

Subject: **Forecasted Maize Yield**
Region: **Europe**
Issuing date: **27 August 2008**

INTRODUCTION

The present document provides a preliminary forecast of crop yield expected at the end of the current growing season. Forecasts are provided from halfway the growing season (70 growing days). Although at that time the most critical stages of crop development have passed, the final outcome may still be subject to some change depending on how the second half of the season proceeds. Our forecasts are updated regularly with the most recent satellite data and we advise you to check our website (www.ears.nl) for the most recent bulletin.

METHOD

FAST is the acronym of *Food Assessment by Satellite Technology*, a Meteosat based crop yield forecasting system developed and operated by EARS in Delft, the Netherlands. The assessment of crop growth conditions and the crop yield forecasts are based on visible and thermal infrared hourly data from geostationary meteorological satellites. The satellite data are processed in 3 steps:

- (1) Hourly Meteosat data are processed to daily average values of surface temperature, air temperature, global radiation, net radiation, potential and actual evapotranspiration.
- (2) Radiation and evapotranspiration data enter into a crop growth model, which simulates crop yield on a daily basis.
- (3) Distributed crop yield results are integrated for crop growing areas, countries and provinces. Urban areas, forest, water and barren land are excluded.

CROP

The crop calendar for the 3 main growing phases for Europe is based on the thermal time requirements of maize (Narcisso et al., 1992). The yield response of the plant to evapotranspiration deficits during the growing season is quantified by the yield response factor K_y , based on the relationship described by Doorenbos & Kassam (1986): $(1-RY) = K_y(1-RE)$

RY is the relative yield and RE the relative evapotranspiration. Drought sensitivity of a crop changes during the growing season. For maize, K_y is 0.4 during establishment, increases to 1.5 during the vegetative period, is kept constant at 1.5 during flowering and yield formation and decreases to 0.5 during ripening.

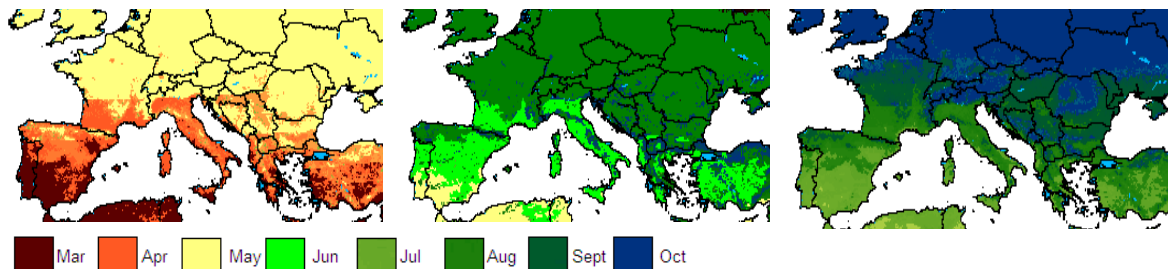


Figure 1: Start date for vegetative, flowering and yield formation period

SUMMARY

In general average to above average maize yields are expected in Europe, though in many places yields are less than previous year. Particularly in southern Europe the growing conditions have been very favorable. Very good maize yields are expected in **Spain** (+25%), **Portugal** (+25%), **Italy** (+20%), **France** (+22%), **Albania** (+12%), **Austria** (+11%), **Slovenia** (+27%) and **Turkey** (+10%). Relatively good yields are also expected in Central Europe and the Balkan: **Macedonia** (+11%), **Bosnia** (+4%), **Luxemburg** and **Germany** (+5%). In the **Netherlands**, maize yield has recuperated from drought and is now at a normal level (+1.6%) but still well below the level of 2007 (-14%). Elsewhere below average yields are expected in **Moldova** (-5%) and **Belarus** (-3%).

The expected relatively good yields in provinces Maramures, Suceava, Neamt and Iasi of **Romania** will be lower due to the recent floodings that have destroyed parts of the crops that were not harvested yet. Also in **Ukraine**, yields will be lower than expected in Ivano-Frankivska due to the recent floodings.

MAPS

The maps on the next page show the Meteosat relative yield RY (figure 2) of maize and the derived difference yield (DY) relative to the 5 years average (figure 3a) and to the previous year (figure 3b).

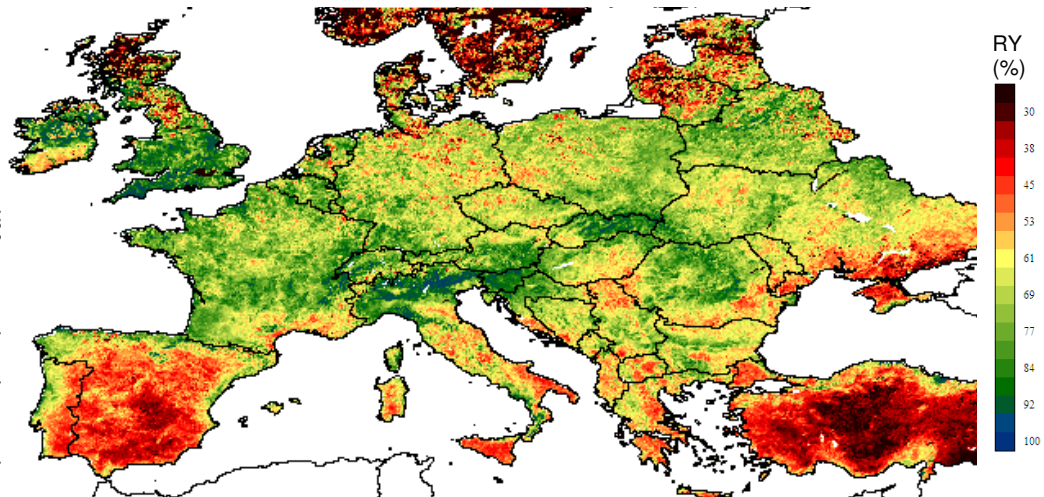


Figure 2: Maize relative yield RY (%)

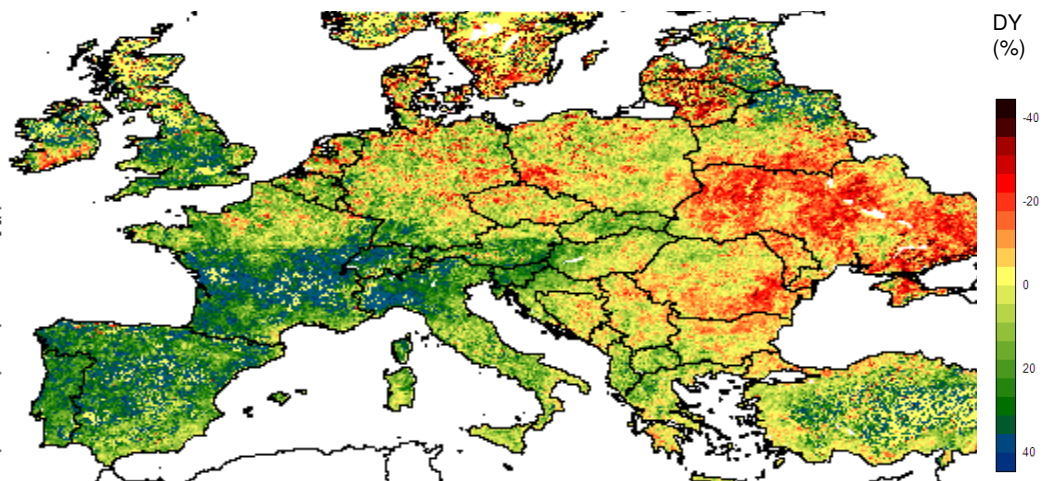


Figure 3a: Maize difference yield DY (%) forecast for Europe relative to the 5 years average

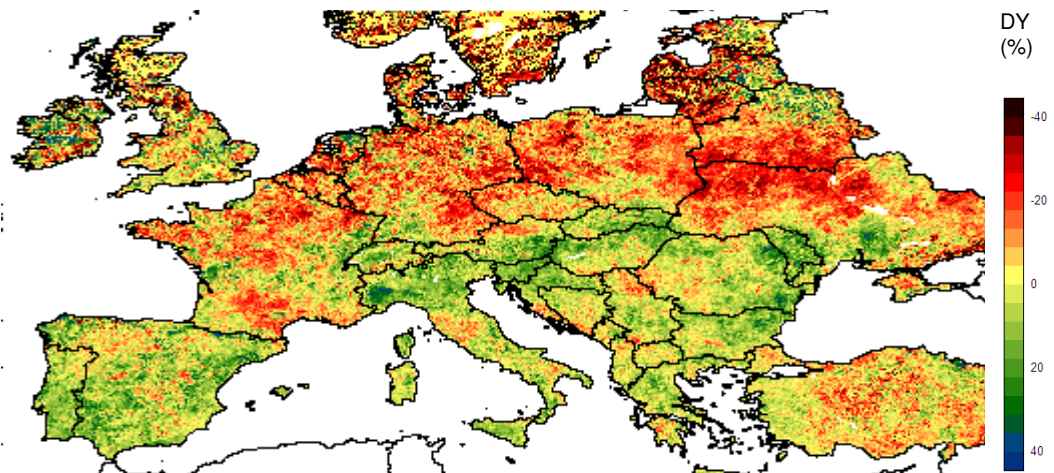


Figure 3b: Maize difference yield DY (%) forecast for Europe relative to 2007

TABLES

The following tabulated data are provided on next pages:

- Table 1 : Difference Yield forecasts at country level
- Table 2 : Difference Yield forecasts at provincial level

The difference yields for each province/country have been determined by spatial integration of pixel values within the growing areas of the crop. Data are provided for two growing areas:

- All growing areas (figure 3b)
- Main growing areas (figure 3a)

The Difference Yield (DY) presents the forecasted 2008 yield in terms of % deviation from a reference yield. In the tables difference yields relative to two references are presented:

- $DY_{08/07}$: Forecasted difference yield relative to the yield in 2007
- $DY_{08/avg}$: Forecasted difference yield relative to the average yield of the years 2003-2007

REFERENCES

Doorenbos, J., Kassam, A. H. (1986). Yield response to water. FAO irrigation and drainage paper 33. Food and Agricultural Organization of the United Nations, Rome.

Narciso, G., Ragni, P., Venturi, A. (1992). Agrometeorological aspects of crops in Italy, Spain and Greece: a summary review of durum wheat, barley, maize, rice, sugarbeet, sunflower, soybean, rape, potato, tobacco, cotton, olive and grape. Publication EUR 14124 EN of the Office for Official Publications of the European Communities; Series 'Agriculture' Luxembourg.

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TABLE 1 : MAIZE YIELD FORECASTS AT NATIONAL LEVEL

EUROPE	Actual Yield (100kg/ha)			Difference Yield (%)	
	Reported	Forecast		08/5 yrs	08/07
	Avg. 5 yrs	2007	2008		
ALBANIA	-	-	-	12.0	3.4
AUSTRIA	94	99	105	11.0	4.2
BELGIUM	113	120	126	11.0	-8.2
BOSNIA AND HERZEGOVINA	-	-	-	4.1	2.3
BULGARIA	39	15	39	-0.8	10.0
BYELARUS	-	-	-	-3.2	-18.0
CROATIA	-	-	-	11.0	8.2
CYPRUS	-	-	-	-8.9	-11.0
CZECH REPUBLIC	65	68	66	1.9	-4.0
FRANCE	85	97	104	22.0	-3.2
GERMANY	86	94	91	6.0	-6.9
GREECE	89	89	96	7.4	7.8
HUNGARY	58	36	63	8.1	8.9
IRELAND	-	-	-	20.0	9.8
ITALY	89	93	107	20.0	9.4
LUXEMBOURG	79	75	84	5.5	-14.0
MACEDONIA	43	38	48	11.0	3.3
MOLDOVA	-	-	-	-5.2	14.0
MONTENEGRO	-	-	-	2.9	3.2
NETHERLANDS	114	119	115	1.6	-14.0
POLAND	55	66	55	0.7	-7.5
PORTUGAL	53	55	66	25.0	9.1
ROMANIA	33	16	32	-3.4	7.8
RUSSIA	-	-	-	-6.3	-0.9
SERBIA	-	-	-	0.7	2.0
SLOVAKIA	53	40	58	9.7	10.0
SLOVENIA	71	75	90	27.0	16.0
SPAIN	98	99	122	25.0	7.9
SWITZERLAND	-	-	-	30.0	7.8
SYRIA	-	-	-	1.8	-5.2
TURKEY	-	-	-	9.7	-2.2
UKRAINE	-	-	-	-9.4	-4.6
UNITED KINGDOM	-	-	-	24.0	3.6

TABLE 2: MAIZE YIELD FORECASTS AT PROVINCIAL LEVEL

ALBANIA	Difference Yield (%)	
	08/5yrs	08/5yrs
BERAT	9.6	1.7
DIBRE	14.0	2.9
DURRES	5.1	3.6
ELBASAN	14.0	5.4
FIER	7.0	4.4
GJIROKASTER	14.0	6.9
GRAMSH	15.0	3.0
KOLONJE	14.0	12.0
KORCE	18.0	8.2
KRUJE	10.0	1.6
KUKES	9.7	-1.0
LIBRAZHD	19.0	6.7
LEZHE	8.3	-1.1
LUSHNJE	10.0	7.9
MAT	15.0	-0.2
MIRDITE	9.0	-4.5
POGRADEC	15.0	2.6
PERMET	16.0	6.3
PUKE	8.7	-4.8
SHKODER	9.4	5.1
SKRAPAR	15.0	3.3
SARANDE	10.0	7.4
TIRANE	13.0	0.7
TEPELENE	11.0	0.3
TROPOJE	8.8	4.2
VLORE	9.2	3.7

AUSTRIA	Difference Yield (%)	
	08/5yrs	08/5yrs
BURGENLAND	19.0	17.0
KARNTEN	23.0	13.0
NIEDEROSTERREICH	6.1	1.9
OBEROSTERREICH	4.1	-8.6
STEIERSMARK	22.0	17.0
TIROL	16.0	2.6
VORARLBERG	24.0	5.8
WIEN	5.0	3.2

BELGIUM	Difference Yield (%)	
	08/5yrs	08/5yrs
ANTWERPEN	6.6	-10.0
BRABANT	7.7	-10.0
HAINAUT	14.0	-7.9
LIEGE	14.0	-8.3
LIMBURG	16.0	-3.4
LUXEMBOURG	13.0	-4.6
NAMUR	10.0	-7.4
NIVELLES	8.3	-9.5
OOST-VLAANDEREN	12.0	-9.8
WEST-VLAANDEREN	8.8	-12.0

BOSNIA AND HERZEGOVINA	Difference Yield (%)	
	08/5yrs	08/5yrs
BOSNIA AND HERZEGOVINA	4.1	2.3

BULGARIA	Difference Yield (%)	
	08/5yrs	08/5yrs
BURGAS	-0.1	9.8
KHASKOVO	-0.2	7.9
LOVECH	-2.6	12.0
MIKHAYLOVGRAD	-1.5	10.0
PLOVDIV	0.7	4.9
RAZGRAD	-6.8	14.0
SOFIYA	5.7	4.9
VARNA	-4.1	17.0

BYELARUS	Difference Yield (%)	
	08/5yrs	08/5yrs
BREST	-2.8	-18.0

CROATIA	Difference Yield (%)	
	08/5yrs	08/5yrs
CROATIA	11.0	8.2

CYPRUS	Difference Yield (%)	
	08/5yrs	08/5yrs
FARMAGUSTA	-7.2	-8.6
KYRENIA	-8.6	-8.3
NICOSIA	-11.0	-13.0
PAPHOS	-0.9	-7.2

CZECH REPUBLIC	Difference Yield (%)	
	08/5yrs	08/5yrs
JIHOCESKY	5.9	-1.9
JIHOMORAVSKY	0.3	-2.1
STREDOCESKY	0.7	-4.6
SEVEROCESKY	-0.4	-8.8
SEVEROMORAVSKY	2.6	-1.4
VYCHODOCESKY	3.3	-3.8
ZAPADOCESKY	2.3	-10.0

FRANCE	Difference Yield (%)	
	08/5yrs	08/5yrs
ALSACE	24.0	5.7
AQUITAINE	32.0	-1.8
AUVERGNE	33.0	0.7
BASSE-NORMANDIE	15.0	-1.3
BOURGOGNE	27.0	-0.7
BRETAGNE	13.0	-7.9
CENTRE	18.0	-8.7
CHAMPAGNE-ARDENNE	8.4	-7.7
CORSE	29.0	16.0
FRANCHE-COMTE	34.0	9.4
HAUTE-NORMANDIE	11.0	-2.6
ILE-DEL-FRANCE	9.8	-9.5
LIMOUSIN	37.0	-0.3
LANGUEDOC-ROUSSILLON	21.0	-5.9
LORRAINE	9.7	-9.4
MIDI-PYRENEES	27.0	-7.4
NORD-PAS-DE-CALAIS	12.0	-4.5
PROVENCE-ALPES-COTE D'AZUR	22.0	-1.1
POITOU-CHARENTES	33.0	6.8
PAYS DE LA LOIRE	24.0	-1.9
PICARDIE	8.4	-10.0
RHONE-ALPES	35.0	2.5

GERMANY	Difference Yield (%)	
	08/5yrs	08/5yrs
BRANDENBURG	3.5	-9.5
BADEN-WURTTENBERG	17.0	4.3
BAYERN	5.8	-8.6
HAMBURG	-16.0	-25.0
HESSEN	3.8	-7.6
MECKLENBURG-VORPOMMERN	9.8	-1.6
NIEDERSACHSEN	5.0	-9.7
NORDRHEIN-WESTFALEN	7.4	-5.6
RHEINLAND-PFALZ	9.4	-5.4
SACHSEN-ANHALT	1.0	-6.7
SACHSEN	-4.3	-14.0
SAARLAND	0.7	-16.0
THURINGEN	1.8	-8.9

GREECE	Difference Yield (%)	
	08/5yrs	08/5yrs
AEGEAN ISLANDS	3.2	4.9
CENTRAL GREECE AND EVVOIA	4.5	6.3
CRETE	4.8	5.7
IPIROS	13.0	8.8
MACEDONIA	9.9	8.1
PELOPONNISOS	1.4	2.3
THRAKI	1.5	5.9
THESSALIA	9.9	12.0

HUNGARY	Difference Yield (%)	
	08/5yrs	08/5yrs
BORSOD-ABAUJ-ZEMPLEN	9.5	16.0
BEKES	-1.3	0.7
BACS-KISKUN	3.5	2.8
BARANYA	2.0	-2.1
CSONGRAD	2.7	4.9
FEJER	9.7	7.6
GYOR-MOSON-SOPRON	18.0	15.0
HAJDU-BIHAR	4.4	12.0
HEVES	4.9	9.7
KOMAROM-ESZTERGOM	15.0	13.0
NOGRAD	7.9	12.0
PEST	8.7	11.0
SOMOGY	15.0	7.1
SZABOLCS-SZATMAR-BEREG	10.0	15.0
JASZ-NAGYKUN-SZOLNOK	2.3	4.2
TOLNA	4.7	3.6
VAS	25.0	19.0
VESZPREM	17.0	17.0
ZALA	18.0	12.0

IRELAND	Difference Yield (%)	
	08/5yrs	08/5yrs
CONNACHT	23.0	13.0
MUNSTER	16.0	3.2

ITALY	Difference Yield (%)	
	08/5yrs	08/5yrs
ABRUZZI	14.0	7.6
BASILICATA	11.0	2.4
CALABRIA	7.7	7.4
CAMPANIA	14.0	4.2
EMILIA-ROMAGNA	23.0	11.0
FRIULI-VENEZIA GIULIA	18.0	7.4
LAZIO	12.0	5.0
LIGURIA	33.0	13.0
LOMBARDIA	31.0	13.0
MOLISE	19.0	9.4
MARCHE	13.0	6.2
PIEMONTE	35.0	18.0
PUGLIA	11.0	4.7
SICILIA	8.9	9.9
SARDEGNA	11.0	7.1
TRENTINO-ALTO ADIGE	29.0	13.0
TOSCANA	19.0	2.7
UMBRIA	11.0	-3.7
VALLE D'AOSTA	18.0	2.6
VENETO	24.0	14.0

LUXEMBOURG	Difference Yield (%)	
	08/5yrs	08/5yrs
DIEKIRCH	8.3	-11.0
GREVENMACHER	-7.0	-24.0
LUXEMBOURG	9.7	-11.0

MACEDONIA	Difference Yield (%)	
	08/5yrs	08/5yrs
MACEDONIA	11.0	3.3

MOLDOVA	Difference Yield (%)	
	08/5yrs	08/5yrs
MOLDOVA	-5.2	14.0

MONTENEGRO	Difference Yield (%)	
	08/5yrs	08/5yrs
MONTENEGRO	2.9	3.2

NETHERLANDS	Difference Yield (%)	
	08/5yrs	08/5yrs
DRENTHE	5.4	-6.4
FLEVOLAND	5.8	-7.0
GELDERLAND	-2.8	-16.0
LIMBURG	9.1	-8.0
NOORD-BRABANT	2.0	-14.0
NOORD-HOLLAND	-2.7	-16.0
OVERIJSSSEL	4.6	-9.2
UTRECHT	-4.7	-20.0
ZUID-HOLLAND	3.1	-15.0
ZEELAND	11.0	-6.9

POLAND	Difference Yield (%)	
	08/5yrs	08/5yrs
BIELSKO	-2.6	-6.8
BIALA PODLASKA	3.2	-11.0
BYDGOSZCZ	4.6	-6.0
CIECHANOW	-0.4	-16.0
CHELM	-6.3	-15.0
CZESTOCHOWA	1.9	-3.0
GORZOW	6.2	-11.0
JELENIA GORA	-13.0	-19.0
KIELCE	4.4	-0.6
KALISZ	-0.8	-11.0
KONIN	2.1	0.1
KRAKOW	0.9	-4.0
KROSNO	6.9	2.8
KATOWICE	1.0	-0.8
LUBLIN	-0.5	-12.0
LEGNICA	-12.0	-18.0
LODZ	4.6	-5.7
LESZNO	-3.8	-13.0
NOWY SACZ	12.0	8.9
OPOLE	3.9	-0.1
PILA	3.6	-15.0
PLOCK	5.3	-6.1
PRZEMYSL	-1.4	-6.5
PIOTRKOW	0.2	-3.8
POZNAN	3.8	-9.4
RADOM	1.5	-12.0
RZESZOW	5.1	-2.5
SIEDLCE	7.5	-9.1
SKIERNIEWICE	2.0	-9.6
SIERADZ	-4.5	-11.0
SZCZECIN	9.4	-4.5
TORUN	8.5	-2.6
TARNOBRZEG	2.5	-7.0
TARNOW	5.0	-0.9
WALBRZYCH	-7.7	-13.0
WLOCLAWEK	0.7	1.3
WROCLAW	-3.3	-7.2
WARSZAWA	5.6	-9.5
ZIELONA GORA	-3.5	-16.0
ZAMOSC	-3.7	-16.0

PORTUGAL	Difference Yield (%)	
	08/5yrs	08/5yrs
BEJA	24.0	11.0
BRAGA	26.0	7.8
BRAGANCA	25.0	0.9
CASTELO BRANCO	25.0	10.0
EVORA	21.0	13.0
FARO	23.0	13.0
GUARDA	27.0	1.7
LISBOA	21.0	8.4
PORTO	28.0	8.3
PORTALEGRE	29.0	16.0
SANTAREM	24.0	12.0
SETUBAL	26.0	15.0
VIANA DO CASTELO	24.0	1.5
VISEU	28.0	2.7
VILA REAL	27.0	4.1

ROMANIA	Difference Yield (%)	
	08/5yrs	08/5yrs
ALBA	-2.5	0.4
ARAD	-0.2	0.9
ARGES	-4.1	6.5
BACAU	-0.9	13.0
BIHOR	6.7	11.0
BISTRITA-NASAUD	9.5	14.0
BRAILA	-13.0	11.0
BRASOV	-1.9	6.0
BOTOSANI	-4.2	7.3
BUCURESTI	-7.7	10.0
BUZAU	-13.0	3.4
CALARASI	-11.0	16.0
CLUJ	7.6	8.8
CONSTANTA	-6.3	20.0
CARAS-SEVERIN	-4.3	-1.0
COVASNA	-2.3	8.7
DIMBOVITA	-4.5	8.5
DOLJ	-3.9	3.9
GALATI	-15.0	8.9
GIURGIU	-9.2	9.8
GORJ	-6.9	-3.0
HUNEDOARA	-3.4	-0.3
HARGHITA	-0.8	2.8
IASI	0.8	23.0
IALOMITA	-12.0	17.0
MEHEDINTI	-2.1	3.8
MARAMURES	5.4	8.1
MURES	2.7	6.9
NEAMT	0.8	13.0
OLT	-5.3	6.1
PRAHOVA	-5.1	7.0
SALAJ	8.2	13.0
SIBIU	-1.1	4.5
SATU MARE	4.0	8.0
SUCEAVA	-1.9	4.7
TIMIS	-2.9	-5.6
TELEORMAN	-7.6	8.0
TULCEA	-6.9	12.0
VASLUI	-2.2	16.0
VILCEA	-4.5	0.9
VRANCEA	-8.0	7.9

RUSSIA	Difference Yield (%)	
	08/5yrs	08/5yrs
BELGOROD	-7.6	-8.3
KRASNODAR	-0.1	10.0
ROSTOV	-19.0	-16.0
VORONEZH	-8.1	-4.4

SERBIA	Difference Yield (%)	
	08/5yrs	08/5yrs
SERBIA	0.7	2.0

SLOVAKIA	Difference Yield (%)	
	08/5yrs	08/5yrs
BRATISLAVA	5.7	9.1
STREDOSLOVENSKY	14.0	13.0
VYCHODOSLOVENSKY	13.0	15.0
ZAPADOSLOVENSKY	5.2	5.3

SLOVENIA	Difference Yield (%)	
	08/5yrs	08/5yrs
SLOVENIA	27.0	16.0

SPAIN	Difference Yield (%)	
	08/5yrs	08/5yrs
ANDALUCIA	18.0	9.6
ARAGON	26.0	9.4
ASTURIAS	21.0	3.2
ISLES BALEARES	19.0	12.0
CASTILLA-LA MANCHA	25.0	7.5
CANTABRIA	30.0	6.7
CATALUNA	28.0	14.0
CASTILLA Y LEON	28.0	3.3
EXTREMADURA	27.0	13.0
GALICIA	27.0	4.9
LA RIOJA	22.0	7.4
MADRID	29.0	9.6
MURCIA	13.0	2.4
NAVARRA	27.0	7.0
PAIS VASCO	29.0	9.7
VALENCIANA	23.0	12.0

SWITZERLAND	Difference Yield (%)	
	08/5yrs	08/5yrs
AARGAU	30.0	-2.0
BERN	35.0	13.0
BASEL-LANDSCHAFT	40.0	18.0
FRIBOURG	34.0	8.1
GRAUBUNDEN	18.0	3.6
JURA	38.0	22.0
LUZERN	33.0	10.0
NEUCHATEL	33.0	12.0
SCHAFFHAUSEN	11.0	-7.8
SANKT GALLEN	25.0	9.3
SOLOTHURN	37.0	11.0
THURGAU	18.0	-0.3
TICINO	28.0	10.0
VALAIS	14.0	-0.5
VAUD	32.0	6.9
ZURICH	29.0	0.8

SYRIA	Difference Yield (%)	
	08/5yrs	08/5yrs
AL LADHIQIYAH	-2.5	-12.0
AR RAQQAHA	4.8	-3.3
HALAB	3.0	-1.8
HAMAH	2.5	-7.2
IDLIB	0.0	-6.4
TARTUS	2.4	-7.9

TURKEY	Difference Yield (%)	
	08/5yrs	08/5yrs
ADANA	8.8	-0.4
ADYAMAN	4.9	-9.8
AFYON	16.0	-6.5
AMASYA	13.0	3.3
ANKARA	15.0	-4.2
ANTALYA	4.6	-3.6
AYDIN	-0.3	5.8
BILECIK	8.9	-5.2
BALIKESIR	8.5	3.5
BOLU	7.0	-0.7
BURDUR	14.0	-2.1
BURSA	7.8	0.4
CANAKKALE	5.7	3.2
CANKIRI	11.0	-1.1
CORUM	10.0	-5.8
DENIZLI	9.0	0.1
DIYARBAKIR	-1.6	-17.0
EDIRNE	-1.1	0.1
ELAZIG	17.0	0.2
ERZINCAN	6.6	-7.1
ESKISEHIR	15.0	-7.9
GUMSHANE	15.0	-6.2
GIRESUN	7.0	-1.6
GAZIANTEP	5.3	-5.1
HATAY	4.0	-0.8
ICEL	4.2	-7.6
ISPARTA	11.0	-0.4
ISTANBUL	-3.1	-1.9
IZMIR	4.6	6.8
KAHRAMAN MARAS	12.0	-3.6

TURKEY	Difference Yield (%)	
	08/5yrs	08/5yrs
KOCAELI	0.1	-7.1
KONYA	14.0	-4.7
KIRKLARELI	-3.6	-3.9
KIRSEHIR	17.0	-3.2
KASTAMONU	5.8	-0.4
KUTAHYA	20.0	-2.8
KAYSERI	16.0	-1.5
MANISA	8.3	4.9
MALATYA	16.0	-1.7
MUGLA	4.7	1.6
NIGDE	18.0	-3.2
NEVSEHIR	20.0	-5.1
ORDU	13.0	8.8
SINOP	3.3	-1.1
SIVAS	19.0	-2.0
SAKARYA	7.1	1.2
SAMSUN	8.3	7.6
TEKIRDAG	-2.0	-1.0
TUNCELI	0.9	-7.9
TOKAT	21.0	9.3
TRABZON	8.9	3.9
URFA	-0.5	-12.0
USAK	23.0	1.5
YOZGAT	20.0	-0.3
ZONGULDAK	-1.8	-5.1

UKRAINE	Difference Yield (%)	
	08/5yrs	08/5yrs
CHERNIHIVS'KA	-13.0	-15.0
CHERKAS'KA	-15.0	-11.0
CHERNIVETS'KA	-6.9	-3.0
DNIPROPETROVS'KA	-8.5	1.2
DONETS'KA	-16.0	-11.0
IVANO-FRANKIVS'KA	-7.5	-8.4
KHARKIVS'KA	-9.4	-10.0
KHMEL'NYTS'KA	-9.8	-8.4
KRYM	-9.6	-3.6
KHERSONS'KA	-14.0	0.0
KIROVOHRADS'KA	-5.2	6.8
KYYIVS'KA	-15.0	-15.0
LUHANS'KA	-11.0	-7.9
L'VIVS'KA	-8.7	-12.0
MYKOLAYIVS'KA	-6.4	10.0
ODES'KA	-3.2	9.7
POLTAVS'KA	-7.9	-7.2
RIVNENS'KA	-14.0	-19.0
SUMS'KA	0.1	1.2
TERNOPIL'S'KA	-9.9	-8.7
VOLYNS'KA	-12.0	-19.0
VINNYTS'KA	-7.5	0.0
ZAKARPATS'KA	8.7	9.1
ZAPORIZ'KA	-16.0	-6.5
ZHYTOMYRS'KA	-7.4	-12.0

UNITED KINGDOM	Difference Yield (%)	
	08/5yrs	08/5yrs
ENGLAND	24.0	3.6