Yield forecasts for winter crops reflect a generally favourable winter and spring. Wheat is forecast at 4.5% above the five-year average while barley outperforms last year’s yield by 12%. Forecasts for summer crops are in line with the trend and are above the five-year average: +4.5% for maize, +3.7% for sugar beet and +6.4% for soybean.

In central Anatolia, winter weather conditions were optimal for the recently emerged winter crops, with few cold days, average temperatures 4°C to 6°C above the average, around-average precipitation. In mid-February, winter crop regrowth started, up to one month earlier than usual. In March and April, temperatures remained above the average (4°C to 6°C), which favoured excellent green biomass development. In April, well-developed biomass and warm temperatures increased crop water demand; this was sustained by regularly distributed precipitation. Since late April, winter crops flowered under favourable conditions. In south-eastern regions, winter was generally warmer and dryer than usual. Regular precipitation in January, February and March maintained sufficient soil moisture to support the early regrowth of winter crops. Since April, low precipitation levels have shortened the flowering and/or grain formation periods in the non-irrigated fields, reducing regional yield expectations.

**Turkey yield forecasts - May 2018 Bulletin**

<table>
<thead>
<tr>
<th>Country</th>
<th>Crop</th>
<th>Yield (t/ha)</th>
<th>Avg 15y</th>
<th>2017</th>
<th>MARS 2018 forecast</th>
<th>%15y/17</th>
<th>%18/17</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>wheat</td>
<td>2.71</td>
<td>2.76</td>
<td>2.84</td>
<td>+4.5</td>
<td>+2.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>soft wheat</td>
<td>2.65</td>
<td>2.70</td>
<td>2.78</td>
<td>+4.6</td>
<td>+2.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>durum wheat</td>
<td>3.03</td>
<td>3.20</td>
<td>3.16</td>
<td>+4.2</td>
<td>-1.2</td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>barley</td>
<td>2.96</td>
<td>2.40</td>
<td>2.65</td>
<td>+4.5</td>
<td>+2.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>grain maize</td>
<td>9.21</td>
<td>9.40</td>
<td>9.62</td>
<td>+4.5</td>
<td>+2.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>sugar beets</td>
<td>59.2</td>
<td>61.4</td>
<td>61.4</td>
<td>+3.7</td>
<td>-0.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>soybean</td>
<td>4.32</td>
<td>4.32</td>
<td>4.60</td>
<td>+6.4</td>
<td>+6.5</td>
<td></td>
</tr>
</tbody>
</table>

Note: Yields are forecast for crops with more than 10,000 ha per country. Figures are rounded to 10 kg.

Sources: 2013-2017 data come from Turkish Statistical Institute (TurkStat) and EUROSTAT Eurobase
(last update: 31/03/2018)
2018 area copied from 2017 area
2016 yields came from the MARS Crop Yield Forecasting System (CGMS output up to 30/04/2018)
1. Meteorological overview

Warm anomalies have marked winter and spring in most of the Turkish regions. Precipitation levels were generally average, with abundant rainfall locally. The south-eastern regions experienced drier conditions.

Warmer-than-usual weather conditions characterised winter. In October and November, temperatures remained generally above the average across most of western and central Turkey. In December, the Anatolian regions of Konya and Ankara experienced fewer than 15 days with minimum temperatures below 0°C (~40% compared with the average). In January, monthly average temperatures were above average at between +1°C (Manisa) and +4°C (Konya). In the south-eastern regions (Sanliurfa, Gaziantep, Mardin), maximum temperatures in October exceeded 25°C for 15 to 28 days (up to +40% compared with the average). In November, monthly average temperatures were about +2°C above the long-term average (LTA). December and January experienced nearly no days with minimum temperatures below 0°C (vs. 10 days in the LTA), while average temperature reached up to 6°C and 8°C above the average, respectively.

Drier-than-usual conditions were recorded between October and December in south-eastern Anatolia. In the Sanliurfa and Mardin regions, the precipitation sums were 70 mm, which is half of the average. These dry conditions, together with the warm temperatures, resulted in a negative climatic water balance of ~200 mm.

Abundant rains occurred in large areas of the country, in January and February. The south-western coast received more than 300mm of rain, which is +200mm above the LTA. The central-eastern regions (Kirikkale, Kayseri) received 80mm to 120mm of precipitation, mostly between 15 and 31 January. In the same regions, another wet period was observed between 20 February and 15 March with 100 mm of accumulated rain. South-eastern regions (Gaziantep, Sanliurfa), received unusual precipitation between 20 January and the end of the month (+50% to +80% more than LTA), partly restoring the early winter rainfall deficit. In the same regions, another relatively wet period (70mm) occurred between 20 February and 3 March.

Unusually warm weather anomalies occurred from February onwards in central (Ankara, Konya) and eastern (Kirikkale, Kayseri) Anatolia and south-eastern regions (Sanliurfa, Mardin). In all those regions, the beginning of February was substantially warmer-than-usual (in the Anatolian regions the average temperature was +8°C above the LTA), before moving back to average values. From 1 March onwards, temperatures oscillated from average to above-average values, and temperatures remained above average from 15 March (+4°C to +6°C) until the end of March. In April, noticeable temperature anomalies are present along the Black Sea (Kastamonu) and south-western coasts (Aydin).
2. Winter crop conditions

The warm winter accelerated crop growth throughout the country. In the Anatolian regions, crops developed under advantageous conditions with enough soil moisture to maintain optimal leaf development. In those regions flowering occurred under favourable conditions. In southeastern regions, dry and warm conditions prevailed at sowing and at flowering, reducing yield expectations.

In central Turkey (Konya, Ankara, Kirikkale and Kayseri), where most of the winter crops are cultivated, weather conditions in December were optimal for the recently emerged crops, with few cold days and around-average precipitation sums. Favourable weather conditions continued in January (with average temperatures −4°C above the average) and in February. As a result, crop regrowth after winter dormancy started up to one month earlier than usual. In March and April, the warm temperatures (4°C to 6°C above the LTA) persisted and further accelerated the winter crops’ phenological development; at the end of April, crops already reached grain formation (Konya, Ankara, Kirikkale) or flowering stage (Kayseri). Notwithstanding the warm temperatures, soil moisture remained optimal thanks to several rainy days in March, sustaining the accumulation of green biomass.

In the south-eastern regions, relevant for durum and soft wheat cultivation (Gaziantep, Sanliurfa and Mardin), temperatures in December (6°C to 8°C above the average) favoured the germination and emergence of soft and durum wheat. In January, rains that were more abundant than usual partly restored soil moisture. Warm and wetter-than-usual weather continued in February and the beginning of March, resulting in an advanced development of the crops. Precipitation in March and April was generally well distributed in all the provinces, except in Mardin and in southern Sanliurfa, where the total amount (60 mm) was 50% of average precipitation levels. The warm April temperatures significantly increased crop water demand, not fully supported by precipitation. In those regions, irrigation is commonly used to sustain crop growth, but — without irrigation — the grain filling stage is likely to be shortened with consequent yield losses. Nevertheless, irrigation reservoirs are still full and could be extensively used in the coming weeks. In Gaziantep and Sanliurfa, precipitation was still sufficient to maintain decent soil moisture levels, and consequently the use of irrigation is expected to be limited in the incoming weeks.

3. Sowing conditions for summer crops

Sowing activities for maize, sugar beet, and soybean are brought forward thanks to warm spring conditions.

In most of the country, sowing conditions for sugar beet have been favourable. The warm spring temperatures as well as the regular rains benefited sowing activities, without hampering them. In the Anatolian regions of Konya, Yozgat, Aksaray, Kayseri and Eskisehir, most of the sugar beet is planted in April. In April, these regions experienced +2°C to +4°C above-average temperatures and 5 to 20 mm of rain (~50% to ~100% compared with the LTA). Soybean and maize are mostly cultivated in the provinces of Adana, Konya and Sanliurfa. The planting window there usually starts in late March and ends in
April. This year, the warm temperatures and the rainfall pattern — with downpours almost every 15 days — favoured sowing activities in the second half of March and the first half of April. Germination generally proceeded favourably and crops are developing fast. Currently, water levels in irrigation reservoirs are high.

4. Remote sensing map
5. Crop yield forecasts

<table>
<thead>
<tr>
<th>Country</th>
<th>Crop</th>
<th>Avg 5yrs</th>
<th>2017</th>
<th>MARS 2018 forecasts</th>
<th>%18/5yrs</th>
<th>%18/17</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>wheat</td>
<td>2.71</td>
<td>2.78</td>
<td>2.84</td>
<td>+4.5</td>
<td>+2.0</td>
</tr>
<tr>
<td></td>
<td>soft wheat</td>
<td>2.65</td>
<td>2.70</td>
<td>2.78</td>
<td>+4.6</td>
<td>+2.8</td>
</tr>
<tr>
<td></td>
<td>durum wheat</td>
<td>3.03</td>
<td>3.20</td>
<td>3.16</td>
<td>+4.2</td>
<td>-1.2</td>
</tr>
<tr>
<td>Turkey</td>
<td>barley</td>
<td>2.58</td>
<td>2.40</td>
<td>2.68</td>
<td>+4.1</td>
<td>+12</td>
</tr>
<tr>
<td></td>
<td>grain maize</td>
<td>9.21</td>
<td>9.40</td>
<td>9.62</td>
<td>+4.5</td>
<td>+2.3</td>
</tr>
<tr>
<td></td>
<td>sugar beets</td>
<td>59.2</td>
<td>61.4</td>
<td>61.4</td>
<td>+3.7</td>
<td>-0.0</td>
</tr>
<tr>
<td></td>
<td>soybean</td>
<td>4.32</td>
<td>4.32</td>
<td>4.60</td>
<td>+6.4</td>
<td>+6.5</td>
</tr>
</tbody>
</table>

Note: Yields are forecast for crops with more than 10000 ha per country; figures are rounded to 10 kg

Sources:
- 2013-2017 data come from Turkish Statistical Institute (TurkStat) and EUROSTAT Eurobase (last update: 27/03/2018)
- 2018 area copied from 2017 area
- 2018 yields come from the MARS Crop Yield Forecasting System (CGMS output up to 30/04/2018)
6. Atlas
The current JRC MARS Bulletin – Crop monitoring European Neighborhood is a JRC – EC publication from MARS4CAST (JRC DS unit – Directorate Sustainable Resources).


Analysis and reports
L. Seguini, L. Panarello, L. Nisini

Reporting support
Prepress projects, I. Biavetti

Editors
L. Seguini, M. van der Velde

Data production
MARS4CAST (JRC DS unit), ALTERRA (NL), MeteoGroup (NL), VITO (BE) and CMCC (IT)

Contact
JRC DS / MARS4CAST
JRCMARSBULLETIN@ec.europa.eu

MARS stands for Monitoring Agricultural Resources

Legal Notice:
Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use which might be made of this publication.

Disclaimer:
The geographic borders are purely a graphical representation and are only intended to be indicative. They do not necessarily reflect the official EC position.

Technical note:
The long-term average (LTA) used within this Bulletin as reference is based on an archive of data covering 1976 – 2017.

Mission statement: As the science and knowledge service of the European Commission, the Joint Research Centre’s mission is to support EU policies with independent evidence throughout the whole policy cycle.