



MED-Amin Bulletin 2024 – 2 | Winter crops outlook at 10 May 2024

« Overall negative outlook, especially for soft wheat »

After an end of winter unusually warm and dry, significant and often well-distributed rainfalls during spring are leading to favourable weather conditions for crop development in most MED-Amin countries. Spain and Turkey are experiencing particularly favourable conditions. However, regional forecasts are rather poor due to exceptionally wet conditions in France. Conversely, severe droughts in the southeast Mediterranean, notably in Morocco and western Algeria, led to a cereal outlook lower than the previous campaign and below the 5-years average, especially for soft wheat. The coming weeks will be decisive in determining final yields.

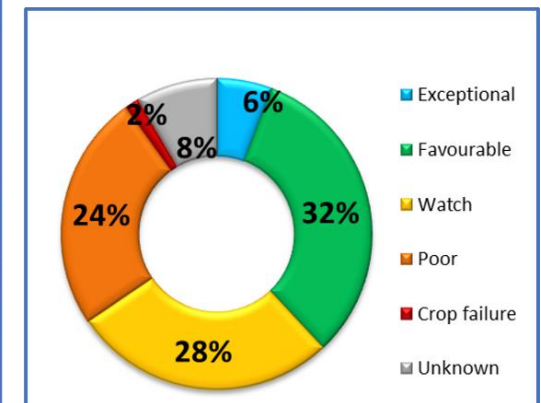
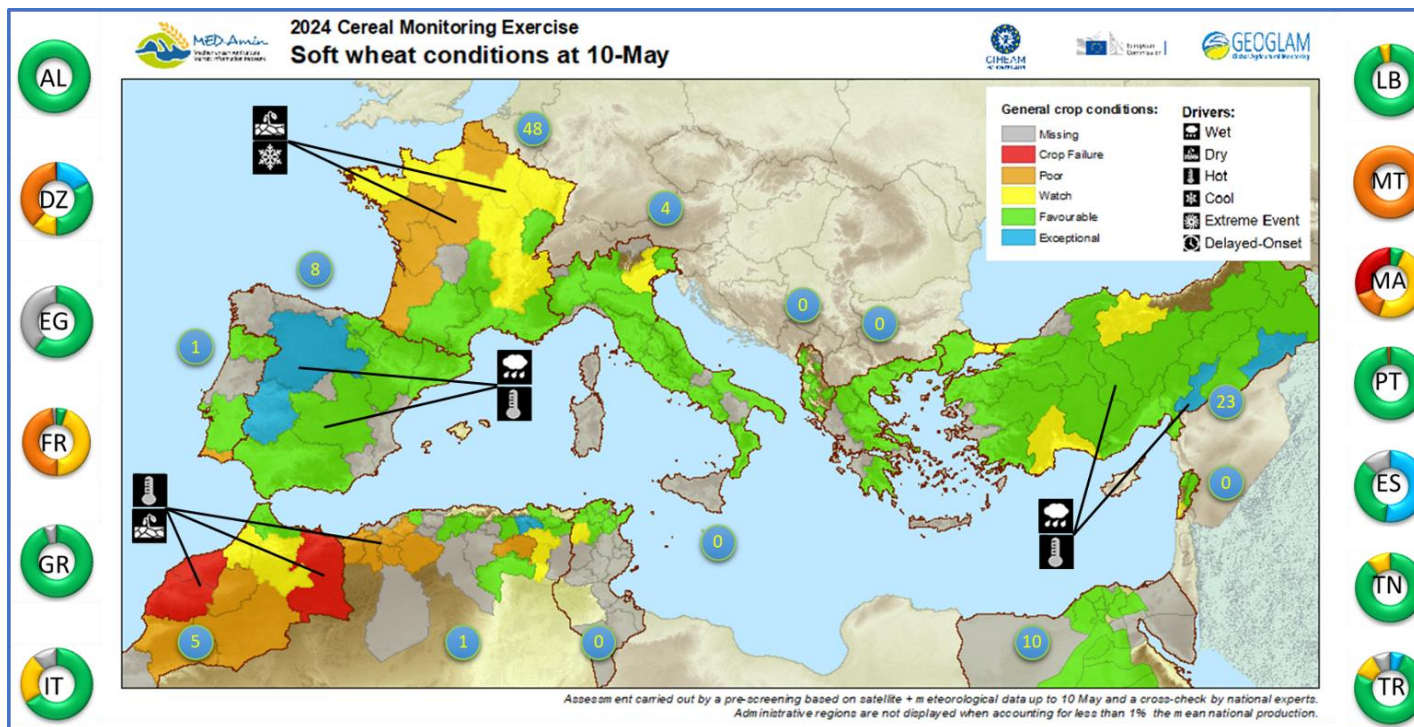
The present **bulletin** gives an outlook about the progress of cereal crops in the Mediterranean region. It provides **early qualitative forecasting** of the **2023-2024 campaign**, with particular focus on soft wheat, durum wheat and barley. This **second outlook** reviews crop conditions from **11-March to 10-May**, across the vegetative and reproductive 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 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

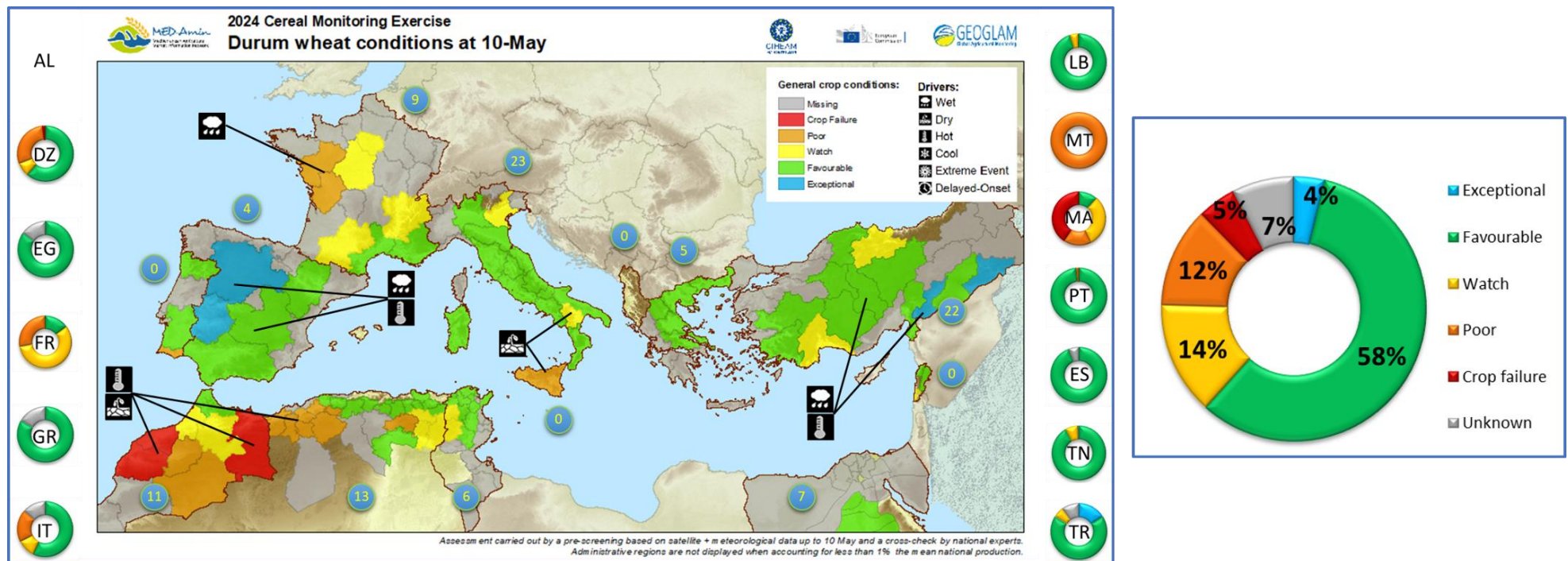
In a context of **rapid market changes** at global and notably Mediterranean level, boosted by the war in Ukraine, a new driver 'low input' can be displayed among the other abiotic drivers of future production.

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>.

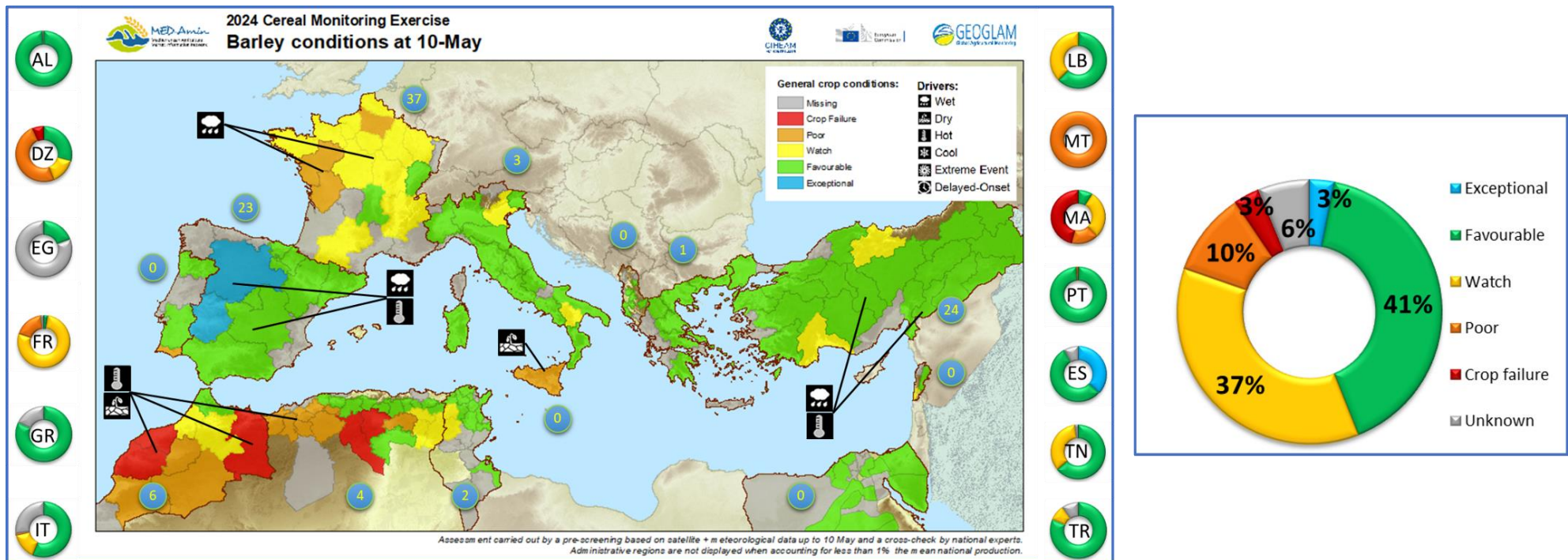
Soft Wheat is the most impacted winter crop by meteorological conditions, with **only 38% of planted areas in the MED-Amin region developing under 'favourable' or 'exceptional' conditions**, significantly lower than the previous year (81%) and the MED-Amin outlook of March (74%). A third is under 'watch' condition, while the remaining quarter is in 'poor' or worse condition. While in most MED-Amin countries, areas are in a 'favourable' state, **meteorological events affecting France (48% of MED-Amin production) largely explain these poor prospects** (see pie chart below). In **Morocco (5% of MED-Amin production)**, the outlook is negative (except in the far north) due to persistent drought conditions. In **Turkey and in Spain (respectively 23% and 8% of MED-Amin production)**, conditions are favourable, even very favourable in some regions (58% of areas are in exceptional favourable conditions in Spain). The meteorological conditions in the coming weeks will be decisive for final production. Please see the National Highlights section of this bulletin.



Durum wheat is largely cultivated in the Mediterranean area and accounts for 47% of the global production. This crop has been **much less affected than soft wheat** by meteorological conditions, and outlooks are similar to those of the previous season (2022-2023), with **62%** of planted areas developing under favourable or exceptional conditions. However, the situation has deteriorated of 6% compared to our previous outlook. **17% of durum wheat area is developing under poor conditions, (with cases of regions already in crop failure)** concentrated in Morocco, Algeria, Italy and France, which respectively account for 11%, 13%, 9%, and 23% of MED-Amin production. These poor conditions are mainly due to droughts affecting Maghreb and Sicily. In **Morocco** specifically, only 12% of planted areas experience favourable conditions. In **Turkey** (22% of MED-Amin production), most crops are developing under 'favourable' conditions (68%) or even 'exceptional' conditions (16%) (see pie chart below). Please refer to the National Highlights section of this bulletin.



Barley growing conditions are generally between those of soft wheat and durum wheat. Only 41% of the planted areas in the Med-Amin region are expected to be under favourable conditions (nearly 20% less than the previous year at the same period), but the areas experiencing unfavourable conditions (13%) are far from being as high as for soft wheat. **A large portion of the areas are classified 'watch' (37%)**, notably linked to the situation in **France** (37% of MED-Amin production) where over **a great share of the national cultivated area is classified as 'watch'** due to excessively wet conditions throughout the revised period. To a lesser extent, **Lebanon, Tunisia, Italy and Turkey** also have significant areas considered 'watch' (see pie charts below). In **Morocco and Algeria** (respectively 6% and 4% of MED-Amin production), the situation seems particularly unfavourable: 62% and 56% of the areas considered 'poor' or 'lost' respectively. Conversely, the situation is **particularly favourable in Spain** (23% of MED-Amin production) with more than 1/3 of the barley area in 'exceptional' conditions to date. Please refer also to the National Highlights section.



National highlights



Albania: Weather conditions, particularly the abundant rainfall during the monitored period, have been favourable for the production and quality of cereals, with the only exception for the region of Vlora, which was affected by heavy rainfalls and strong winds events. The rains, coupled with above-average temperatures, have led to early and rapid crop development, which is now mainly at grain-filling stage (sometimes at the dough development stage). In the Korça region, the unusually dry-and-hot conditions in February-March have slowed down growth of wheat and barley. However, no pest or disease pressure have been observed, except for some cases of rust in the Durrës region.



Algeria: Winter crop conditions in Algeria are marked by regional contrasts, resulting in a gradient from negative crop conditions in the western coastal regions to a gradual improvement up to a very positive condition for the Northeastern regions of the country. In particular, northwestern regions has experienced significant water deficits for several months, along with unevenly distributed rainfall. Expectation there are below- or well-below the average (wilayas of Tiaret and Ain Temouchent, for example). Conversely, the east and centre of the country have received sufficient rainfall, and conditions are rather favourable. The coming weeks will determine whether these positive expectations will completely offset the poor results observed for the western regions. Irrigation, with expanding areas, also contributed to the better results, as do later sowings (because initially delayed). The observed stages of development range from the milk development stage to ripening stage. Late sowings are still in the filling stage while harvests have already started in some areas.



Egypt: Temperatures have been above average during the revised period, and according to satellite indicators, biomass accumulation is close-to the five-year average, confirming the characteristic low interannual variability of this country. This overall translates in sufficient irrigation water supply to ensure adequate crop growth during the vegetative and reproductive stages. Wheat and barley have already been harvested or are currently being harvested.



France: The campaign is characterized by varied and challenging agro-meteorological conditions, with late frosts in March (particularly affecting young wheat and barley plants), overwet conditions (sometimes causing floods), and cold snaps, occurring near to the flowering period, especially

in a wide northern half of the country. Increased efforts were necessary (e.g., phytosanitary interventions) to manage pests (aphids and barley yellow dwarf disease) and fungal diseases (brown rust, Septoria, downy mildew), as well as to adapt agricultural techniques to maintain optimal production.

The northern regions (e.g. Hauts-de-France) and the Atlantic coast (e.g. Pays-de-la-Loire and Poitou-Charentes) were particularly affected by excessive rainfall events, and the expectation for the final production so far is poor. The north-eastern and eastern regions (Grand Est, Bourgogne-Franche-Comté and Auvergne-Rhône-Alpes) were less affected by unusual rainfall events, but crop conditions are to be watched. The south of France (Midi-Pyrénées), benefited from rather good weather conditions and expectations for the final production are favourable. Overall, growth conditions for winter cereals are below than the five-year average.

Soft wheat was the most affected by climatic events. Excess moisture (and also drought locally) impacted the growth and development of the plants. Sown areas were reduced and the need for reseeding increased. For durum wheat, impacts varied region-wise and conditions were slightly better compared to soft wheat. Barley was less concerned by resowing, and the sown areas were better maintained. However, harvest forecasts are poorer than the five-year average.

Nationally, soft wheat is slightly ahead (+2 days) and durum wheat is slightly behind (-5 days) the average season. These observations are more pronounced in the Atlantic coast regions (e.g. Nouvelle-Aquitaine).



Greece: Until the end of April in Greece, hot and dry conditions prevailed. These were followed by a rapid slowdown in temperature accompanied by above-average precipitation, which overall allowed winter crops to recover. As a result, harvest expectations are generally positive and above the five-year average, although there is variability at the local level. Furthermore, crops are generally at a seasonal or slightly-advanced stage of development, ranging from flowering to maturity. On average, cereals are at the grain filling stage.

Regions with delaying crops (Western Macedonia) benefited from the late April-early May rains, while in regions with earlier crops, these were too advanced to take advantage of the rainfall (notably for barley). In the Serres region (Central Macedonia), for instance, the hot and dry conditions in April during the grain filling period were unfavorable for biomass accumulation, which is below the five-year average and last year's levels. Similarly, in Thessaly, above-average yields are expected for late-sown crops, in contrast to early sowings. In Thessaly, the Sofadon province experienced a prolonged drought in the March-May period, negatively impacting harvest prospects. Conversely, in the Palama province,

high soil moisture protected crops from the April drought, and above-average yields are expected. In the rest of the region, the rains occurred after the dry period were favorable for crops, and expected yields are close to the five-year average.

In warmer and drier areas such as Xanthi (Eastern Macedonia) or Serres lowland (Central Macedonia), irrigation has produced good results. Concerning biotic disease pressure, the Grevena region (Western Macedonia) is affected by fungal diseases (Septoria, rust, Helminthosporium), and some provinces of Thessaly are experiencing significant development of wild oats. Therefore, the harvest of soft wheat and durum wheat will likely be delayed in order to prevent excessive moisture from affecting storage quality.



Italy: During the revised period, Italy was characterized by variable conditions across different regions. Much of the country experienced substantial and well-distributed rainfall, along with a cold snap at the end of April. This appears to have moderately hampered winter crops in the Veneto, Apulia and Basilicata regions. In Basilicata and Apulia, however, the recent favorable weather conditions could positively impact production. Meanwhile, Sicily continues to endure a prolonged drought, with biomass accumulation well-below average, as inferred by satellite images. The grain filling and senescence stages are progressing much faster than normal, which is usually a negative hint for final production.

Despite these disparities, national harvest forecasts are generally positive due to favorable outlooks in the main producing regions.



Lebanon: The weather conditions have been overall favourable, with above-average rainfall. Wheat and barley are in the grain filling stage, and harvest are slightly above the average of previous years. However, differences are observed between the north (less precipitation, smaller farms often less equipped) and the west of the Bekaa plain. In a context of high input and production costs, cultivated areas are increasing (compared to the five-year average). However, producers are more dependent than before on locally produced seeds, by research institutions such as ICARDA or ASCSAD.



Malta: Cereals are not produced.



Morocco: A severe and prolonged drought affected most of the country. The rain in March arrived too late to allow for crop recovery. According to satellite data analysis, biomass indicators are well-below average or in crop failure condition in most of the main cereal producing areas. In contrast, the Rif region (Tanger – Tétouan – Al Hoceima) stands out with positive biomass accumulation indicators due to favourable and well distributed rainfall events along the revised period. Finally, the regions of Rabat and Fès-Meknès are in an intermediate situation, with production outlook slightly below average. Crops in these regions shown also have a delay in development of about twenty days.



Portugal: During the period under review, the weather was very favourable for cereal's growth in Alentejo, the main cereal-producing region. Rainfall cumulate was above-average and rain events well-distributed, with a beneficial effect during flowering and grain filling stages and leading to above-average biomass accumulation. In the Entre-Douro e Minho region, expectations are in line with average. Excess water in the soil at the beginning of the vegetative phase limited cereal growth, and caused crops to appear yellow in some areas. In Algarve, yield outlooks are poor and likely to prompt farmers to use crops as forage. At national level, harvest forecasts are higher compared to the previous campaign, marked by drought, and above the five-year average (expected productivity: +19% for soft wheat, +37% for durum wheat, +17% for barley).



Spain: In most of Spain, particularly in the main producing regions of Castilla-la-Mancha, Castilla y León and Extremadura, weather conditions have been very favourable, mainly due to abundant and well-distributed rainfalls and warm temperature. Along the Mediterranean coast, conditions were drier but not impacting the regions of Cataluña and Aragón. Overall, the expectations are way better than the previous year and above the five-year average, with some areas having excellent growing conditions (Castilla y León, Extremadura). These outlooks need to be confirmed at the end of the May-June period, critical for grain filling. If high temperatures appear, it could affect crop development.

Some weed proliferations (poppies, sedges, wild oats) were highlighted to the main producing regions, and pest pressure is expected to increase in reason of a higher frequency in rainfall events during April.

The current crop development stages range from maturity in southern (Andalucía) and central (Castilla-la-Mancha, Extremadura) Spain, to flowering/grain filling to the north (Castilla y León).



Tunisia: Despite well-below average rainfall cumulates (40% to 50% below the LTA), the fair distribution allowed for rather positive nationwide. Despite a delayed start into the cereal campaign, the biomass accumulation indicators are positive in most parts of the country and significantly higher than in previous years. This was particularly true in the productive northern region of Beja. In the western-central regions of Le Kef and Kasserine, rainfall is less significant. Satellite data in these regions revealed biomass accumulation levels moderately below-average.



Türkiye: April was characterized by cold and relatively dry conditions with significant variability from one region to another. Precipitation in April decreased compared to both the long-term average and the previous year. The most significant decreases were in the Black Sea region (-70%, up to -80% in some areas like Samsun or Kastamonu) and several coastal zones, while some regions like the European part of Istanbul, experienced instead important increases (up to +60%). Nevertheless, overall precipitation for the period from October 2023 to April 2024 is close to normal nationwide, and even increased (+40%) compared to the previous year in some areas, particularly in the western part of the Black Sea, Kırklareli, Istanbul and some parts of Eastern Anatolia. The rainfall has been sufficient to prevent drought in arid areas, particularly in the south-eastern regions (except for Central Anatolia) where production forecasts are very good for both soft and durum wheat. The productivity level of crops is difficult to anticipate in the regions of Central Anatolia, the Black Sea, the Aegean regions, and the western parts of the Mediterranean region compared to previous years. Additionally, no yield loss is expected in the eastern parts of south-eastern Anatolia, Marmara and the eastern Mediterranean region, due to sufficient rainfall during the vegetative phase of crops. Overall, although April precipitation was not sufficient, crop yield outlooks are positive. Climatic conditions in May and June will be important in determining the final yield.

All crops are ahead compared to previous years. Nationwide, wheat is generally in the heading stage, and barley is slightly more advanced. Crops are in the heading stage in Central Anatolia, Marmara and the Black Sea regions, while they are at full maturity in the Mediterranean and south-eastern Anatolia zones. In the southeastern regions (provinces of Mardin, Şanlıurfa, Gaziantep and Kilis), the dough development stage of barley is complete in the south and ongoing in the north. For wheat, milk development stage is practically complete in the south and in progress in the north. These regional differences can be explained by very varied climatic conditions, especially between coastal and inland regions.

An increase in rust cases has been observed (Marmara, Southeastern Anatolia), as last year, but it did not badly affect crop thanks to early prevention action, taking lessons from last year. Additionally, barley yellow dwarf disease has been observed in Central Anatolia. In Diyarbakır, cases of root rot (due to excessive rainfall) decreased to a minimum level with the temperatures in April. Rainfall has caused locally some crops to flatten in the early weeks of May.

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 ([Learn more about nematodes from ScienceDirect's AI-generated Topic Pages](#)), 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:

Website



Twitter



Bulletins



<https://www.med-amin.org/en/>

https://twitter.com/MEDAmin_network

<https://www.med-amin.org/en/ressources-2/bulletinforecast>

Authors:

Timothée HERVIAULT (CIHEAM Montpellier)
contact@med-amin.fr

Giacinto MANFRON (EC-JRC, Ispra)
giacinto.manfron@ec.europa.eu



MED-Amin

Coordination
CIHEAM at CIHEAM Montpellier
↳ contact@med-amin.org

Site Web
↳ <http://www.med-amin.org>