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MARS AGROMETEOROLOGICAL

Rice Monitoring in Europe

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Second part of the season

Average yield potential and increased areas push the total European production above the average

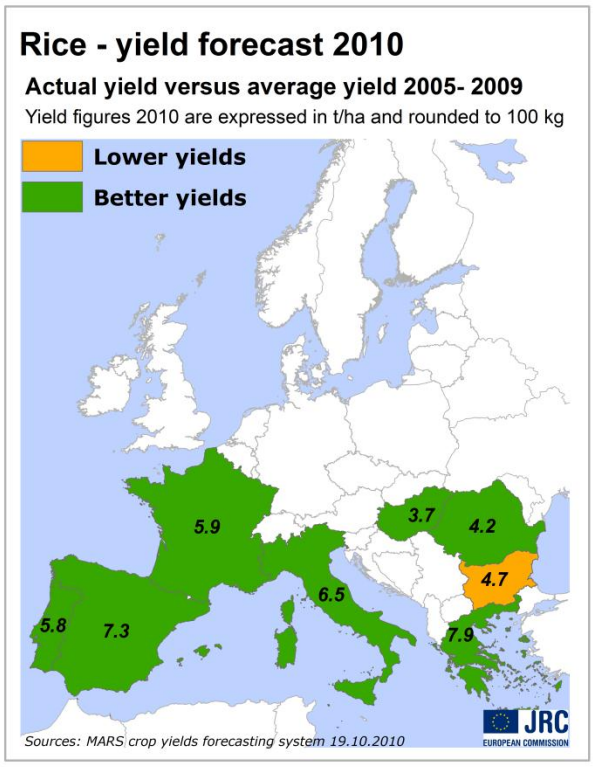
Highlights

As forecast in the previous bulletin rice production at EU-27 level will be close to last year's values (+1.3%) and the increase observed in the surfaces have been confirmed (+1.7% compared to last year and +10.7% with respect to 5-year average). Surfaces increased in Italy especially in the provinces of Pavia and Milano and in the area of the Po delta and in Spain partly as a consequence of the larger water availability for agricultural purposes.

MARS yield forecast

Country	Yield t/ha					Production x 1000 t.				
	2009*	MARS 2010 forecasts	Avg 5yrs	%10/09	%10/5yrs	2009*	2010	Avg 5yrs	%10/09	%10/5yrs
EU27	6.7	**6.7**	6.5	-0.4	1.7	3025	**3064**	2721	1.3	12.6
BG	5	**4.7**	4.7	-5.6	-0.2	39	**36**	31	-0.5	16.4
ES	7.5	**7.3**	7.1	-3.1	3.2	900	**895**	769	-0.5	16.4
FR	5.7	**5.9**	5.7	3.1	3.9	138	**121**	105	-12.5	14.7
GR	7.1	**7.9**	7.7	11.4	2.4	205	**228**	200	11.4	14
HU	3.8	**3.7**	3.7	-2.2	1.5	10	**11**	9	3.5	12.5
IT	6.5	**6.5**	6.4	-0.5	1	1555	**1606**	1467	3.3	9.4
PT	5.7	**5.8**	5.7	1.8	1.8	159	**162**	146	1.9	10.7
RO	5.2	**4.2**	4.1	-18.8	4.2	69	**53**	**33**	-23.9	57.8

* Source EUROSTAT EUROBASE and EES: last update 2010-10-05



At EU-27 yields are forecast to be close to the 5-years' average (+1.7%) but slightly lower than last year (-0.4%).

Good meteorological conditions guaranteed average yield potential in western countries. In fact among the main producers only some region of the eastern part of Spain and of the Po Delta in Italy suffered from yield reduction due to fungal diseases whereas the other districts experienced sufficient dry conditions to avoid a high risk of diseases.
Rice yield forecast are: 7.3 t/ha (+3.2% with respect to the 5-year average) for Spain, 5.9 t/ha (+3.9%) for France, 7.9 t/ha (+2.4%) for Greece and 5.8 t/ha (+1.8%) for Portugal.

Due to the colder-than-usual weather occurred in Italy rice yield forecast was slightly revised downwards at 6.5 t/ha but still above the 5-year average (+1.0%).

In eastern countries the increase of temperatures allowed recovering the development delay but increased strongly the risk of blast infection especially in Bulgaria (4.7 t/ha, -0.2%). Slightly better conditions are depicted for Hungary (3.7 t/ha, +1.5%) and Romania (4.2 t/ha, +4.2%).

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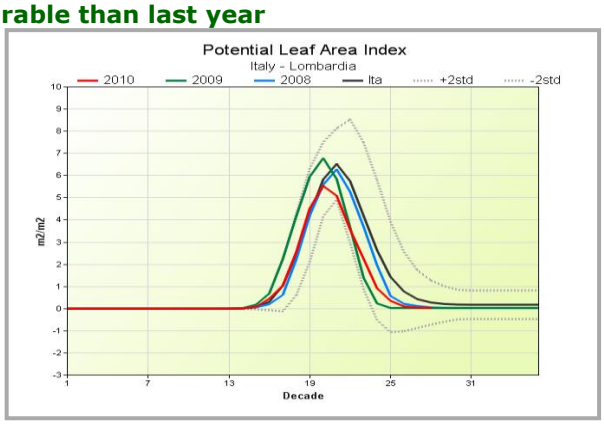
Agro-meteorological analysis

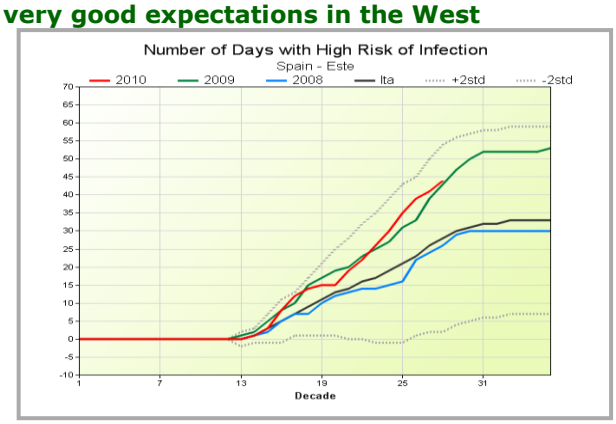
ITALY: satisfactory conditions however less favourable than last year

The second part of the summer was characterized by precipitation above the expected values and temperatures which remained, as a consequence of the cloudy and rainy weather, close or below the average. This colder-than-usual weather did not delay significantly crop development but might have caused some isolated cases of spikelet sterility on indica varieties. The reduced irradiance level lowered canopy expansion. In most areas harvest activities already started depicting satisfactory conditions but the yield potential seems to be lower than last year. The number of days with high infection risk increased significantly in September reducing the yield potential where management practices were not effective.



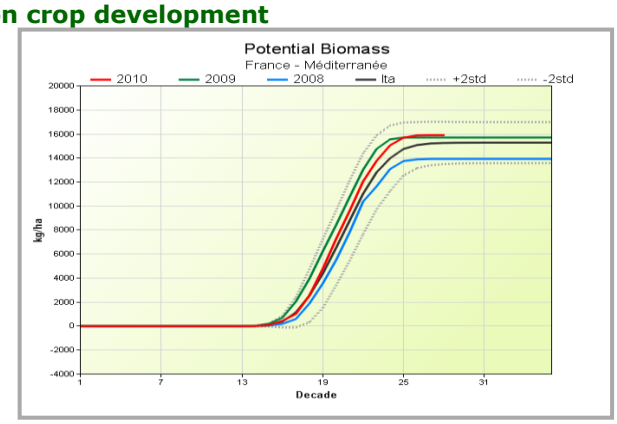
SPAIN: strong blast infection risk in the East but very good expectations in the West

The large water availability, which seems to be the main feature of this growing season, depicts an exceptional potential in Andalucía but has enhanced the risk of blast infection and the diffusion of other fungi diseases in other areas. In fact the warm and humid conditions observed in the East (Valencia) pushed the number of days with high risk of blast infection close to twice the standard deviation (44 days) leading to possible reduction in the accumulation rate of storage organs. Therefore the yield forecast at national scale has been set below last year's value.



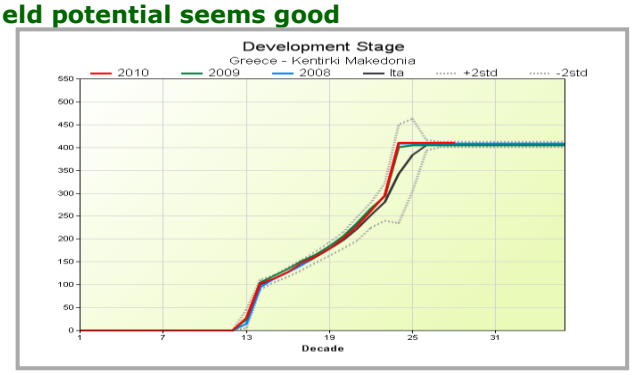
FRANCE: low risk of biotic and abiotic damages on crop development

Despite the values of cumulated rainfall in the period of analysis being below the average the available water reservoir (replenished by the abundant rainfall of the previous months) guaranteed sufficient irrigation supply for the crop and supported optimally the high transpiration rate. This has led to a good crop development and to a satisfactory accumulation rate during ripening and grain filling. Moreover the quite dry conditions, even if in conjunction with high cumulated active temperatures (base temperature equal to 10°C) kept down the risk of biotic and abiotic diseases depicting an optimal yield potential. Simulated values of total and grain biomass are above the long term average.



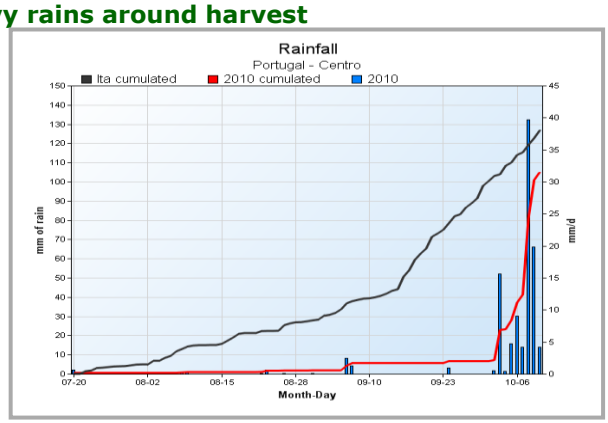
GREECE: despite the risk of blast infection the yield potential seems good

August was characterized by a lack in precipitation and very warm conditions (maximum temperatures were often above 35°C). This in conjunction with high values of solar radiation has speed up crop development which reached maturity before the end of August reducing the risk of strong damages due to blast infection. The simulated values of storage organ biomass show a reduction due to blast. However it seems in line with the average and therefore probably kept under control.



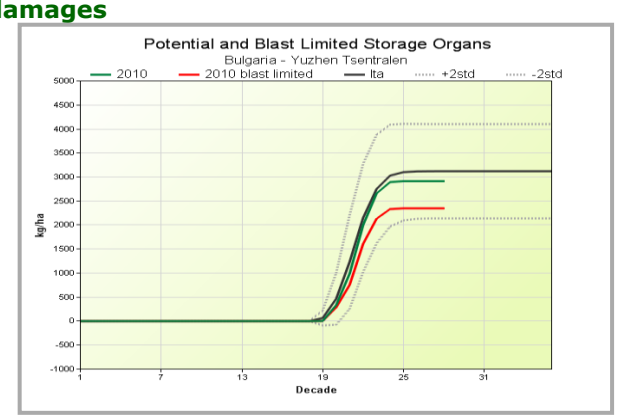
PORTUGAL: optimal season depicted despite heavy rains around harvest

The very dry and hot conditions occurred during summer months pushed strongly crop development but did not seem to have caused shortenings in canopy expansion. Moreover the lack of precipitations reduced the number of days with high risk of blast infections depicting a yield potential which is forecast higher both than 5-year average and last year. The only difficulties which could have occurred come from the heavy rains at the beginning of October which might have determined a pre-sprouting in the field by delaying the harvest.



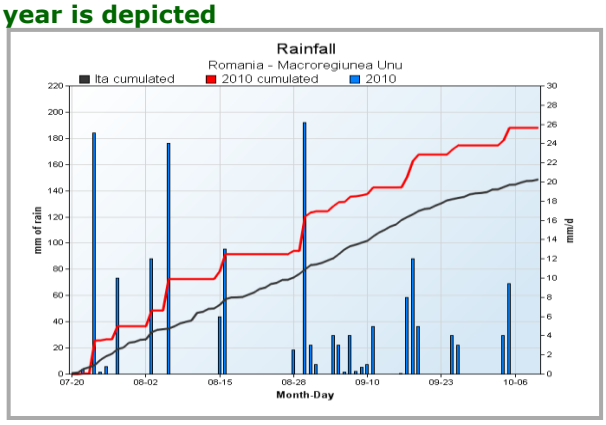
BULGARIA: reduced yield potential due to blast damages

The strong increase of temperatures started from the beginning of August allowed recovering the delay in development due to the low values of GDD cumulated until the end of July. Moreover the lack of precipitations during the second part of the cycle increased the cumulated values of solar radiation guaranteeing a satisfactory transpiration rate and consequently a good biomass accumulation. Unfortunately the mild and humid conditions which took place in the last dekades pushed the already high risk of blast infection to more than twice the standard deviation.



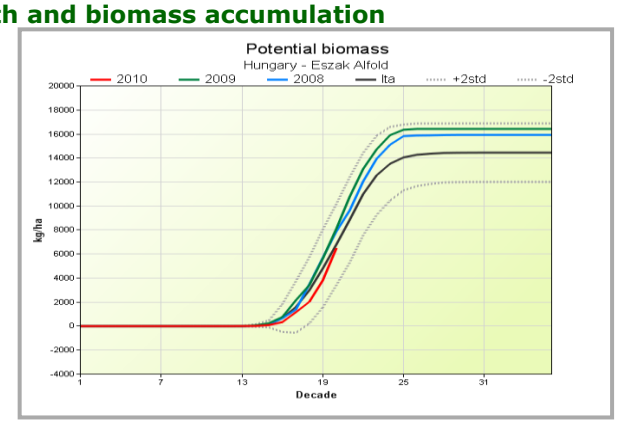
ROMANIA: despite the wet conditions an average year is depicted

Even if the cumulated values stayed slightly below the average because of the low intensity of rainfalls, wet conditions persisted all over August and September as a consequence of the well distributed precipitations. This might have led to difficulties in a good timing in protecting the crop from biotic damages and could have caused some delays in harvest activities due to the difficulties of getting grain sufficiently dry. However temperatures and irradiance were satisfactory therefore an average yield potential can be expected even though much lower than in 2009.



HUNGARY: persistent rainfall delayed crop growth and biomass accumulation

Hungary was continuously hit by intense precipitation all over the period of analysis causing a delay in development and a reduced level of total accumulated biomass. Nevertheless simulated values of storage organs biomass are coherent with long term average thanks to milder conditions than these observed in the previous period. Despite the wet conditions blast infection does not seem spread over the rice district, a limited risk of grain reduction should be taken into account as a consequence of the difficulties to adopt appropriate management practices on time.



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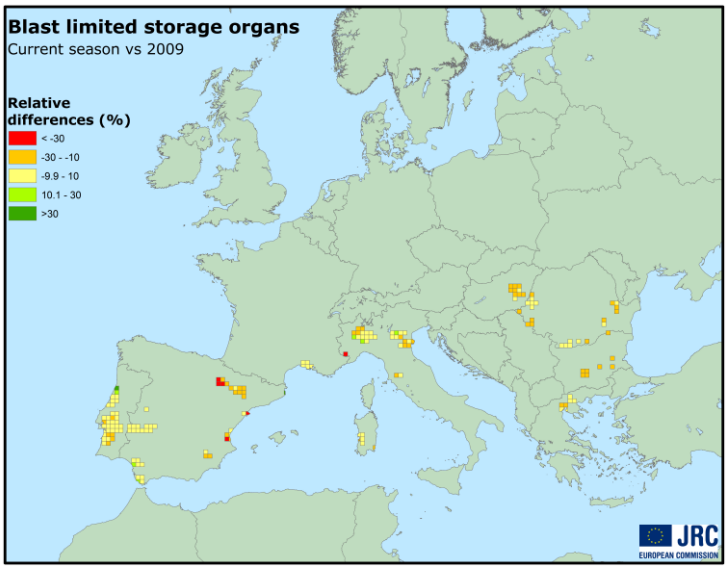
Risk of blast disease infection

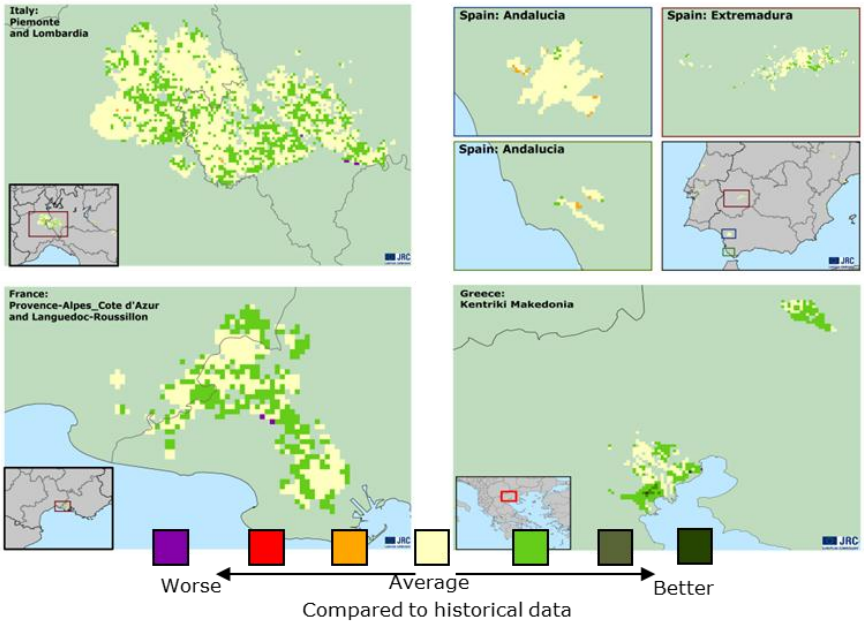
The comparison with 2009 of simulated values of blast limited storage organs biomass show a strong reduction (less than -30%) in some isolated areas of Cataluña and Comunidad Valenciana and a general reduction allover eastern countries (up to -30%). This is due to the peculiar meteorological conditions which pushed the number of days with high risk of blast infection to very high levels during the current season.



Satellite analysis

The pictures below display the global biomass accumulation until the end of the growing season. The cumulated NDVI values for the end of the season were computed using the observed NDVI values from 1st October 2009 to 30 September 2010. The NDVI cumulated values so obtained were compared with the three historical series (minimum, maximum and average).

The main European rice areas are shown. Average to good biomass conditions are present almost everywhere, mainly due to the warm temperature of early summer. Italy. Greece and France faced a better than average growing season while in Spain NDVI values display normal conditions. Values worse than historical data represent areas with no rice for the current season.



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