Forecasts for winter cereal yields are above the 5-year average, but below last year’s yield with the exception of barley. A significant downward revision in June is possible within the next weeks, since the delayed season increases crop vulnerability to heat stress. Water reservoirs are low, casting concerns for the summer season.

In central Anatolian regions, sowings activities started late due to a drought in October, November and partially December. Precipitation in March partially mitigated the winter drought but low temperatures (late March to beginning of April) further delayed crop stages. In May, weather conditions improved, favouring a partial crop recovery. These unfavourable spring growing conditions result in low crop biomass accumulation and strongly delayed crop growth stages, that will expose yield formation stages to an increased risk of heat stress in late June. South-eastern regions had favourable weather conditions with sufficient precipitation and slightly warmer-than-usual temperatures. The favourable crop conditions in these regions partially offset the unfavourable outlook in Anatolian regions.

### Turkey yield forecasts - May 2021 Bulletin

<table>
<thead>
<tr>
<th>Country</th>
<th>Crop</th>
<th>Avg 5yrs</th>
<th>2020</th>
<th>MARS 2021 forecasts</th>
<th>%21/5yrs</th>
<th>%21/20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wheat</td>
<td>2.80</td>
<td>2.97</td>
<td>2.91</td>
<td>+ 4.1</td>
<td>− 1.8</td>
</tr>
<tr>
<td>Turkey</td>
<td>Soft wheat</td>
<td>2.75</td>
<td>2.92</td>
<td>2.87</td>
<td>+ 4.1</td>
<td>− 1.8</td>
</tr>
<tr>
<td></td>
<td>Durum wheat</td>
<td>3.02</td>
<td>3.18</td>
<td>3.12</td>
<td>+ 3.1</td>
<td>− 1.9</td>
</tr>
<tr>
<td></td>
<td>Barley</td>
<td>2.66</td>
<td>2.65</td>
<td>2.69</td>
<td>+ 0.9</td>
<td>+ 1.3</td>
</tr>
<tr>
<td></td>
<td>Grain maize</td>
<td>9.42</td>
<td>9.41</td>
<td>9.61</td>
<td>+ 2.0</td>
<td>+ 2.1</td>
</tr>
<tr>
<td></td>
<td>Sugar beet</td>
<td>62.1</td>
<td>68.5</td>
<td>63.4</td>
<td>+ 2.0</td>
<td>− 7.4</td>
</tr>
<tr>
<td></td>
<td>Soybean</td>
<td>4.33</td>
<td>4.42</td>
<td>4.62</td>
<td>+ 6.6</td>
<td>+ 4.5</td>
</tr>
</tbody>
</table>

NB:  Yields are forecast for crops with more than 10000 ha per country.
Sources: 2016-2020 data come from Turkish Statistical Institute (TurkStat) and Eurostat Eurobase (last update: 07.05.2021).

2021 yields come from MARS Crop Yield Forecasting System (output up to 10.05.2021).
The column header ‘%21/5yrs’ stands for the 2021 change with respect to the 5-year average(%).
Similarly, ‘%21/20’ stands for the 2021 change with respect to 2020(%).
Country highlights

In Anatolian regions (II), delayed sowings of winter crops led to a significant delay of biomass accumulation, highlighted by the yellow and orange colours on the map. This alternates with regions less impacted by the winter drought showing an average development and fair biomass accumulation (green colours). In western Anatolian regions (i.e. Ankara, Konya, Bursa) winter crops have now around 30 days of delay, while 10 to 20 days of delay occur in eastern regions (i.e. Kirikkale, Kayseri). In south-eastern regions (III), crops are in very good shape, with optimal biomass accumulation, thanks to a favourable combination of temperature and well distributed rains. In regions I and IV, the main season, which is dominated by summer crops, has just started.
Western and central Anatolian regions

Winter drought but delayed start to the season is partially recovered

- The period from October to December was very dry and warmer than usual in almost all the regions with a precipitation deficit of 50% to -80% compared to the average and temperatures up to +4°C compared to the average. Soil water contents are still worrying low causing drought conditions.
- As a consequence winter crop sowings, usually occurring in November, were delayed. Viable sowing conditions occurred only in a window from late December until the first 15 days of January when some precipitation moistened the upper soil allowing for seed germination. Temperatures were mild (with local peaks up to +6°C) (e.g. Ankara) or slightly below average (e.g. Konya).
- A cold spell occurred around 17 January (4 days) with minimum temperatures from -8°C to -10°C in most of the agricultural regions. A second cold spell (7 days) with extremes of minimum temperatures below -20°C occurred after 15 February in eastern Kayseri.
- Such cold conditions did not favour crops growth. While cold temperatures reduced crop water demands, they also weakened crop growth and further delayed phenological development.
- In March, rainfall was recorded up to 100 mm (i.e. Ankara and Konya) partially restoring soil moisture contents and mitigating drought conditions. Nonetheless, to maintain winter crops in fair conditions farmers irrigated more often than usual.
- From the end of March temperatures were generally cold but marked by a strong variability, but from mid-April temperatures increased steadily and in May anomalies were up to +4°C.
- Precipitation moved from abundant to scarce with a deficit of around 70% in Konya.
- In Ankara and Konya crops are underdeveloped and strongly delayed with an increased risk of heat stress in June, during the reproductive stages. Conversely crops are in good condition in Manisa and partially in Bursa where the cold spring and drought were less prominent. In Kirikkale and Kayseri, crops are just slightly delayed but the dry spell of beginning of May should be soon mitigated to avoid drought impacts.
- Water reservoirs are low due to a combination of reduced recharge in winter and increased demand during spring. A precipitation surplus in May is desirable to ensure irrigation for summer crops.
South-eastern regions

A very wet season boosted crops’ biomass and favourable yield expectations

- After a very dry October, November and December were wetter with more than 80 mm of precipitation surplus in Gaziantep, while in Sanliurfa and Mardin precipitation was half its usual level. Temperature was average to slightly warmer than usual.
- In Gaziantep winter crops (predominantly wheat) profited from the wet and warm weather, germination was favourable as well as biomass accumulation. In Sanliurfa and Mardin sowings took place in December after a period of well distributed rains. Crop growth started around the beginning of January, slightly delayed compared to the usual timing.
- In January warm temperature anomalies boosted crop biomass accumulation in Sanliurfa and Mardin.
- In January and February temperature fluctuation was more pronounced than usual but not as extreme as observed in the Anatolian regions (see previous section).
- In March well distributed precipitation sustained a favourable biomass accumulation and irrigation reservoirs were kept at optimal levels.
- In April crop development stages moved from advanced to almost average stages due to some cold periods.
- In Gaziantep early planted winter crops flowered under optimal conditions.
- Remote sensing profiles for all regions indicate very high biomass accumulation along the vegetative season and slightly anticipated flowering.
- Since April, the well distributed rainfall from the beginning of spring has given way to almost dry conditions with only 10 mm recorded up to 10 May. In the same period temperatures moved to +4°C to +6°C above the average and soil moisture contents depleted faster than usual.
- From late April winter crops started to flower even in Sanliurfa and Mardin, while in Gaziantep the grain filling started under optimal conditions. The ongoing lack of precipitation has no negative influence on expected yields as irrigation practices contribute to optimal crop development.
- Crop yield expectations for the region are very favourable.
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The long-term average (LTA) used within this Bulletin as a reference is based on an archive of data covering 1991-2019.

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