SPECIAL FOCUS[i] – June 2021

Updated yield outlook for winter cereals in Algeria

Harvesting of winter grains in the country normally starts in early June and continues until mid-July. Conditions of cereal crops have been negatively impacted due to above-average temperatures and poor rainfall conditions (**see Special Focus of May** for more information on rainfall and temperature). As a result, below-average national yields are expected for main cereal crops. According to the June JRC MARS bulletin, dry and warm conditions in the March-May period, accelerated grain filling in the central-eastern regions of Algeria, deteriorating an already compromised yield outlook. At the national level, yield for wheat and barley has been revised downwards, compared to the May JRC MARS bulletin. Yield for wheat and barley in the June JRC MARS bulletin was forecasted at 29% and 25% below the 5-year average, respectively.

Based on updated data (yield proxies such as ASAP NDVI, temperature, precipitation, and incident radiation), and the **machine learning workflow for yield forecasting at the wilaya (provincial) level** (Meroni et al.,2021), yield forecasts were computed at the end of the first dekad of June per province and crop (Figures 5, 7, and 9). Moreover, the percent differences of forecasted yields with the averages were mapped per province and per crop (Figures 6, 8, and 10).

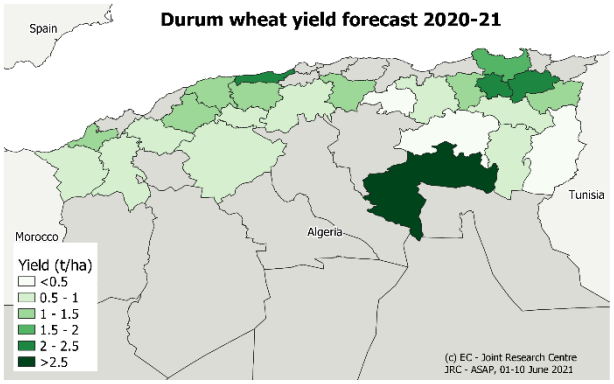

Figure 1. Durum wheat 2020-21 yield forecast at the provincial level. Forecasts cover the major producing provinces contributing to the 90% of the national mean crop production, thus excluding marginal production provinces.

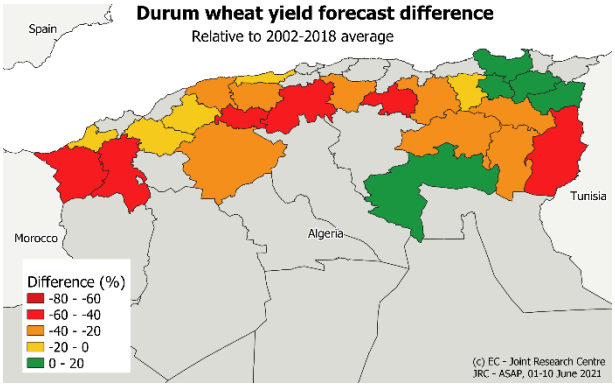

Figure 2. Durum wheat 2020-21 yield forecast difference (in %) with the 2002-2018 average yield at the provincial level.

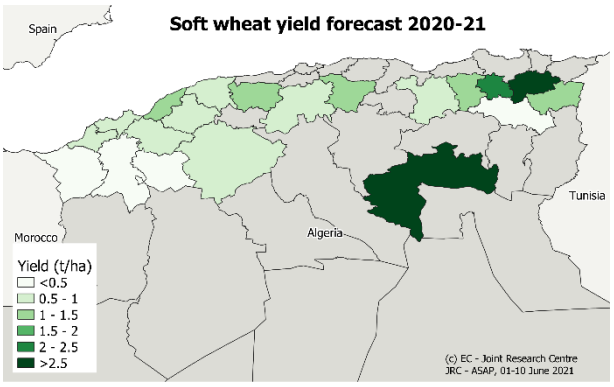

Figure 3. Soft wheat 2020-21 yield forecast at the provincial level. Forecasts cover the major producing provinces contributing to the 90% of the national mean crop production, thus excluding marginal production provinces.

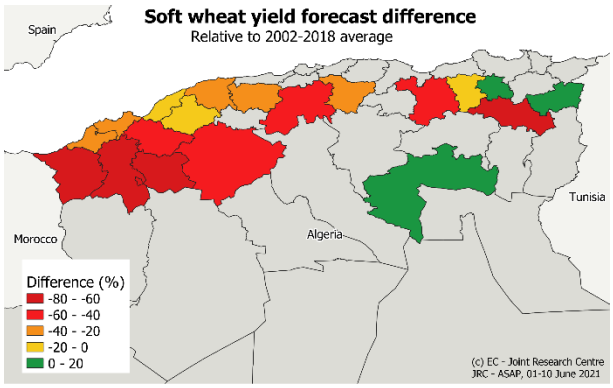

Figure 4. Soft wheat 2020-21 yield forecast difference (in %) with the 2002-2018 average yield at the provincial level.

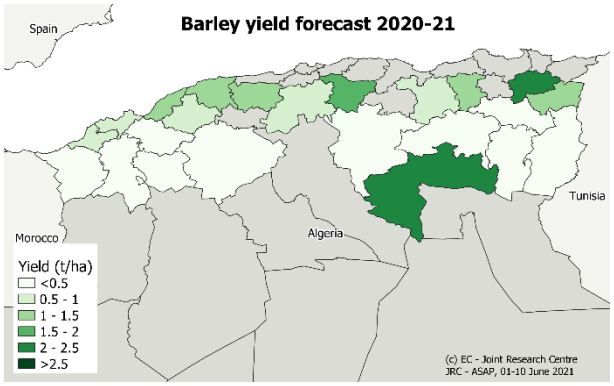

Figure 5. Barley 2020-21 yield forecast at the provincial level. Forecasts cover the major producing provinces contributing to the 90% of the national mean crop production, thus excluding marginal production provinces.

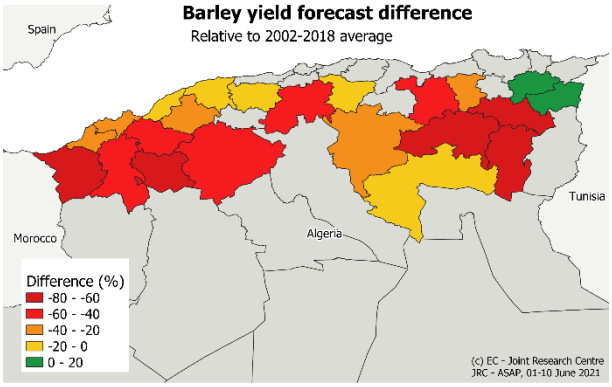

Figure 6. Barley 2020-21 yield forecast difference (in %) with the 2002-2018 average yield at the provincial level.

Forecasts of **national production** are reported in Table 1. It is evident that the **worst yield prospect is for barley and soft wheat** (ca. 40% and 30% below-average, respectively), while for **durum wheat** the most important cereal in terms of national production, **is less impacted** (but revised downwards compared to the previous outlook).

Table 1. National production forecasts. Average crop area is used to estimate production from forecasted yield. The percentile places the current forecast in the historical distribution of production, i.e., it refers to the fraction of observed production in 2002-2018 that is lower than the current one.

	May 2021 forecast				June 2021 forecast			
Crop	Forecasted Yield (t/ha)	Yield difference with average (%)	Forecasted production (tons)	Percentile [2002-2018 period]	Forecasted Yield (t/ha)	Yield difference with average (%)	Forecasted production (tons)	Percentile [2002-2018 period]
Barley	0.59	-41.76	597993	0.14	0.58	-43.15	583738	0.14
Durum wheat	1.09	-14.91	1386255	0.18	0.98	-23.46	1246901	0.15
Soft wheat	0.77	-32.64	452464	0.14	0.76	-33.96	443590	0.13

If the final actual yield will reflect our negative forecasts, not all the sown area might be actually harvested. In this case, it is expected that harvesting would not take place in the most affected areas (i.e. the areas with the poorest yields), resulting in final yield statistical figures larger than the forecasted ones.

More information can be found here:

- Meroni, M., Waldner, F., Seguini, L., Kerdiles, H., Rembold, F. (2021). *Yield forecasting with machine learning and small data: what gains for grains?* (arXiv:2104.13246)
- JRC MARS Bulletin (June 2021): https://ec.europa.eu/jrc/sites/default/files/jrc-mars-bulletin_north_africa-june_2021.pdf
- JRC MARS Bulletin (May 2021): https://ec.europa.eu/jrc/sites/default/files/jrc-mars-bulletin-vol29-no5.pdf

For any feedback and questions please write to the address below.

Feedback can also be posted on Twitter by including the hashtag: #asapEU

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Acknowledgements

Special thanks for reviewing the report to Giacinto Manfron.

[i] (Special focus reports add information based mainly on the analysis of satellite imagery and links to other sources, to the monthly ASAP global overview that can be found at the website: https://mars.jrc.ec.europa.eu/asap/)

