MED-Amin
Mediterranean Agricultural Market Information Network

MED-Amin Bulletin 2025 – 2

Winter crops outlook at 20 May 2025

Improved outlook following spring rains, but large areas remain under watch

The March–May period brought substantial rainfall across most regions, supporting crop development and improving the overall outlook. As a result, prospects are positive across most MED-Amin countries, and even very positive in Spain and Tunisia, with production expected to reach or exceed the five-year average in some areas. However, due to dry conditions in Lebanon, parts of Türkiye, and, to a lesser extent, northern France, large areas remain under 'watch' or even 'poor' status. This has led to a downward revision of the outlook in Lebanon and Türkiye compared to the first bulletin.

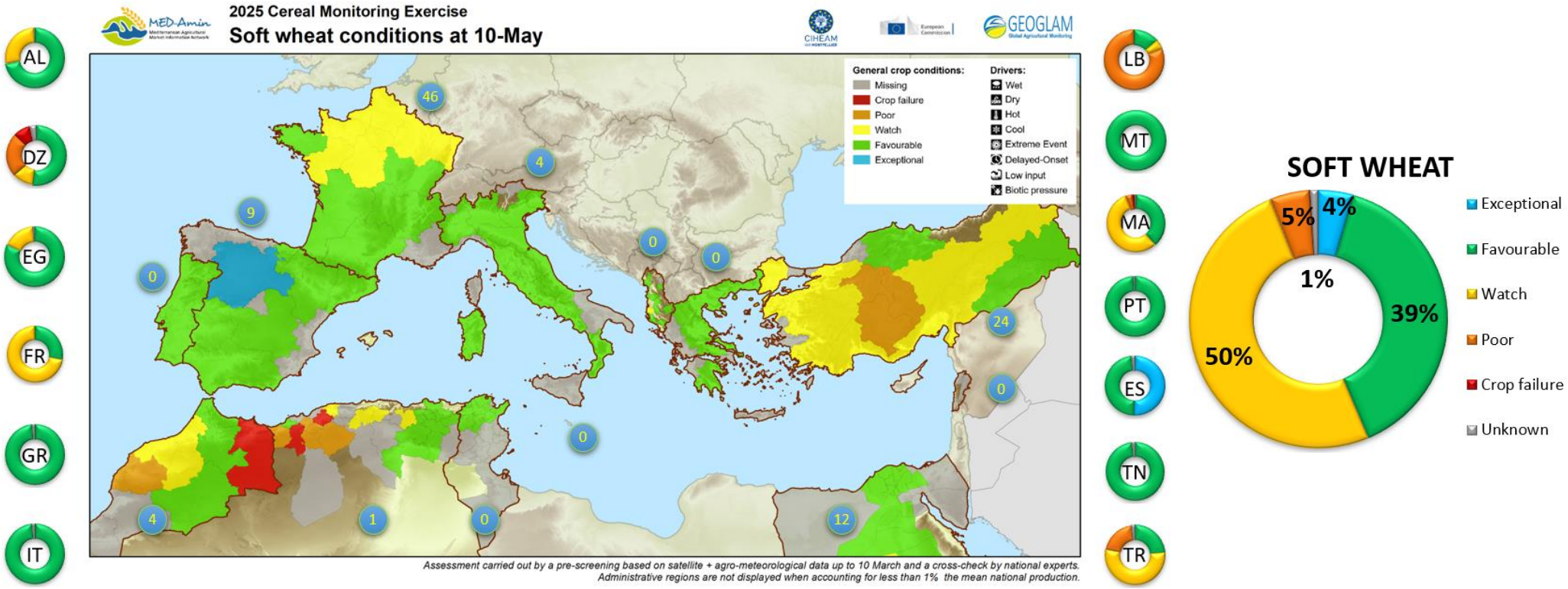
The present **bulletin** gives an outlook about the progress of cereal crops in the Mediterranean region. It provides **early qualitative forecasting** of the **2024-2025 campaign**, with particular focus on soft wheat, durum wheat and barley. This **first outlook** reviews crop conditions from the sowing up to **20 May 2025**, with a specific **focus on the 10 March - 20 May period**.

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 condition 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 enabled to identify **hot-spots** of concerns at **subnational** level using nomenclature and pie-charts similar to GEOGLAM for AMIS (Agricultural Market Information System) and to disseminate corresponding **warnings.** [1]

[1] 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 http://cropmonitor.org .

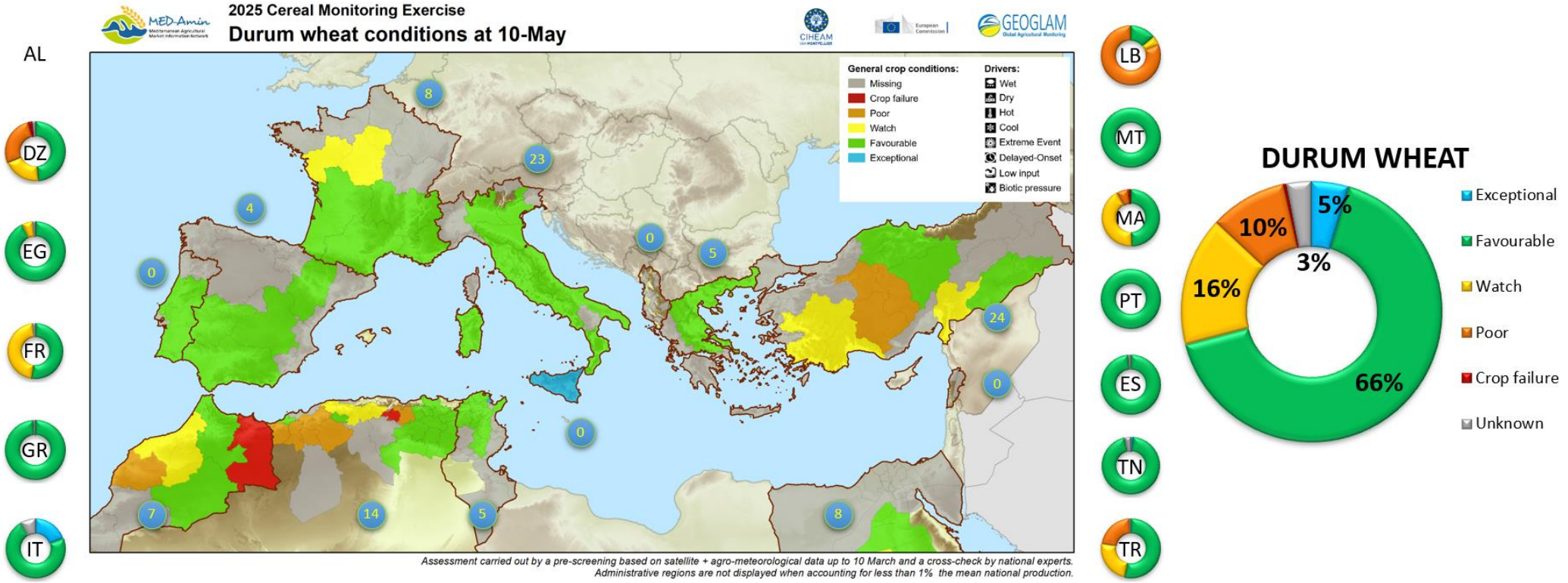
The regional outlook for Soft Wheat is overall mixed, with only 43% of the cultivated area classified as being in 'favourable' (or better) condition, and a significant 50% still under 'watch'. These figures are largely influenced by the situations in **France** and, to a lesser extent, **Türkiye** (representing respectively 46% and 24% of total MED-Amin production). Both have experienced widespread dry weather conditions, which have compounded an already challenging start to the season. However, this figure should be interpreted with caution, as 71% of French soft wheat is rated in good to very good condition as of May 20 (according to FranceAgriMer data), although the situation remains under watch and the production is still expected to fall below the five-year average. Elsewhere, crop development is generally taking place under good to very good conditions, particularly in **Spain**. In the Maghreb, prospects are improving, with good expectations in **Tunisia**, average in **Algeria**, and still rather poor in **Morocco**, despite beneficial spring rainfall. Outlooks are also poor in **Lebanon** (*Bekaa*) and central **Türkiye** (*Central Anatolia*), due to ongoing drought conditions.

Please see the National Highlights section of this bulletin.



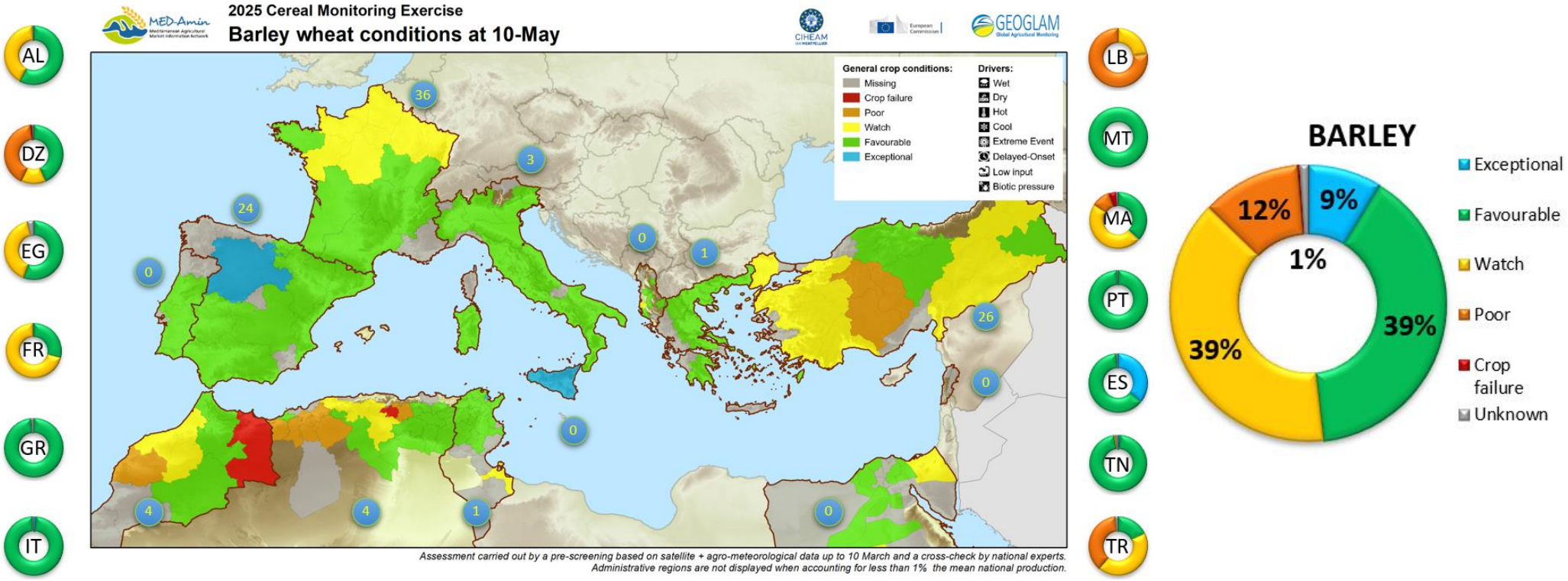
Durum Wheat is a typical Mediterranean crop, accounting for nearly half of global production. The overall outlook has been slightly revised upward, with 71% of the cultivated area now classified as being in 'favourable' or 'exceptional' condition. This is largely due to particularly good conditions in key producing areas of southern **Italy** (notably *Sicily*), with Italy representing 23% of MED-Amin production. The outlook is also positive in **Greece**, **Egypt**, **Tunisia**, **Spain**, and **Portugal**. However, it has been revised downward in **Lebanon** and **Türkiye** (which account for 24% of MED-Amin production), where a larger share of the area is now under 'watch' or 'poor' conditions due to drought and sometimes cold spells in early spring. As with soft wheat, conditions have slightly improved in **Algeria** and **Morocco** (representing 14% and 7% of MED-Amin production, respectively), although large parts of both countries remain under 'watch' or 'poor' conditions, with localized instances of 'crop failure'. In **France**, the situation is still largely under 'watch', but 77% of the durum wheat area is currently rated in good to very good condition, according to FranceAgriMer data.

Please refer to the National Highlights section of this bulletin.



Barley shows a situation similar to that of soft wheat, with only 48% of cultivated areas classified as being in 'favourable' condition, while a significant proportion remains under 'watch' (39%) or 'poor' (12%) conditions. The crop has been particularly affected by dry weather in **Lebanon** and **Türkiye** (which account for 26% of MED-Amin production), where large areas are facing 'poor' prospects. The outlook is also negative in **Morocco** and to a lesser extent in **Algeria**, and worse than for soft wheat, although recent rains have led to slight improvements. In **France** (36% of MED-Amin production), the outlook has been revised upward, with no more areas under 'poor' condition at the regional scale, although the situation remains under 'watch' (spring barley is currently performing better than winter barley). In all other MED-Amin countries (**Portugal**, **Spain**, **Tunisia**, **Italy**, **Albania**, **Greece**, **Egypt**), the outlook is positive, supported by favourable weather conditions.

Please refer also to the National Highlights section.



National highlights

Albania: Overall, agro-meteorological conditions during the March–May period have been favourable. The outlook for wheat and barley is broadly positive, both in comparison to average trends and to the previous year. However, several regional issues should be highlighted, as they may affect yield and quality at the local level. In *Fier*, unstable weather in April - particularly low temperatures and sharp day-night fluctuations - has adversely impacted crops. These effects are compounded by ongoing global warming trends. The *Korçë* region has seen delays in crop development due to its cooler climate, though with fewer abrupt temperature changes. Some areas in *Gjirokastër* and *Dibër* are affected by pest issues, due to excessive moisture or intermittent rainfall pattern.

Agronomic challenges also persist in certain areas. Poor cultivar selection, lack of crop rotation, and improper timing of fertilizer application have affected wheat and barley, increasing their vulnerability to diseases such as rust. On the other hand, improved agronomic practices — including better seed quality and optimized fertilization — in *Berat* and *Durrës* have helped limit weed growth and pest pressure.

As of 20 May, phenological stages range from vegetative growth and flowering (*Korçë*, *Dibër*) to grain filling and maturity (*Berat*, *Durrës*, *Vlorë*, *Tirana*). In *Fier* wheat is reported to be at the wax maturity stage, while barley has reached full maturity. Overall, phenological development is in line with or slightly ahead of the average, with no significant delays or early progress observed at the national level.

Algeria: Agro-meteorological conditions have been mixed across the country, with a gradient of increasingly favourable conditions moving west to east. In the western wilayas (*Aïn Témouchent*, *Tiaret*), rainfall during the March–May period has been beneficial for winter crops, allowing partial recovery from the winter drought in some areas. However, in the most affected areas (*Tlemcen*, *Mascara*, *Sidi Bel Abbès*, *Relizane*), yields have been definitively reduced due to earlier adverse conditions. The central region of the country has experienced locally variable conditions. Spring rainfall was timely for winter cereals, particularly during the flowering and grain-filling stages. Satellite indicators show biomass accumulation levels above those of the previous campaign, and close to the long-term average. In the eastern wilayas, conditions during the March–May period improved and have been favourable, supporting crop recovery in areas such as *Sétif*, *Mila*, and *Constantine*. The good production level expected in eastern wilayas may offset the poor outlook in western wilayas. As a result, yields are anticipated to be close to the average. Moreover, regardless of yield levels, overall production is expected to increase due to a significant expansion of cultivated areas.

Egypt: Slightly above-average temperature persisted over Egypt during the reviewed period. Winter cereals are performing well, with a slightly above-average outlook nationwide - particularly in the *Nile Delta* and *Middle Egypt*, where sufficient irrigation has supported crop development. Selected seed varieties and improved irrigation techniques are increasingly adopted in the *Nile Delta* region. No major biotic stresses or extreme weather events have been recorded.

As of May 20, crops are mostly in the grain-filling to maturity stages. While irrigation appears sufficient in most areas, parts of the *Menia* region and *Upper Egypt* (in the south of the country) have experienced some heat stress. This has slightly delayed the development of durum wheat in those areas.

France: During the reporting period, agro-meteorological conditions have been mixed, with a reversed north–south pattern compared to the seasonal norm. While the northern and central parts of the country experienced significant rainfall deficits (ranging from 30% to 70%), the southern regions recorded surpluses — in some cases reaching record levels. Sunlight was also well above average in the northern regions (up to +55% locally), while closer to average in the south. Temperatures have been above normal nationwide (+1.7°C), with two heatwaves recorded in April. As a result, soils in the north are drying rapidly, exacerbating the drought trend. It should be noted that a particularly wet autumn had already disrupted winter crop development by delaying sowing and requiring frequent re-sowing operations. In contrast, the hydric situation in the south remains satisfactory.

Consequently, the outlook is positive and close to the five-year average in the southern regions, with most crops reported in good to very good condition — 80% in *Nouvelle-Aquitaine*, 74% in *Occitanie*, and 100% in *Provence-Alpes-Côte d'Azur* for soft wheat. In contrast, conditions have deteriorated in the northern (*Hauts-de-France*, *Grand Est*, *Pays de la Loire*) and central (*Centre-Val de Loire*) regions, where only 59%, 65%, 57%, and 61% of soft wheat are rated in good to very good condition. In these areas, the outlook is below both the five-year average and the previous campaign. Winter barley conditions in the north are poorer than those of soft wheat, whereas spring barley (representing 30% of the total barley areas) is performing better. For durum wheat, the situation is more balanced, with fewer disparities across regions. Nationally, the outlook is better than in 2024 but slightly below the five-year average for the three main cereal crops: 71% of soft wheat, 77% of durum wheat, 67% of winter barley, and 75% of spring barley are reported in good to very good condition.

Dry conditions have limited the spread of fungal diseases such as *Septoria*, in contrast with 2024. Some rust cases have been observed but remain isolated. However, limited rainfall is affecting nitrogen uptake, posing a risk to protein content in milling wheat. Weed pressure has also been reported in parts of the central regions. In the coming weeks, risks related to root health and lodging — particularly in the northwest — as well as water stress will need to be closely monitored.

Winter crops are currently developing slightly ahead of the five-year average, due to rapid development driven by elevated temperatures and strong sunlight. Spring barley is especially advanced, by approximately 9 days. As of May 20, most winter cereals have completed heading, and nearly half of the spring barley crop has also reached this stage. Maize sowing is nearly complete, with 29% of the crop having reached the 6–8 leaf stage — five days ahead of the five-year average.

Greece: Overall, agro-meteorological conditions have been favourable, with significant rainfall — particularly in May — generally supporting crop growth. Despite some localized delays in development and increasing pest pressure, the outlook is positive, with yields expected to exceed those of the previous campaign.

Western and *Central Macedonia* experienced rainy and cold conditions. Weed and fungal pressures have been observed but remain localized. In *Western Macedonia*, winter cereals have particularly benefited from the recent rainfall in areas such as *Grevena*, where crops are at less advanced stages due to the mountainous terrain. The outlook is better than last year in *Kastoria*, which had been affected by drought. In *Central Macedonia* (e.g. *Serres*, *Thessaloniki*), conditions have been favourable and the outlook is positive, better than the previous campaign and in line with the five-year average. In the south (*Thessaly*), warm and humid conditions have contributed to a positive outlook, with yields expected to exceed the average. However, the region has also faced pressure from fungal diseases, lodging (due to recent heavy rain and strong winds), and wild oats infestations, which could negatively affect harvest outcomes and grain quality in some areas. In particular, concerns have been raised in *Magnesia* regarding durum wheat quality if the rainy conditions persist.

As of May 20, crops range from the grain filling to maturity stages. Winter cereals are developing slightly earlier than average in *Central Macedonia*, while a slight delay is observed in *Thessaly*. In *Kastoria* (*Western Macedonia*), crops are still at the flowering stage, showing a 10–15 day delay due to persistent rainfall and low temperatures.

Italy: During the March-May period, frequent rainfall events continue to disrupt and delay cultivation operations in northern Italy (e.g., *Piemonte*, *Lombardia*) resulting in a slightly delayed biomass accumulation, as evidenced by the remote sensing signal, even if crops are in good conditions. Although weather conditions improved in *Emilia-Romagna* the accumulated biomass is still negatively affected by the delay in crop development since the beginning of spring. In central Italy, warm and wet weather favoured the growth of winter crops leading to above-average biomass accumulation. In southern Italy, notably in *Sicily* (which accounts for nearly 20% of the country's durum wheat production), crop development continues under optimum weather conditions. High yields are expected, in line with observed above-average biomass accumulation. In *Puglia*, conditions are slightly less favourable. As of May 20, crops development appears slightly delayed in the northern areas, while crops are around the flowering stage in central regions and at the grain-filling stage in the south.

Lebanon: The March–May period has been marked by generally unfavourable conditions, with significant regional contrast. While rainfall was consistent until mid-April, prolonged dryness thereafter has hindered crop development, particularly in the *Bekaa* Valley. In *Bekaa*, crops show delayed development and signs of stress, including desiccation. Limited water availability for irrigation has further exacerbated the situation. Northern regions are experiencing more favourable crop conditions thanks to higher and more sustained rainfall. In the south, the situation is mixed, with limited crop abandonment. As a result, the outlook is poor and below the average, especially in *Bekaa*. Barley is performing moderately better, though it too remains under stress due to dry conditions.

As of May 20, soft and durum wheat range from grain filling stage in the North to maturity in *Bekaa*. In *Bekaa*, harvesting has begun around 20 days earlier than usual, driven by early desiccation.

Malta: No or very low cereal production.

Morocco: After a prolonged drought that extended through autumn and winter, significant rainfall occurred at the end of winter and beginning of spring, leading to partial crop recovery and more contrasted growing conditions. Satellite indicators now show an increase in biomass in several northern regions (*Tanger–Tétouan–Al Hoceima*, *Fès–Meknès*) and, to a lesser extent, in central regions (*Casablanca–Settat*, *Rabat–Salé–Kénitra*, *Beni Mellal–Khénifra*), where winter cereals where still able to benefit from late rainfall. Earlier-sown crop that were already beyond the grain-filling stage, however, could not take advantage of this precipitation. In the regions most affected by drought, in the south (*Marrakech–Safi*,

Souss–Massa) and the east of the country (*Oriental*), rainfall have arrived too late to enable recovery. Consequently, significant areas may be used as pastures, leading to a substantial reduction in the harvested area.

Overall, crop conditions have significantly improved since the first analysis period (October–March), although biomass indicators remain well below the average. Yields are expected to be higher than last year, particularly for durum wheat, but still significantly below the long-term average. Despite the use of some crop areas as pasture, the harvested area is still expected to increase year to year.

Portugal: March and April were characterized by rainy conditions, while May was drier than average. The high rainfall during March and April led to excess soil moisture, resulting in production losses in *Ribatejo e Oeste*. In some cases, waterlogging caused root asphyxiation, leading to root rot and yellowing of crops. However, the more favourable agro-meteorological conditions in May allowed most of the crops to recover and show normal development for the season – with the exception of the *Trás-os-Montes* and *Beiras* regions, where crop development is approximately delayed by 15 days. As a result, winter cereals are showing good vegetative development overall, and the outlook is positive and in line to last year's results. In *Ribatejo e Oeste*, a slight decline in production is expected for both soft wheat and barley. Nationwide, crops are currently in the late heading stage or at the beginning of grain filling.

Spain: Abundant and well-distributed rainfall — 19% above normal for the period from October 1 to May 20 — has significantly improved the drought conditions of recent years, creating excellent agro-meteorological conditions throughout the country, very favourable for crop development. Yields, ranging from good to excellent, potentially reaching record levels in some areas, are expected. As a result, production is expected to be close to or even above the long-term average, particularly in the central and northern regions of the peninsula (e.g., *Castilla y León*). Weather conditions in June will be critical to confirm this trend.

At the local level, mainly in central regions, a few cases of damage have been reported due to root asphyxiation caused by persistent rainfall, as well as wildlife damage. Overall, crop development is progressing with only minor delays, ranging from flowering and grain filling in the north, to maturity in the south.

Tunisia: Agro-meteorological conditions during the reporting period — characterized by abundant rainfall across the country and warm temperatures — have been favourable for winter crops. However, abundant rainfall in regions such as *Bizerte*, *Béja*, and *Jendouba* has led to increased pest pressure and outbreaks of fungal diseases (e.g., Fusarium), raising concerns about quality. Additionally, some areas experienced hailstorms locally in April and May, notably in the southern parts of *Le Kef* and *Siliana*. Nonetheless, the national outlook is positive, and even very positive in some eastern regions, such as *Ariana*. High yields are expected, exceeding both last year's results and the five-year average, particularly for durum wheat, potentially reaching record highs in some areas.

Crops have now reached maturity across the country.

Türkiye: The March-May period has been characterised by low rainfall and high temperature compared to the long-term average, leading to abiotic stress, with significant regional disparities.

In Central Anatolia (*Konya*, *Kayseri*, *Kirikkale*, *Ankara*), early-season precipitation deficits, frost events, and significant diurnal temperature variations have negatively affected plant development. Despite regional differences linked to diverse pedoclimatic conditions, the combined impact of insufficient moisture and cold stress during sensitive growth stages has led to physiological stress, which is expected to result in yields falling below the long-term average at regional scale—and in some areas, well below—particularly for varieties with high vernalization requirements and in sandy soil areas. Crop conditions in *Kayseri* are comparatively better, with yields expected to be near average.

Southeastern regions (*Mardin*, *Şanlıurfa*, *Gaziantep*) has experienced drought conditions, with impacts varying significantly different between regions depending on the severity of heat stress, rainfall distribution, and crop growth stage. In rainfed areas, low precipitation during critical vegetative stages have resulted in weak tillering, reduced biomass accumulation, and overall declines in yield parameters. Additional rainfall is not expected to significantly influence average yield levels across the region. Conversely, in irrigated farming systems, crop yields have remained relatively stable, ranging from slightly below to slightly above the long-term averages. Moreover, medium-maturing varieties have shown slightly better resilience than early-maturing ones; although crops across the region have not yet fully recovered from the effects of drought. This highlights the need for close monitoring of meteorological variables—particularly temperature, rainfall distribution, and plant phenology—to more accurately assess regional yield potential, as well as the importance of using varieties adapted to local conditions.

In Mediterranean area (*Adana*), the combined effects of frost and drought have negatively impacted grain size, particularly for early-heading cultivars. While some wheat areas will not be harvested, correct yield levels are expected. First harvests results show yields ranging from 1.5 to 7.5 t/ha for barley, and from 1.5 to 6.0 t/ha for durum wheat. In *Hatay*, barley and soft wheat are generally performing slightly below average, while there are some concerns regarding durum wheat quality.

In the Marmara region (*Edirne*), below-average rainfall combined with above-average temperatures has also affected soil moisture levels.

No significant pest or disease issues have been observed so far, despite localized aphid infestations in barley crops in *Adana*. At the national level, the outlook is moderately negative, with production expected to fall below the five-year average. Regionally, the situation is more mixed, with better conditions observed in the Aegean, Marmara, and Black Sea regions, while more pronounced losses are reported in Central and Southeastern Anatolia.

As of the end of May, most winter wheat and barley crops are in the heading, flowering, or early grain-filling stages in Central Anatolia. Barley is generally ahead of wheat in terms of phenological development. In south-eastern regions, by May 20, wheat crops are largely in the milk stage, while barley has entered the dough stage. In Mediterranean area (*Adana, Hatay*), harvests are ongoing. Due to above-average temperatures and below-average precipitation, crops are generally showing earlier development than the long-term regional averages. This phenological earliness, particularly driven by heat and drought stress, could influence final yield outcomes, depending on the continuation of weather conditions in the following weeks.

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.

Follow the evolution of the harvest forecasting throughout the campaign:

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