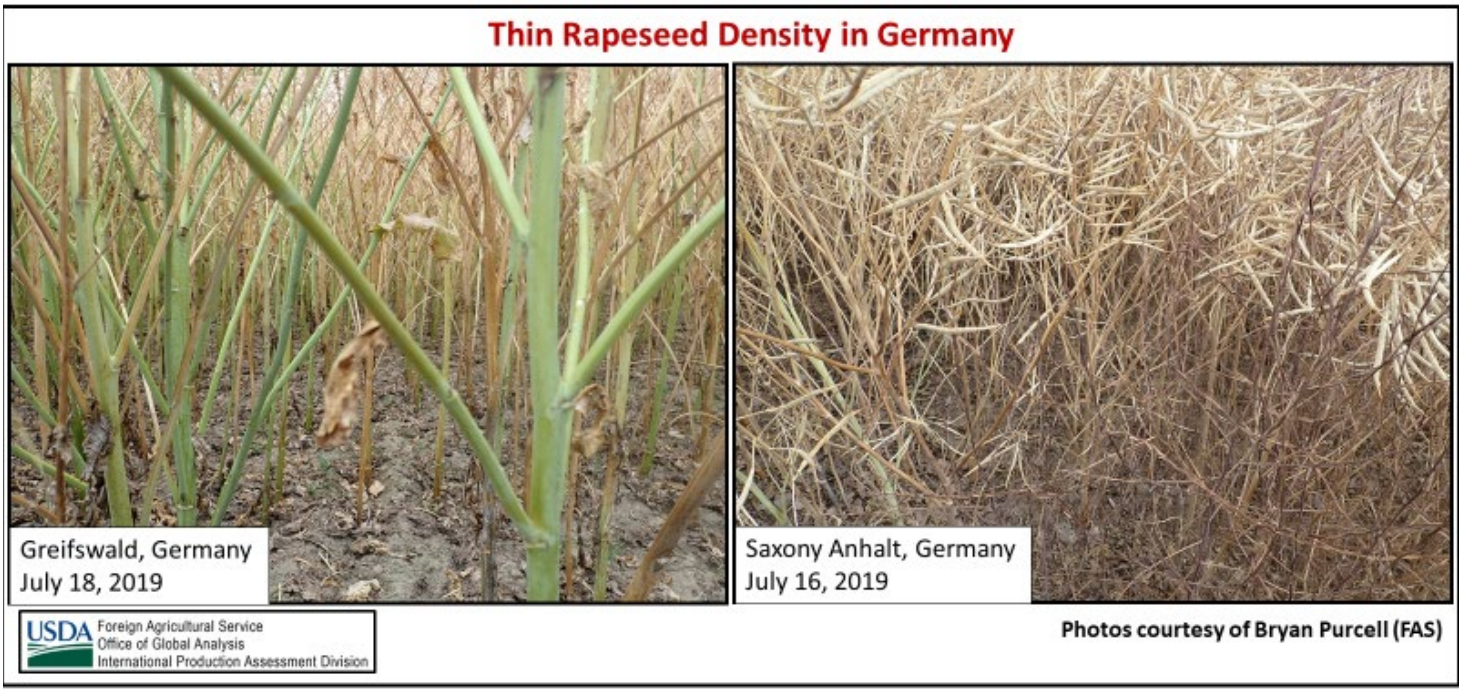


Figure 6: Drought-affected rapeseed observed during crop tour July 2019

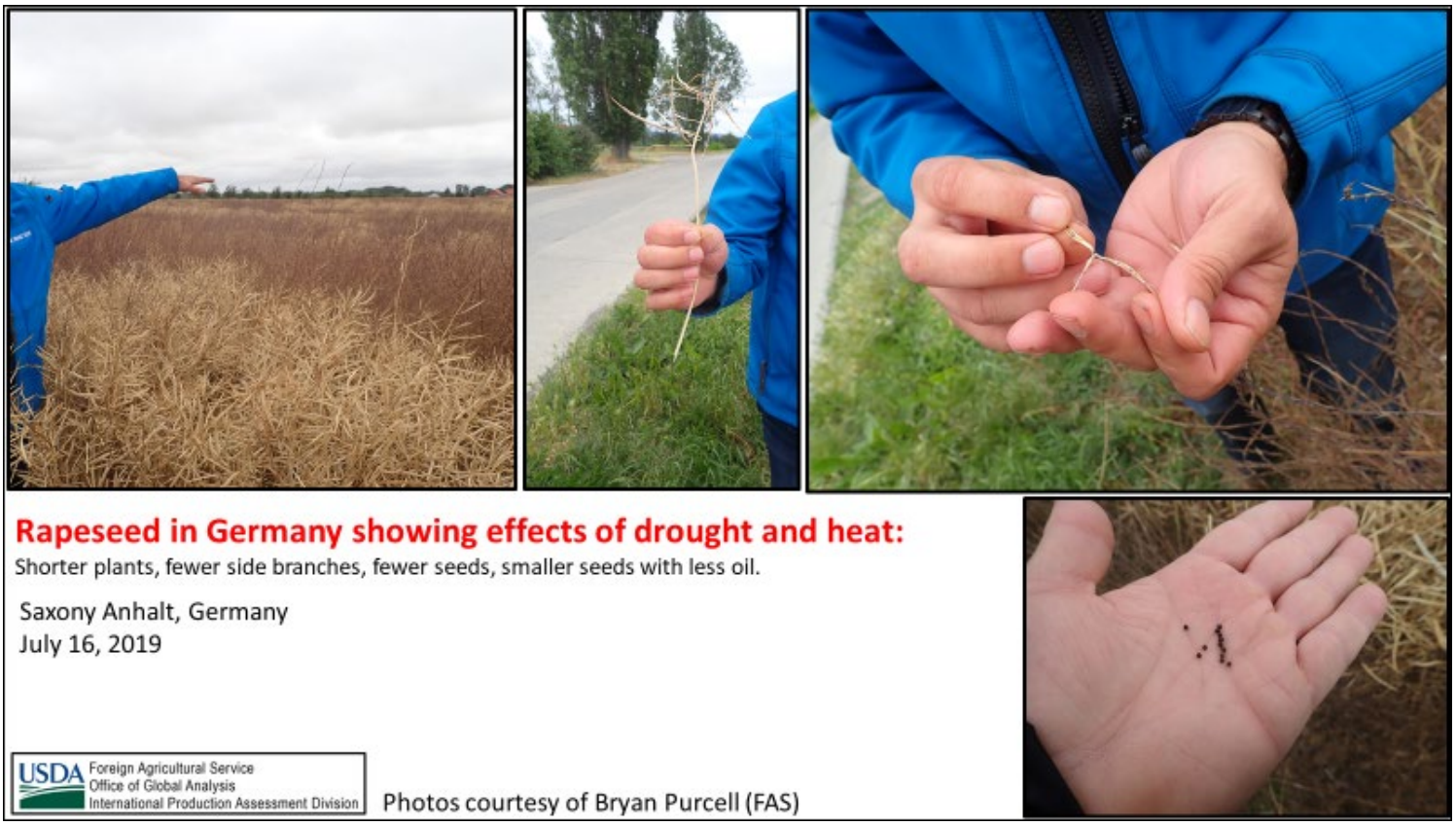


Figure 7: EU wheat production map

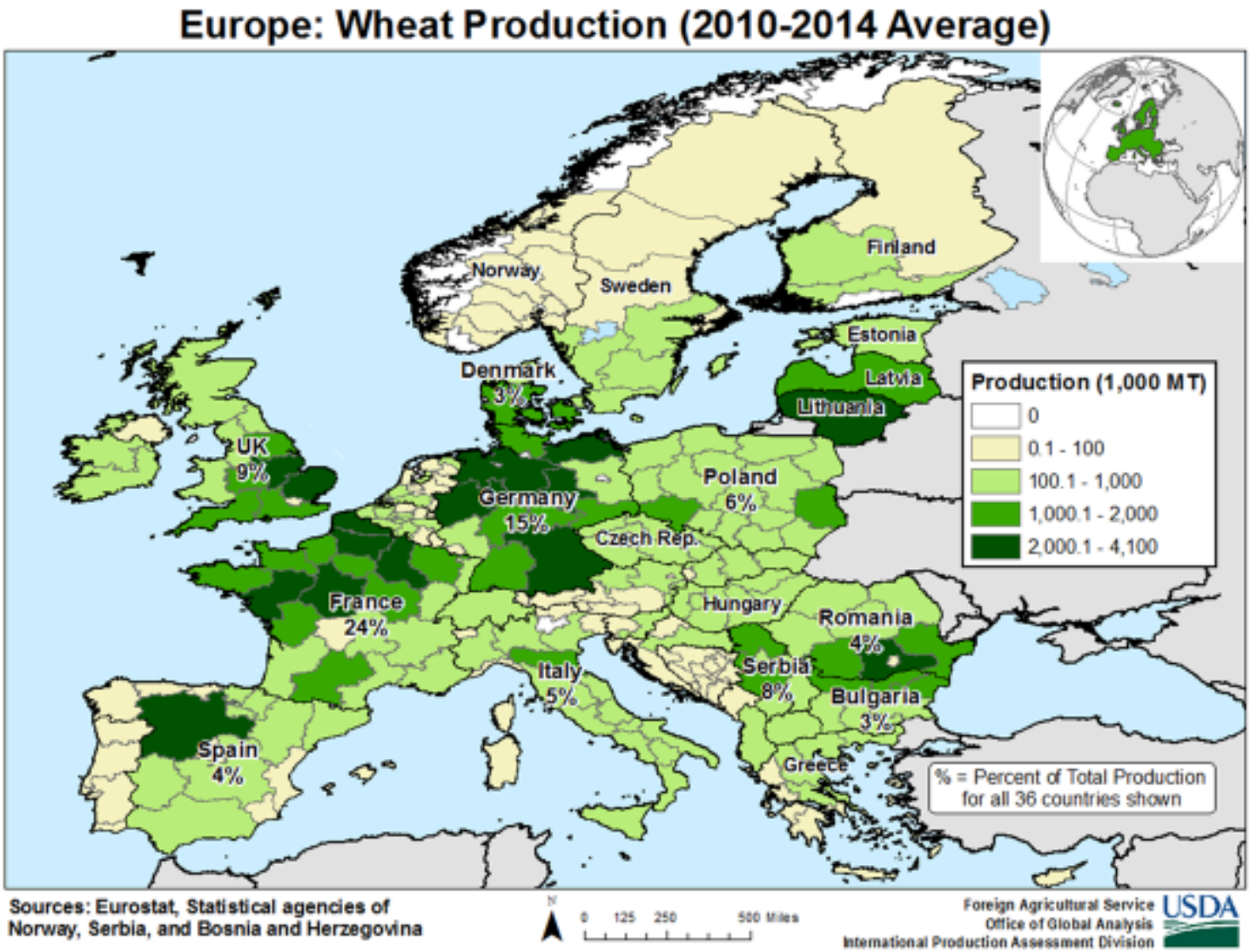


Figure 8: Poor wheat stands due to drought

Figure 9: Small wheat kernels observed during crop tour in July 2019

Figure 10: EU wheat area, yield and production

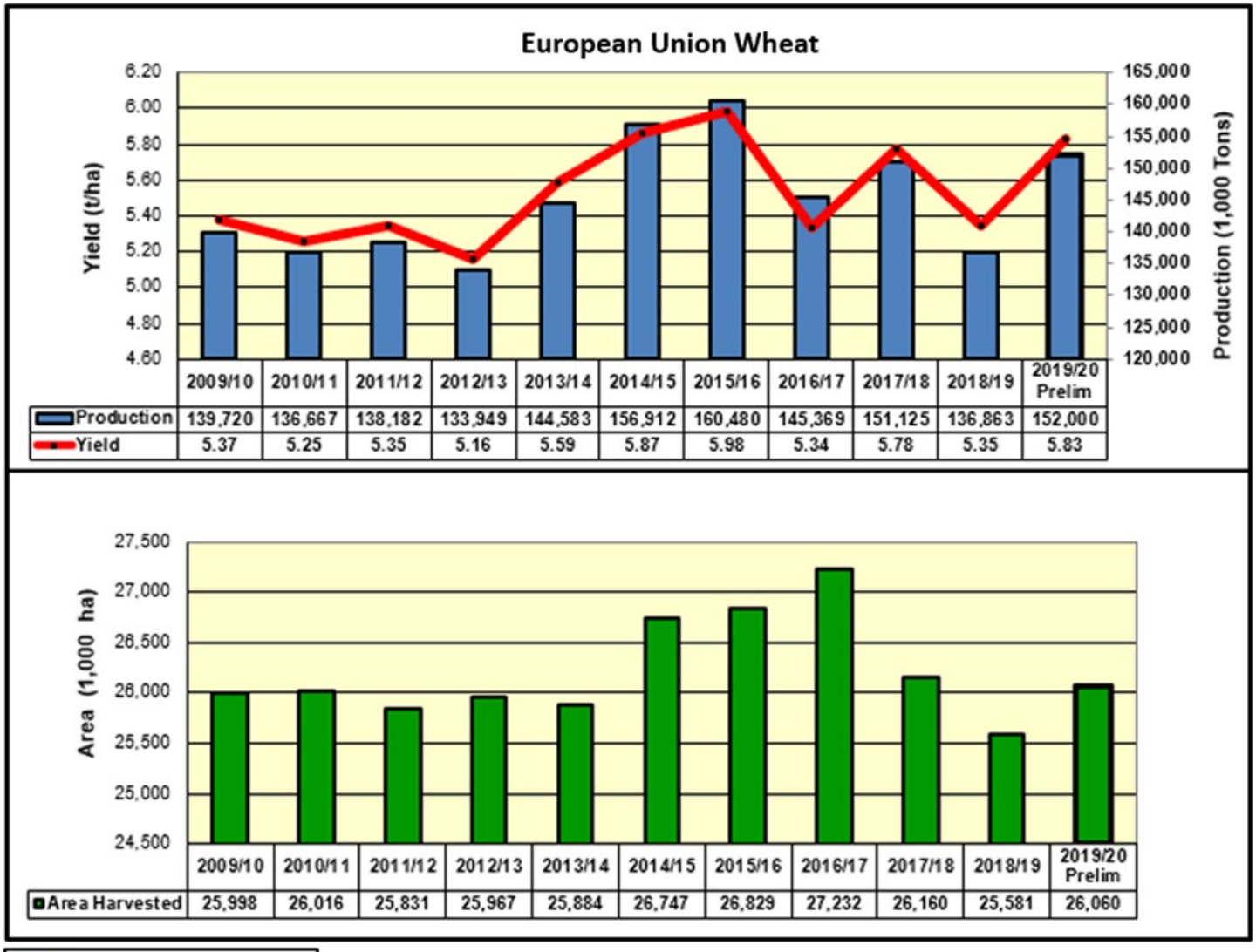


Figure 11: EU corn area, yield, and production

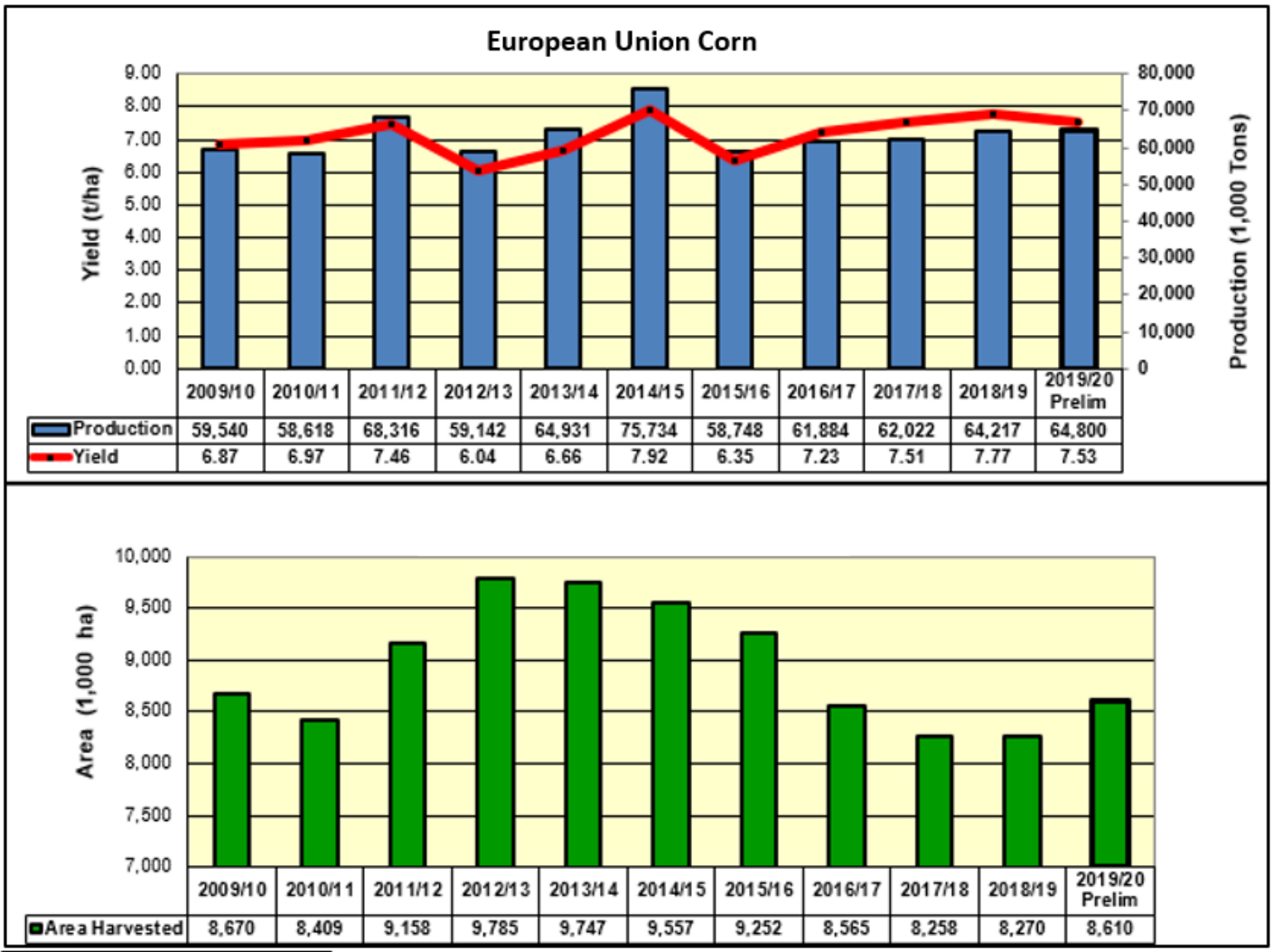
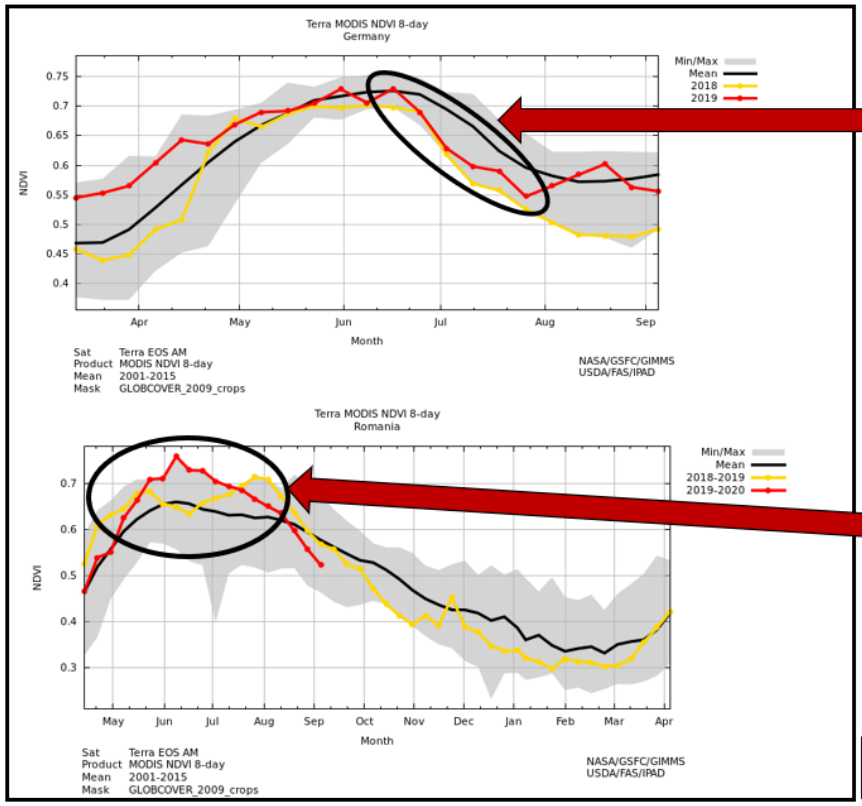


Figure 12: Satellite NDVI for Germany and Romania



Satellite Imagery Depicts Crop Vigor/Health

MODIS NDVI shows a rapid decline in vegetation vigor during June and July 2019 (in red), depicting plant stress in Germany caused by heat and dryness. Germany (similar to other north-central EU countries), is estimated to have below-average crops of 2019/20 wheat and rapeseed.

MODIS NDVI shows a high peak in Romania after beneficial rainfall. The red line depicts 2019 vegetation vigor. Romania (typical of other Southeast European countries), is estimated to produce bumper or record crops of wheat, corn, and sunflowerseed.

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Figure 13: EU Sunflowerseed area, yield and production

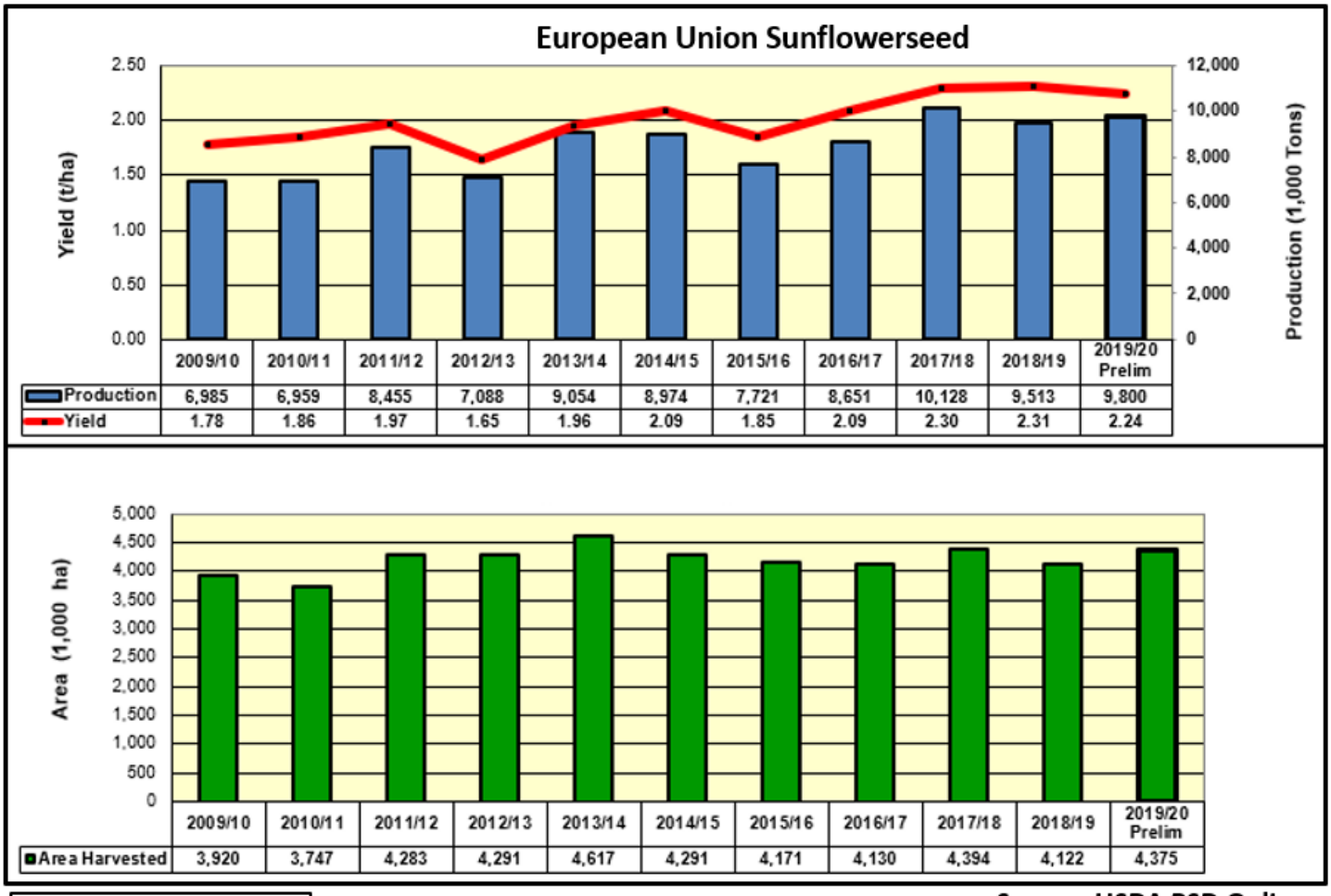


Figure 14: EU Soybean area, yield and production

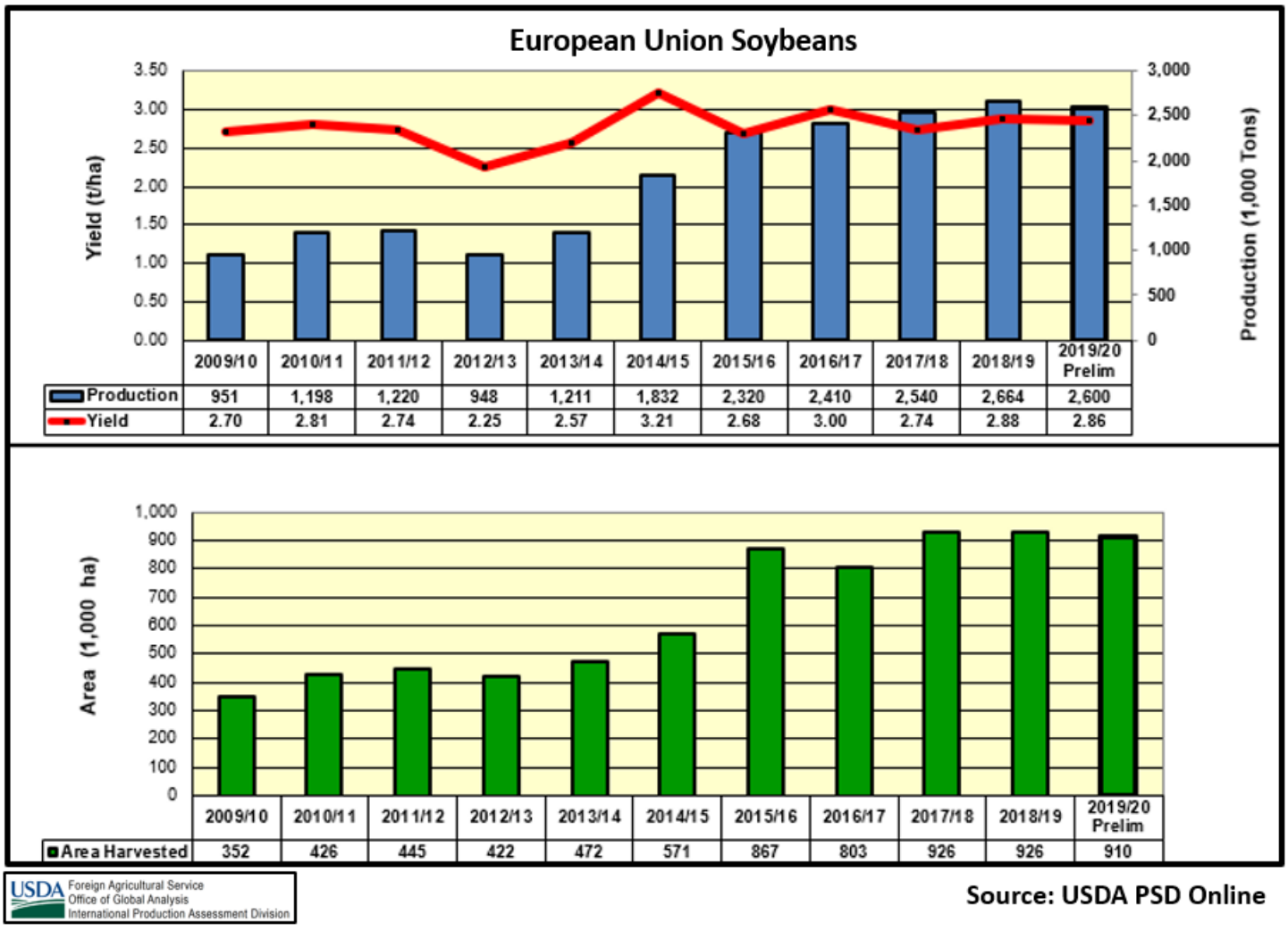
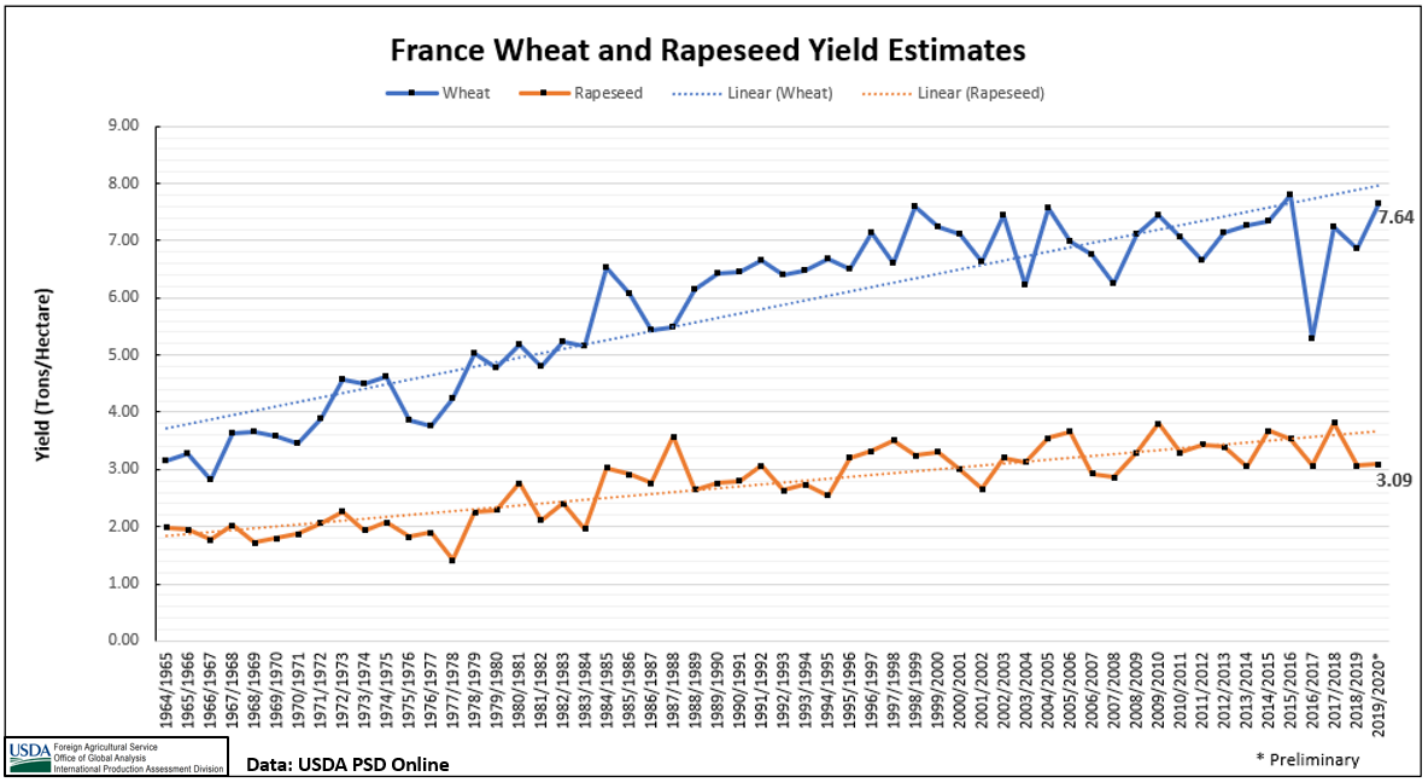


Figure 15. France wheat and rapeseed yield estimates



For country-specific area, yield, and production estimates within the European Union (EU), please go to PSD Online at https://apps.fas.usda.gov/PSDOnline/app/index.html#/app/home, and select "Downloadable Data Sets." Select the zipped file for "EU Countries Area & Production."
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Current area and production estimates for grains and other agricultural commodities are available on IPAD's Agricultural Production page:

Crop Explorer https://ipad.fas.usda.gov/cropexplorer/or

Production, Supply and Distribution Database (PSD Online):
http://apps.fas.usda.gov/psdonline/psdHome.aspx

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