Crop yield forecasts for 2008

This Memorandum provides additional information, maps and graphs related to the IP/08/1251 on the forecast of crops production. During the agricultural season, the European Commission's Joint Research Centre (JRC) regularly issues forecasts for the main crop yields and produces analyses of the impact of weather conditions on crop production. These are based on methodologies using satellite remote sensing and mathematical models which simulate crop growth.

The models and methodology in use have been conceived, experimentally developed and operationally implemented within the JRC. The crop yield forecasts, analyses and full description of the methodology are available at: http://mars.jrc.ec.europa.eu/marsstat/ and http://mars.jrc.ec.europa.eu/marsstat/Bulletins/2008.htm

Latest issues are the European forecast update and the Climatic Update as of 5th of August

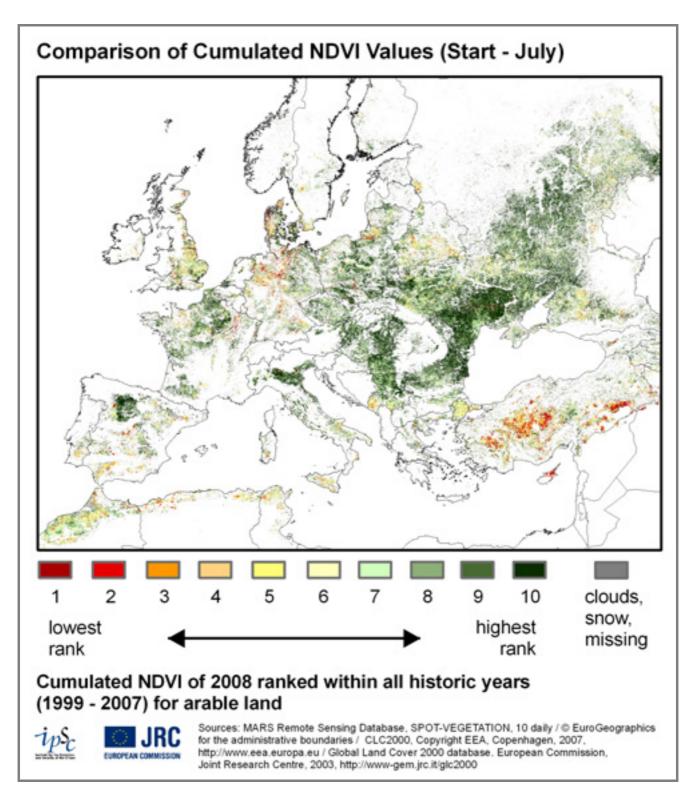
EU 27 Total yield forecasts - 5th August 2008

EO 27 Total yield forecasts = 5 August 2006						
	Yield in tons per hectare					
CROPS	2007	JRC 2008 forecast	Average 5 years	% 2008/07	% 2008/ Average	
TOTAL CEREALS	4.53	5.03	4.71	+11.1	+6.7	
Soft wheat	5.10	5.65	5.39	+10.8	+4.8	
Durum wheat	2.84	3.09	2.74	+9.0	+12.8	
Total wheat	4.84	5.35	5.04	+10.4	+6.1	
Spring barley	3.83	3.89	3.70	+1.5	+5.1	
Winter barley	4.81	5.27	4.96	+9.7	+6.3	
Total barley	4.21	4.42	4.19	+5.0	+5.7	
Grain maize	5.77	6.93	6.33	+20.1	+9.5	
Other cereals (1)	3.18	3.47	3.16	+9.3	+6.6	
Rape seed	2.80	2.94	3.00	+4.8	-2.1	
Sunflower	1.46	1.65	1.62	+13.1	+1.7	
Potato	28.40	26.52	26.81	-6.6	-1.1	
Sugar beet	62.97	70.26	59.02	+11.6	+19.0	

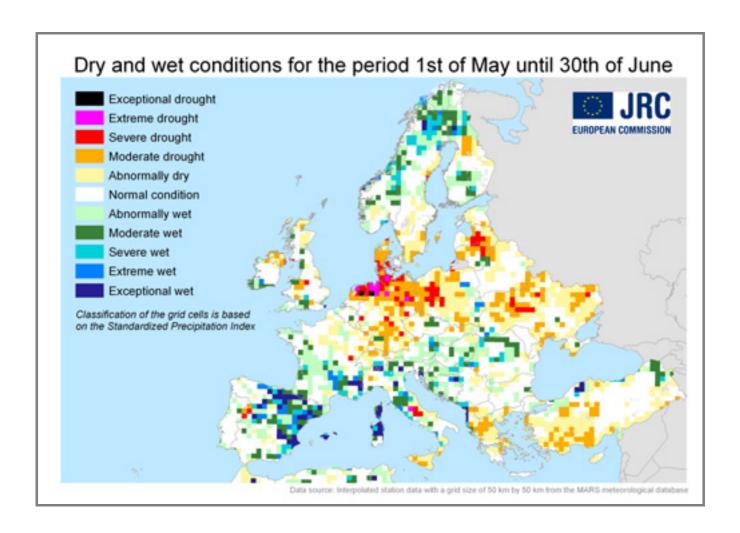
- Yield figures are rounded to 100 kg
- Rice is not included
- (1) Sorghum, rye, maslin, oats, triticale, mixed grain other than maslin, millet, buckwheat
- Source EUROSTAT New Cronos and EES: last update2008-22-07
- ** Joint Research Centre/Institute for the Protection and Security of the Citizen/Agriculture Unit/ AGRI4CAST action

Technical Note:

- a) Countries with areas below 10000 ha are not counted in.
- b) The usable production is generally 2-3 M tons below the harvested production.
- c) The average production includes the exceptional year 2004/2005 where set aside rate was set at 5% instead of the reference rate of 10%. Therefore the comparison with the five-year average may overestimate the decrease.
- d) in 2007/08 the set aside rate was set to 0 %



The NDVI (Normalized Difference Vegetation Index) is calculated from Remote Sensing Imagery using the red and near-red information, in this case SPOT-VGT. The NDVI expresses the development and health of vegetation. The higher the values the more biomass is present. In the map, NDVI values have been cumulated over the time period where the main crops in Europe start their growing season until the last available date. The cumulated values can be directly linked to the vegetation biomass. Thus higher cumulated values indicate a good vegetation growth and health. Furthermore, the cumulated values of the current growing season have been compared to the ones of each available year in the time series.

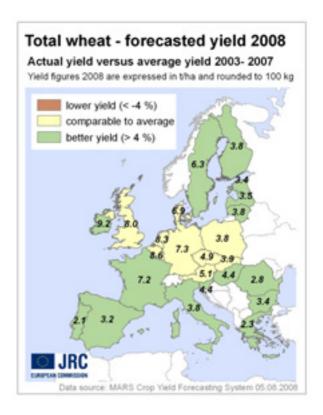


Analysis of crop yield by crop type and country for the EU27 Total Wheat (soft and durum varieties)

EU 27 TOTAL WHEAT forecast 5th of August 2008						
	Yield t/ha					
Country	2007*	MARS 2008 forecasts	Avg 5yrs	%08/07	%08/5yrs	
EU27	4.8	5.4	5.0	+10.4	+6.1	
AT	4.8	5.1	5.0	+5.8	+1.0	
BE	7.8	8.6	8.4	+10.2	+2.9	
BG	2.2	3.4	3.0	+55.8	+15.8	
CZ	4.9	4.9	4.9	+1.3	+1.3	
DE	7.0	7.3	7.3	+5.2	+0.9	
DK	6.6	6.9	7.0	+5.1	-1.5	
EE	3.3	3.4	2.7	+2.1	+24.8	
ES	3.5	3.2	2.8	-7.8	+14.3	
FI	3.9	3.8	3.6	-2.6	+5.9	
FR	6.2	7.2	6.8	+16.3	+7.1	
GR	2.2	2.3	2.1	+4.7	+8.7	
HU	3.6	4.4	4.0	+21.3	+9.5	
IE	8.1	9.2	8.8	+13.7	+4.7	
IT	3.4	3.8	3.4	+10.6	+9.8	
LT	3.9	3.8	3.5	-3.8	+7.0	
LU	5.6	6.3	6.1	+11.8	+2.4	
LV	3.6	3.5	3.1	-2.6	+11.3	
NL	7.2	8.3	8.4	+14.8	-1.4	
PL	3.9	3.8	3.8	-3.1	+0.9	
PT	2.2	2.1	1.6	-5.6	+27.6	
RO	1.6	2.8	2.4	+75.6	+14.3	
SE	6.3	6.3	5.9	+0.8	+6.6	
SI	4.2	4.4	4.2	+6.0	+4.8	
SK	3.8	3.9	4.0	+2.5	-0.5	
UK	7.4	8.0	7.8	+8.3	+2.3	

^{*} Source EUROSTAT New Cronos and EES: last update 2008-07-22, DG AGRI Balance sheet: last update 2008-08-01 Note: Countries with areas below 10000 ha are not counted in

The **total wheat yield** is expected to be better than last year with a significant increase of 10.4%. The resulting EU production is expected to be around 141 million tonnes (Mt) which would be an increase of more than 20.9 Mt (+17.4%) from last year. Compared to the yield average of the last five years (2003 to 2007) an increase of 6.1 % is estimated



and in terms of production an increase of 10.2 % for EU 27 .

Durum wheat yields are expected to be higher than the past **5 years' average** for the four major producers: Italy (+12.2%), France (+6.3%), Spain (+11.7%) and Greece (+4.3%). When looking at the **comparison with 2007**: Italy (3.1t/ha) and France (4.9t/ha) show higher figures (+15.0% and +13.9%) but Greece (2.1t/ha) and Spain (2.5t/ha) are very similar to last year yield (+0.3% and -0.7%).

For **soft wheat** only three countries are foreseen with lower figures than **average** for Denmark (-1.5%), Slovakia (-0.5%) and The Netherlands (-1.4%). Romania, Bulgaria and Baltic countries are forecasted with more than 10% higher yield than average, this difference is even much higher for Estonia and Portugal (> +24%).

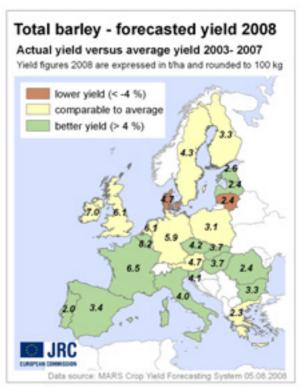
By comparison with **2007** only Poland, Lithuania and Latvia have lower expectations than last year (around -3%) due to unfavourable dry conditions. Spain and Portugal have lower forecasts for 2008 compared to the exceptional 2007 yield (-8.7% and -5.6%). On the other hand, yields for the three main EU producers, whose 2007 harvests were not good, show improvements: France with 7.45t/ha (+16.2%), Germany with 7.33t/ha (+5.2%) and the UKwith 7.96t/ha (+8.3%).

Analysis of crop yield by crop type and country for the EU27 Total Barley (winter and spring varieties)

EU 27 TOTAL BARLEY yield forecast 5th of August 2008					
	Yield t/ha				
Country	2007*	MARS 2008 forecasts	Avg 5yrs	%08/07	%08/5 yrs
EU27	4.2	4.4	4.2	5.0	5.7
AT	4.2	4.7	4.5	11.9	3.9
BE	8.0	8.2	7.8	2.7	4.9
BG	2.3	3.3	2.7	46.4	23.7
CZ	3.8	4.2	4.1	11.1	4.2
DE	5.4	5.9	5.8	8.4	1.6
DK	4.9	4.7	5.1	-4.0	-7.8
EE	2.6	2.6	2.3	-0.9	13.2
ES	3.6	3.4	2.7	-6.0	23.5
FI	3.7	3.3	3.4	-10.3	-1.9
FR	5.6	6.5	6.1	17.4	6.7
GR	2.3	2.3	2.3	1.3	8.0
HU	3.2	3.7	3.5	15.2	7.1
IE	6.7	7.0	6.7	3.2	3.7
IT	3.5	4.0	3.7	13.4	9.6
LT	2.7	2.4	2.6	-10.4	-9.8
LV	2.4	2.4	2.2	0.3	8.7
NL	5.6	6.1	6.0	9.6	1.5
PL	3.2	3.1	3.1	-4.5	0.9
PT	1.9	2.0	1.6	7.2	27.8
RO	1.5	2.4	2.2	67.0	10.3
SE	4.5	4.3	4.2	-3.2	3.5
SI	3.7	4.1	3.6	11.7	13.5
SK	3.1	3.7	3.5	17.0	6.1
UK	5.8	6.1	5.9	4.8	3.7

^{*} Source EUROSTAT New Cronos and EES: last update 2008-07-22, DG AGRI Balance sheet: last update 2008-08-01 Note: Countries with areas below 10000 ha are not counted in

For **EU 27** the yield is expected to be higher than last year by 5.0%, reaching 4.4 t/ha. The forecasted production is 63.4 Mt, which corresponds to



an increase of 10.3% from last year and 10.5% more than the 5 years average.

Within the four main producing countries, Spain is still contributing the most to the overall positive yield expectations for the last 5 years average with a yield increase of 23.5% (3.4t/ha). Despite the good potential it is still lower than the exceptional 2007 (-6%). Production is summing up to 11.8 Mt.

Germany, as the second barley producer in 2008 expects a yield increase of +1.6% on the average of the last five years and +8.4% to 2007. Production is expected to be 10.9% higher than last year (11.5Mt).

France and United Kingdom are expected to reach much better yield than last disappointing 2007 harvest with respectively 6.5t/ha (+17.4%) and 6.1t/ha (+4.8%). Production has also made progress with +21.7% and +18.7% respectively compared to last year. Romania and Bulgaria are foreseen with much better figures than last 2007 season. They are forecasted with 2.4t/ha (+67%) and 3.3t/ha (+46%) respectively.

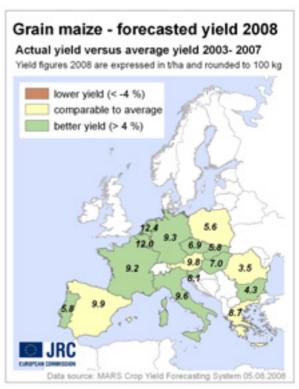
Analysis of crop yield by crop type and country for the EU27 Grain Maize

EU 27 GRAIN MAIZE yield forecast 5th of August 2008					
	Yield t/ha				
Country	2007*	MARS 2008 forecasts	Avg 5yrs	%08/07	%08/5 yrs
EU27	5.8	6.9	6.3	+20.1	+9.5
AT	9.9	9.8	9.4	-1.8	+3.5
BE	12.0	12.0	11.3	+0.2	+6.2
BG	1.5	4.3	3.9	+193.1	+8.9
CZ	6.8	6.9	6.5	+1.1	+6.0
DE	9.5	9.3	8.6	-1.8	+7.5
ES	9.9	9.9	9.76	-0.6	+1.0
FR	9.4	9.2	8.5	-2.7	+8.2
GR	8.9	8.7	8.94	-2.0	-2.5
HU	3.6	7.0	5.8	+94.5	+21.0
IT	9.3	9.6	8.9	+3.4	+8.4
NL	11.9	12.4	11.4	+4.2	+9.4
PL	6.6	5.6	5.5	-14.5	+2.5
PT	5.5	5.8	5.3	+3.8	+8.3
RO	1.6	3.5	3.3	+122.9	+3.4
SI	7.5	8.1	7.1	+8.0	+14.3
SK	4.0	5.8	5.3	+46.2	+9.9

^{*} Source EUROSTAT New Cronos and EES: last update 2008-07-22, DG AGRI Balance sheet: last update 2008-08-01 Note: Countries with areas below 10000 ha are not counted in

The grain maize yield for **EU 27** is estimated at 6.9 t/ha. This is a significant increase of 9.5% compared to the five years average. In terms of productions 60 Mt are forecasted. This is an increase of 4% on the five year average.

For the two largest producers France and Italy yield forecasts show a clear increase compared to the five year average with 9.2 t/ha for France (compared to 8.5 t/ha) and with 9.6 t/ha for Italy (compared to 8.9 t/ha). For both countries we do see a slight increase in area compared to last year but below the 5 year average. This leads to a forecasted increase in production for Italy of 7.3% and for France of 2.3% compared to last year.

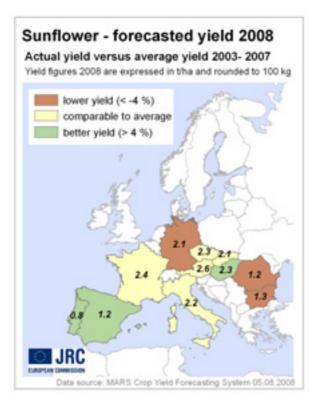


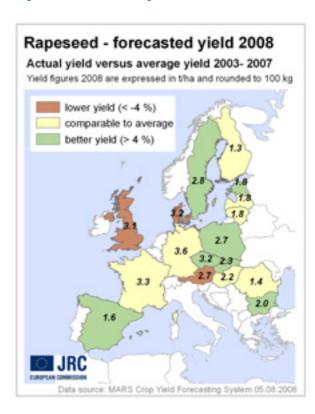
France is expected to produce 14.4 Mt and Italy is expected to produce 10.5 Mt.

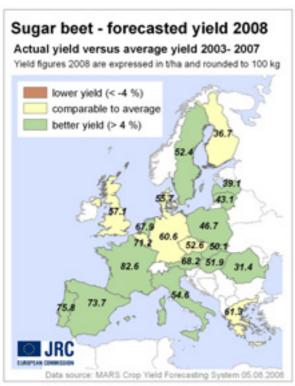
Romania and Hungary as the other two main producers of grain maize experience a good season after the drought in 2007. For Hungary yield expectations are raised by 21 % compared to the five years average and almost doubled compared to last year. The production is estimated at 8.4 Mt. Production for Romania is forecasted to have more than doubled in 2008 compared to 2007 with a production of 8.7 Mt. The yield forecast is set to 3.5 corresponding to an increase of 3.4 % on the five years average and 123% on last year's yield.

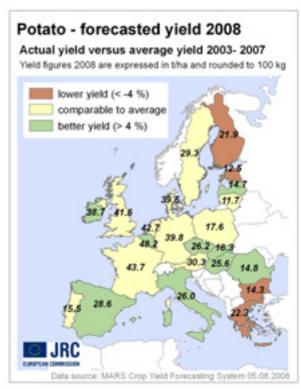
The remaining countries with the exception of Greece are above the five years average.

Analysis of crop yield by crop type and country for the EU27 Sunflower and sugar beet, rapeseed and potatoes

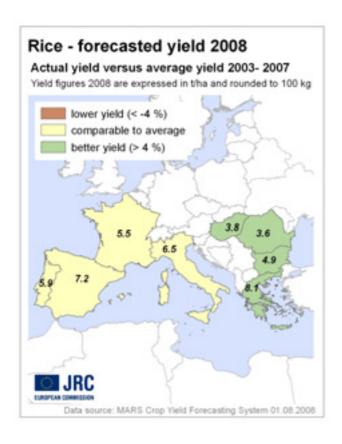








Analysis of crop yield by crop type and country for the EU27 Rice



At EU27 level, an average season is expected: yields are forecasted to be slightly lower than the average (-0.2%) although higher than those of last year (+0.3%).

Among the main producers, forecasts are lower than last year in Spain (7.16 t/ha, -0.9%) and Portugal (5.91 t/ha, -3.0%).

Good potential is shown in Greece, whose yield (8.12 t/ha) is forecasted to be higher both than 2007 and than the average (respectively +4.0% and +4.9%).

A good season is also expected for the eastern countries: 3.81 t/ha for Hungary (+4.2% compared to the last year), 3.62 t/ha for Romania (+3.8%), and 4.91 t/ha for Bulgaria (+5.9%). The latter could have experienced problems during pollens development because of a sudden drop in temperatures.

Favourable conditions for blast disease development have been verified in north eastern Italy.

Analysis of pastures and forage crops for the EU27

The winter was moderately warm with higher than average precipitation over most of the grazing and forage production areas. These conditions supported the development of green biomass and set the conditions for an early first cut. However, the dry period that followed reduced dry matter production over most of northern Europe, Great Britain and Ireland as well as on the Atlantic costal regions of northern France.

In these areas, a delay in the second cut is expected. Overall conditions were more positive in the forage producing areas of central France as well as in the Mediterranean Basin as a whole. In these areas a regularly timed second cut, as well as a regular continuation of the grazing season is expected.