



MED-Amin Bulletin 2024 – 3 | Winter crops outlook at 10 June 2024

## Mixed Outlook: upward trend for Soft Wheat and Barley and downward revision for Durum Wheat

During the May-June period, the situation has improved for soft wheat and particularly for barley, notably in France where a significant portion of the previously monitored areas considered 'watch' or 'poor' have been revised upwards. Conversely, the situation has deteriorated for durum wheat in southern Italy, Türkiye and France, where the share of 'poor' or 'watch' crop conditions increased, in reason of unfavourable weather conditions. In most of the MED-Amin countries, winter crop expectations remain positive and are confirming the previous outlook. Conditions are mostly 'favourable' to 'exceptional' in Spain, despite regional disparities. Conversely, droughts continue to affect Morocco and western Algeria.

The present **bulletin** gives an outlook of the progress of cereal crops in the Mediterranean region. It provides **early qualitative forecasting** of the **2023-2024 campaign**, with particular focus on soft wheat, durum wheat and barley. This **third outlook** reviews crop conditions from **11-May to 10-June**, across the grain filling, senescence and harvesting stages.

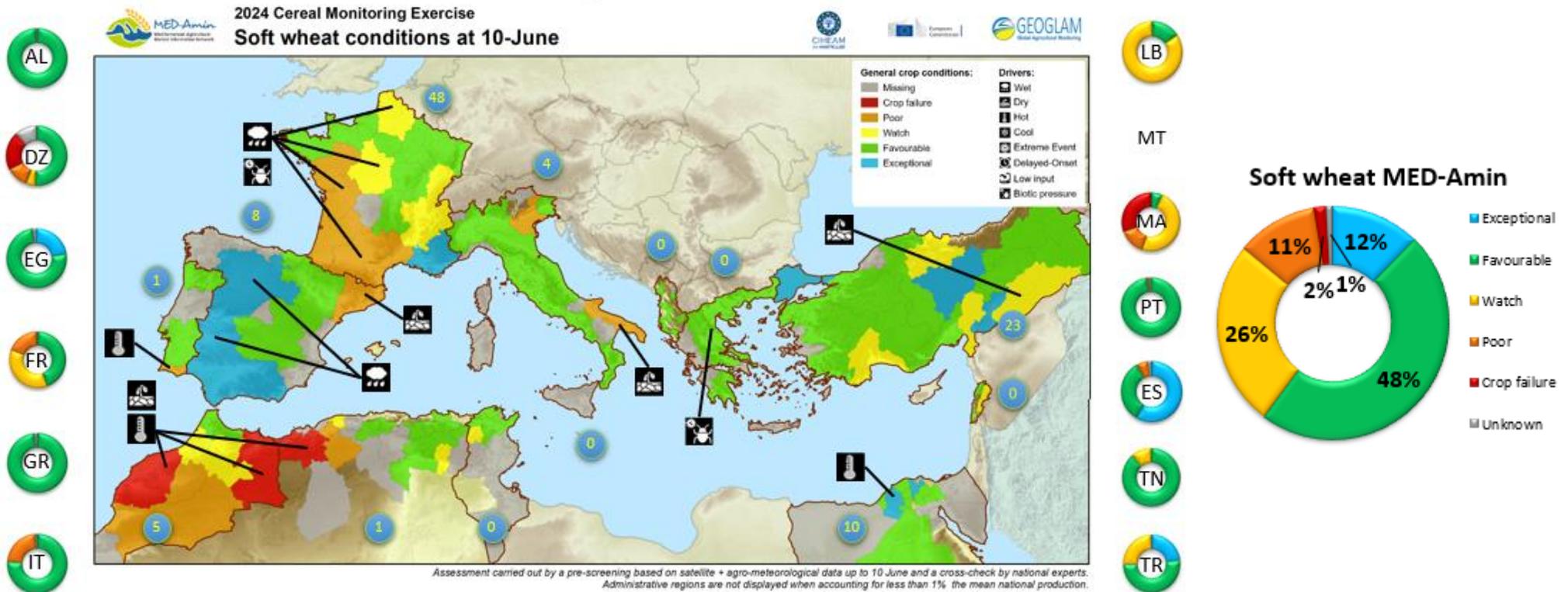
This crop monitoring and early warning initiative was progressively **developed since 2016 by the MED-Amin network in collaboration with the Joint Research Centre (JRC) of the European Commission**, providing an **early qualitative** assessment of crop conditions and yield potential of **three winter cereals** (soft wheat, durum wheat, barley) based on a GEOGLAM-like approach but with a **two-steps methodology**, using remote sensing and feedback from national Focal Points, which enable to identify **hot-spots** of concern at **subnational** level using nomenclature and pie-charts similar to GEOGLAM for AMIS (Agricultural Market Information System) and to disseminate corresponding **warnings**.<sup>1</sup>

In a context of **rapid market changes** at global and notably Mediterranean level, boosted by the war in Ukraine, a new driver 'low input' can be displayed among the other abiotic drivers of future production.

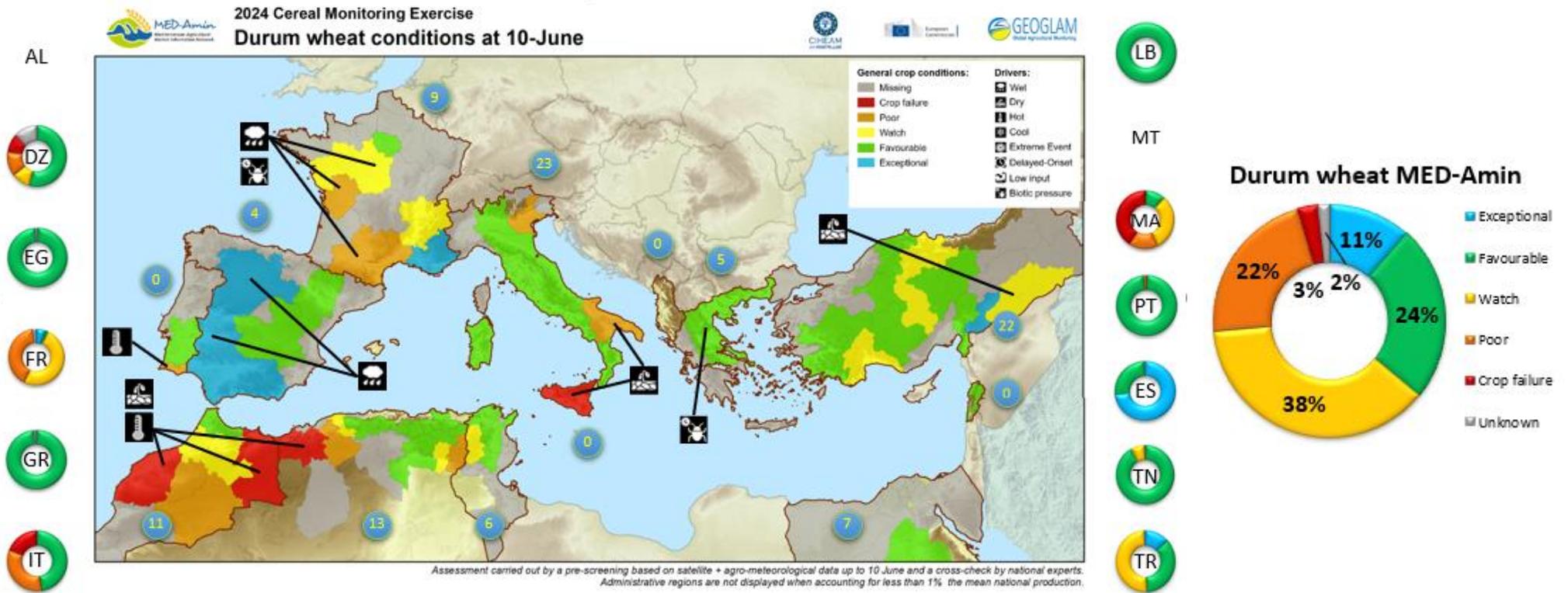
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<sup>1</sup> MED-Amin network, gathering 13 Mediterranean countries and coordinated by the CIHEAM (International Centre for Advanced Mediterranean Agronomic Studies), aims to reduce prices volatility in agricultural markets. This initiative lays the foundation for an early warning system strengthening food security in the region. For more info: <http://www.med-amin.org>, <http://ec.europa.eu/jrc/en/mars> and <https://www.cropmonitor.org/>.

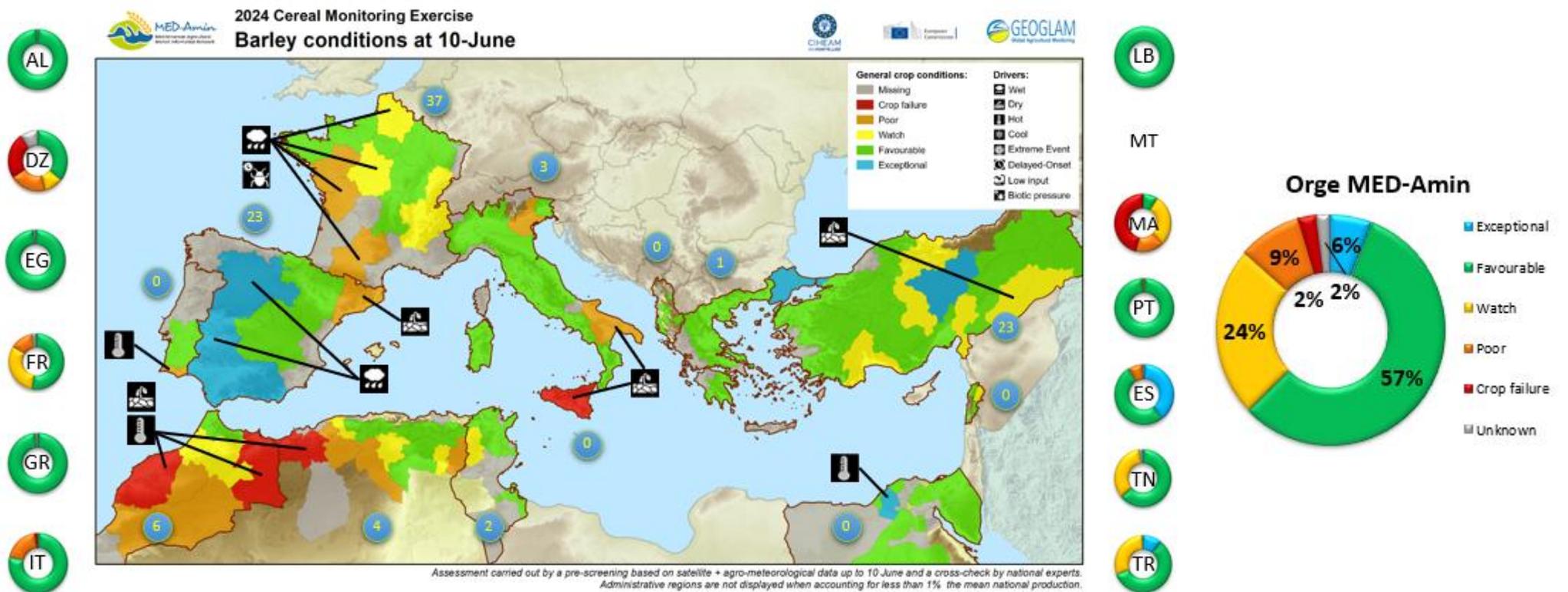
60% of the of the **Soft Wheat** areas in the MED-Amin region are developing under 'favourable' or 'exceptional' conditions, a significant decrease from last year's 81%. However, the outlook has been revised upwards by 22% compared to the previous bulletin. Results vary greatly by country. In half of the countries, soft wheat is developing well, and the outlook is 'exceptional' for certain regions in **Egypt** (10% of MED-Amin production) and **Spain** (8% of MED-Amin production). In Spain in particular, 58% of the soft wheat area is considered to grow under exceptional productive condition. In **Italy** and **Tunisia**, overall conditions are positive, but certain regions have been impacted by drought. In **Algeria** and **France**, conditions are mixed, with only about half of the areas experiencing favourable conditions due to variable weather affecting crop development, including droughts and excessive rainfall. Lastly, the outlook is negative in **Morocco**, where only 7% of the areas are under favourable conditions due to persistent drought. For more information, please refer to the National Highlights section of this bulletin.



**Durum wheat** is largely cultivated in the Mediterranean area and accounts for 47% of the global production. Due to this year's weather conditions, it is the winter crop most affected by adverse conditions, with only 35% of the planted areas developing under 'favourable' or 'exceptional' conditions. The outlook for this crop has deteriorated compared to the previous bulletin (-27% of the area developing under 'favourable' or 'exceptional' conditions) and it is lower to that of the previous season (43%). The same national trends observed for soft wheat are even more pronounced for this crop in the MED-Amin area. The outlook is particularly positive in **Spain** (4% of MED-Amin production), with 40% and 74% of the crops respectively in 'exceptional' condition. Conversely, due to droughts affecting **Morocco** (11% of MED-Amin production), southern **Italy** (23% of MED-Amin production), and western **Algeria** (13% of MED-Amin production), the areas of durum wheat developing under 'favourable' conditions are only 12%, 48%, and 54% in those MED-Amin countries respectively. The situation is particularly severe in Italy and Morocco, where 52% and 57% of this crop is in 'poor' or 'crop failure' condition, respectively. In **Türkiye** (21% of MED-Amin production) the outlook has been revised downward due to dry conditions. In **France** (9% of MED-Amin production), overwet conditions and an increasing pest pressure have led to mixed results (see pie chart below). Please refer also to the National Highlights section.



**Barley** is the crop least affected by the weather conditions in the MED-Amin area, with **63% of the sown areas in the MED-Amin region experiencing 'favourable' or 'exceptional' conditions**. The outlook has been revised upwards compared to the previous bulletin (+19%), in which a large portion of the areas were considered to 'watch'. The situation is also better than last year's outlook (55% of the area was developing under 'favourable' or 'exceptional' conditions). Recent improvements are mainly due to crop recovery in **France** (37% of MED-Amin production), where nearly 50% of the cultivated areas shifted from 'watch' to 'favourable' conditions with the cropping season moving forward. In other countries, the outlook is confirming previous analyses, and generally follows the same trends as soft and durum wheat. In **Morocco** and **Algeria** (6% and 4% of MED-Amin production, respectively), the situation is particularly unfavourable, with 62% and 44% of the area considered in 'poor' or even 'crop failure' condition, respectively. Conversely, the situation is particularly favourable in **Spain** (23% of MED-Amin production), with 40% of the barley areas currently in 'exceptional' conditions. Please refer also to the National Highlights section.



## National highlights



**Albania:** Weather conditions have been favourable for both yield and quality of cereals nationwide and are in-line with previous years. In the *Korçë* region, conditions have been optimal since May 10, promising a good production. Some areas in the *Korçë*, *Shkodër*, and *Dibër* regions have been affected by pests and diseases (such as rust and other fungal infections) due to wet and warm conditions, although the damage has not been significant. As of June 10, crops are ranging from the wax ripening stage in the *Dibër* region to senescence in the *Fier* region.



**Algeria:** Overall, the rainfall has been in-line with average, and temperatures have been moderately higher than usual. But this average situation hides large contrasts over regions. The north-western regions of the country (e.g. *Tlemcen*, *Mascara*, *Sidi Bel Abbes*, *Tiaret*) have been affected by severe drought this season, and the final outlook is from poor to crop failure. In contrast, the north-eastern regions (e.g. *Medea*, *Skikda*, *Constantine*, *Mila* and *Setif*), have experienced favourable weather conditions due to more abundant and well-distributed rainfall, close to the seasonal average. This is expected to offset the poor results from the north-west, also thanks to the availability of wider irrigation systems and a more favourable sowing window. Temperatures in these regions, however, are higher than average. **Despite these contrasting trends, overall production is expected to be close to or slightly above average**, as indicated in the previous bulletin.

Wheat and barley harvests are normally completed.



**Egypt:** From 11 May to 10 June, Egypt experienced above-average temperatures, particularly in June. However, effective irrigation systems throughout the country ensured that wheat and barley crops received adequate water supply, mitigating the potential negative impacts of high temperatures. Consequently, crop conditions have been generally favorable.

Regionally, variations in crop conditions were observed. Delta regions such as *Dakahlia* and *Behera* showed exceptional conditions due to optimal irrigation and favorable weather. In contrast, Upper Egypt regions, including *Aswan* and *Luxor*, faced challenges due to higher temperatures but still maintained average production levels thanks to efficient irrigation practices.

No significant adverse meteorological events were reported during this period. Additionally, the absence of pests and diseases contributed positively to the crop outlook. Advances in agricultural techniques, including the use of drought-resistant seed varieties and improved irrigation methods, have further supported crop health and productivity.

The harvest of wheat and barley was completed on schedule at the end of May, with no significant delays or early harvests reported. This timely harvest ensured that the yield potential was fully realized. **Overall, the national outlook for wheat and barley production is positive, with expectations of yields being moderately above or in-line with long-term averages.**



**France:** Rainfall has continued to be frequent, occurring almost daily across much of the country, resulting in above average precipitation. Meanwhile, temperatures and solar radiation have generally been below average. Early June presented mixed weather conditions, leading to significant variability in winter crop performance. Moderate temperatures and sufficient precipitation have generally supported the growth and maturation of cereals. Thus, crop conditions generally improved since the previous bulletin. However, extreme weather events, such as thunderstorms in the East and Central-East and floods in the Northeast, have caused localized damages. These weather conditions have impacted sowing, crop development, and field intervention throughout the year. As a result, three regions have been particularly affected. *Nouvelle-Aquitaine* and *Hauts-de-France* has been affected by overwet conditions, particularly affecting spring barley, with only 54% and 46% of the crops in good condition, respectively. Winter barley and soft wheat also show degraded potential. *Occitanie* has also been affected by deteriorating weather conditions, with well-below average crops in good condition. Crop conditions have also worsened (with lesser extend) in other regions: *Pays de la Loire* (soft wheat), *Centre-Val de Loire* (soft wheat, durum wheat), and *Auvergne-Rhône-Alpes* (soft wheat). Frequent weed infestations (such as foxtail grass and ryegrass) and significant disease pressure (Septoria on wheat; leaf rust, Helminthosporiosis, and symptoms of barley yellow dwarf virus on barley) have also been noted. **Therefore, the outlook remains negative and below average, particularly for soft wheat and durum wheat, with barley faring better.**

Overall, nearly all crops have reached the heading stage, but development stages show significant variability depending on topography, soil type, sowing date, and weed control. Soft wheat is slightly ahead compared to the average season, while durum wheat and barley are delayed by nearly one week. Harvesting is expected to begin soon in the south of the country.



**Greece:** Weather conditions in May were in-line-with the long-term references, and evolved into hot-and-dry conditions in June. Winter crops were not affected by weather conditions as they were already in the senescence phase. **Overall, the outlook for the final production confirms the previous MED-Amin bulletin and is positive for both wheat and barley.** Expected yields are above average for wheat, late-sown barley, and malting barley. Early-sown barley suffered from a lack of rain in early spring. In *Thessaly*, winter crops expectations are lower than the previous season, but overall, moderately above average (4-5 t/ha for durum and soft wheat; 3.5 t/ha for barley), with the only exception of the areas affected by floods in September 2023 which have not fully recovered. In *Western Macedonia*, the outlook is positive, but cultivated areas have

significantly decreased due to subsidies favouring pulses cultivation. In *Eastern Central Macedonia* and *Eastern Macedonia and Thrace*, conditions have been warmer and drier than in other regions, with spring droughts leading to yields below average in some provinces (e.g. *Thessaloniki* and *Xanthi*) although the overall outlook remains positive in these regions. Cases of fungal diseases have been detected in *Western Macedonia*, and a significant outbreak of wild oats occurred in *Thessaly* and *Central Macedonia*. The harvests of soft and durum wheat have been delayed to avoid excessive moisture during storage.

The winter cereal harvests are beginning in the west of the country, and are almost completed in the east and center. This season is particularly early, with a 15-day advance for both wheat and barley.



**Italy:** The rains in May have not altered the outlook from the previous bulletin. **Harvest expectations are generally positive, though there are significant regional disparities.** In the central-north regions, crop conditions have been favourable, with positive outlooks for soft wheat and barley, and yields expected to be in-line with the average. Conversely, the situation for durum wheat in the south of the country remains negative, as it continues to suffer from severe drought affecting much of the growing cycle. In *Apulia*, the drought mainly affects the northern areas. In *Basilicata*, drought-stricken areas alternate with areas experiencing more favourable weather conditions. *Sicily* is the most affected region. With overall crop losses estimated to range between 30% and 40%. However, the areas that could be harvested show good protein content and satisfactory quality. In *Veneto* (north-eastern Italy), production prospects are below average due to frequent rain events in April and May, which hampered crops during grain filling and increases pest pressure.

Overall, the crops are in the senescence phase and are being harvested. In *Sicily* and most of the southern regions, the harvest is early due to the drought.



**Lebanon:** This year was characterized by significantly higher precipitation compared to the previous season, although it was unevenly distributed throughout the year. Mild cold spells overall favored the presence of pests such as mice and insects. Late rains in May affected the bending strength of the plants, consequently impacting the lodging resistance of barley and wheat.

Durum wheat, benefiting from irrigation, is expected to achieve above-average potential yields this season (approximately 5 t/ha, up to 8 t/ha in some cases), whereas non-irrigated soft wheat and barley are expected to achieve below-average yield values (a maximum of 3 to 4 t/ha). Consequently, **the outlook is positive for durum wheat, average for barley, and downgraded for soft wheat, with production expected to be below average.**

The central and western regions of the *Beqaa* plain are performing better than the northern regions due to more abundant rainfall, the use of selected varieties, and more effective agricultural practices. Harvesting is underway, with some delays in northern areas of the *Beqaa* plain, due to the high precipitations.

**Malta:** Cereals are not produced.

**Morocco:** The drought continues to severely affect most of the country. Rainfall remained well below average in May (rain deficit of 5-15mm), including in the *Tanger-Tetouan-Al Hoceima* region where prospects are positive. Crop failures are confirmed in the *Casablanca, Marrakech*, and *Oriental* regions, and prospects are poor in the *Beni Mellal, Souss-Massa, Guelmin*, and *Daraa* regions, aligning with previous outlook. The *Fes-Meknes* and *Rabat-Sale-Kenitra* regions are experiencing moderate conditions, with slightly improved crop prospects compared to the previous bulletin. **Overall, the production outlook is unfavourable.**

The winter cereal harvests have been completed.

**Portugal:** The campaign has been average in terms of temperatures and rather dry regarding precipitation. Weather conditions have been favourable in *Alentejo*, the main cereal-producing region of the country, and yields above average are expected for wheat and barley (around +5%). In *Algarve*, yields are poor, production is low, and it is likely that the crops will be used as forage. **Nationally, production outlooks are positive, exceeding both the five-year average and the previous year** (+19% for soft wheat, +37% for durum wheat, +17% for barley).

Crops are in ripening phase in *Alentejo* and *Ribatejo e Oeste*, in senescence in *Algarve*, and in the heading phase in *Trás-os-Montes*.

**Spain:** The weather conditions have been generally favourable, with temperatures 1 to 2°C above average since mid-May, but with significant regional differences in terms of rainfall. The Mediterranean arc, in general, has suffered from drought, leading to low yields and poor grain quality, particularly in *Cataluña*, the southeastern peninsula (e.g., province of *Albacete*) and certain areas of *Aragón*. However, the development of winter cereals remains exceptional in the regions of *Castilla y León* and *Extremadura*, and has even been revised upwards in *Andalucía* thanks to the abundant spring rainfall. In *Castilla-La Mancha*, the situation is favourable although not exceptional, due to the drought in the southeastern area. **Consequently, the positive and above-average outlook is confirmed.**

In the south of the country, harvesting is underway, and good yields are being obtained in the main producing areas (in *Andalucía*, half of the areas have been harvested). In the central-southern regions (*Castilla-La Mancha* and *Extremadura*), harvesting is about to begin, while in northern regions, such as *Castilla y León*, crops are starting the maturity phase.



**Tunisia:** From May 11 to June 10, precipitation was moderately below average, while temperatures were slightly above average (typically +1 to +2°C). The outlooks from the previous bulletin are confirmed, except for the regions of *Le Kef* and *Kasserine* in the central-west part of the country. In *Le Kef*, conditions have deteriorated. A 20-day advance in the crop development cycle has been observed, which generally negatively impacts grain filling. Similarly, in *Kasserine*, a 20-day advance was observed, along with below-average biomass accumulation levels during the flowering and grain filling phases. **However, overall harvest forecasts remain positive for wheat and have been moderately revised downward for barley.** Crops are currently being harvested.



**Türkiye:** Rainfall in Türkiye in May 2024 significantly exceeded both the long-term average (+33%) and previous year's level (+5% y/y). However, significant disparities were observed across regions. Some key producing regions, mostly in Eastern and Central Türkiye (*Ankara, Konya, Karaman, Trabzon, Adana, Osmaniye, Hatay, Siirt, and Şırnak*), experienced rainfalls twice their average levels. In contrast, others regions, mostly located in Western and South-Western Türkiye (*Coastal Aegean, Edirne, Tekirdağ, Çanakkale, Balıkesir, Mardin, Mersin, and Antalya*) observed a significant decrease in rainfall (approximately 40% below the LTA). According to the Turkish Statistical Institute (TÜİK), **the overall grain production is expected to see a slight decline compared to the previous season, although yields are expected to be in line with the five-year average. Field observations suggest a more optimistic outlook for wheat than for barley.** The outlook has been revised downward for *Mardin* and *Şanlıurfa* regions compared to the previous bulletin, with wheat production lower than last year due to significant temperature variations. Production is also expected to be lower than last year in *Hatay, Konya* and non-irrigated areas of *Ankara* region, but in line to the five-year average. In *Ankara* region, a greater yield loss is expected for barley than soft wheat. On the other hand, production is expected to be higher than last year in *Gaziantep, Istanbul*, and especially in *Kayseri* and *Tekirdağ*. In *Kayseri* soft wheat was mostly planted instead of durum wheat due to rust disease last year.

The harvesting season has commenced in most regions and is currently ongoing, with barley harvest preceding that of wheat. Thus, statistical estimates may still evolve.

**General methodology:** The forecasting methodology is based on the monitoring of crop conditions using indicators derived from Earth observation (e.g. fAPAR or NDVI), carried out jointly by the CIHEAM-IAMM and the Joint Research Centre of the European Commission (EC-JRC). Reflecting out-of-average biomass accumulation vs the medium-term average (2014-2023) allows us detecting areas of concern, which are characterized using the GEOGLAM scale and nomenclature (see below). These pre-screened areas of concern, defined at a sub-national level, are then analyzed, validated or completed by each National Focal-points of the MED-Amin network, taking into account feedbacks from field observation and local experts.

**Crop conditions legend (GEOGLAM scale and nomenclature):**

- **Exceptional:** Conditions are much better than average at the time of reporting. This label can only be used between the grain-filling stages to the harvest stage.
- **Favourable:** Conditions range from slightly below to slightly above average at the time of reporting.
- **Watch:** Conditions are not far from average but there is a potential risk to final production. However, at this time it is considered that crops might still recover if conditions improve. This label may only be used between planting/early-vegetative stage and vegetative/reproductive stages.
- **Poor:** Conditions are well below average and are very likely to impact production with a harvest clearly below average.
- **Crop failure:** Crops have been strongly damaged, low yield and area reduction will strongly impact the production.

**Crop conditions Drivers (adapted from GEOGLAM nomenclature):**

- **Wet:** Above-average accumulated total precipitation;
- **Dry:** Little or no rainfall period;
- **Hot:** Unusually above-average temperatures;
- **Cold:** Unusually below-average temperatures;
- **Extreme events:** Occurrence of extreme weather events;
- **Delayed onset:** Delayed onset and operations of the crop year;
- **Biotic stress:** Crop impact caused by living organisms, specifically viruses, bacteria, fungi, nematodes, insects, and weeds;
- **Low Input:** limited use of inputs (fertilizers, pesticides, etc.) that could end in moving the outlook for the future harvest (yield, quality).

**Disclaimer**

The geographic borders in the present bulletin are purely a graphical representation and are only intended to be indicative. The boundaries do not necessarily reflect the official position of CIHEAM-IAMM and of the European Commission.

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