

Supplemental Tables and Figures

Table S1. Locations and seed companies involved in multilocal trials.

Years	Locations in France	Seed Company or Institute
2003–2004	La Chapelle d'Armentières, 59930	Serasem
	Orgerus, 78910	CC-Benoist- Syngenta
	Clermont Ferrand, 63100	INRA
2004–2005	Cappelle en Pévèle, 59242	Florimond-Desprez
	Verneuil l'Etang 77390	Verneuil Recherche -LVH
2008–2009	Estrées St Denis, 60190	Saaten Union
	Mons en Pévèle 59246	Momont-Hennette
	Orgerus, 78910	Syngenta Seeds
2009–2010	Cappelle en Pévèle, 59242	Florimond-Desprez
	Clermont Ferrand, 63100	INRA
	Reclainville, 28150	Caussade Semences

Table S2. Frequencies of alleles encoding HMW-GS an LMW-GS in the 192 wheat cultivars.

Glu-A1	GluA1-n	GluA1-1	GluA1-2*							
	44.8	37.3	17.9							
Glu-B1	GluB1-68	GluB1-7	GluB1-78	GluB1-79	GluB1-1316	GluB1-1415	GluB1-1718			
	21.5	6.2	27.9	21.4	4.4	2.0	15.5			
Glu-D1	GluD1-212	GluD1-312	GluD1-412	GluD1-510						
	34.1	8.2	4.5	53.2						
Glu-A3	GluA3-a	GluA3-b	GluA3-d	GluA3-ef						
	36.7	0.6	33.8	28.9						
Glu-B3	GluB3-a	GluB3-b	GluB3-bp	GluB3-c	GluB3-cp	GluB3-d	GluB3-f	GluB3-g	GluB3-i	GluB3-j
	2.3	11.0	5.0	11.5	3.8	1.8	8.9	53.6	0.6	1.6
Glu-D3	GluD3-a	GluD3-b	GluD3-c							
	3.4	8.7	88.0							

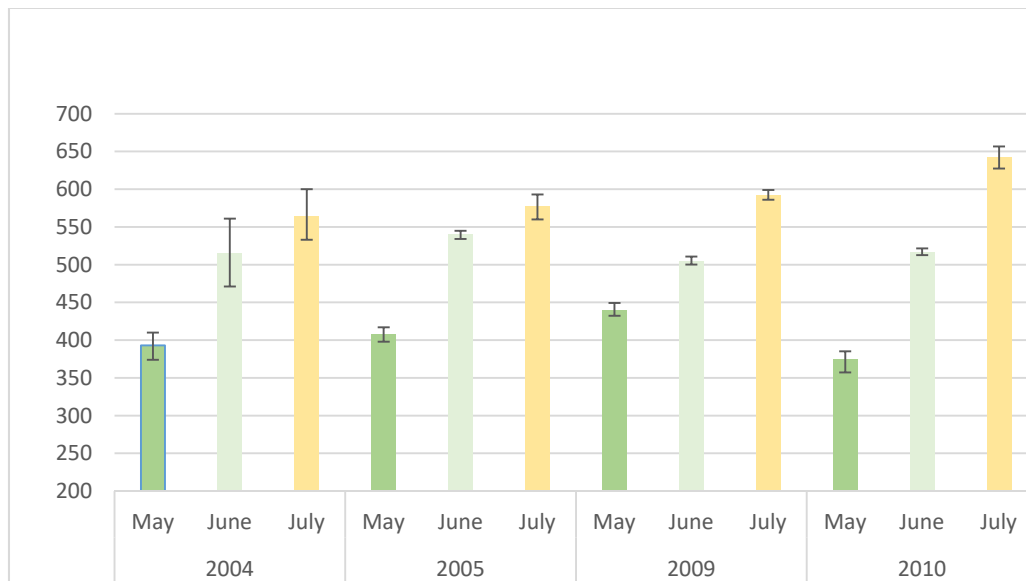


Figure S1. Mean, Min and Max of the sum of the cumulated daily temperature per month for May, June and July in the 3 experimental locations in 2004, 2 in 2005, 3 in 2009 and 3 in 2010.

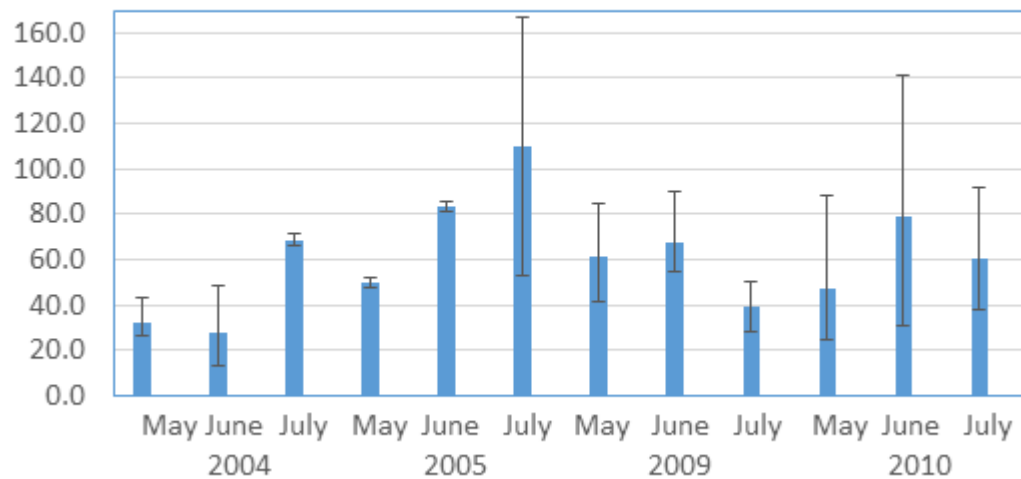
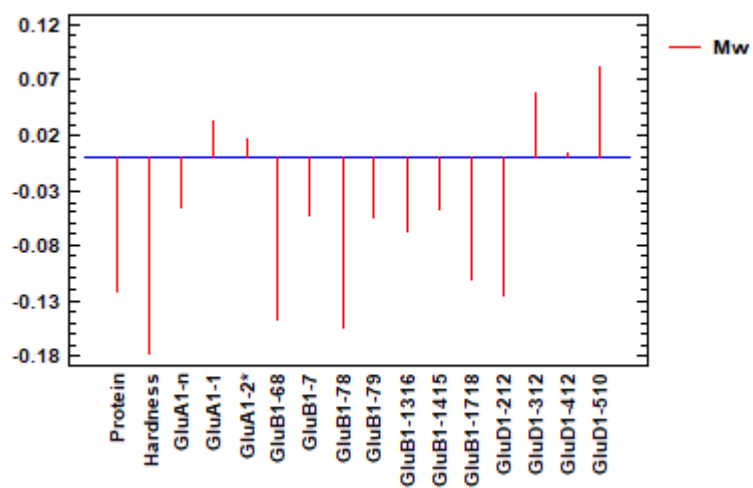
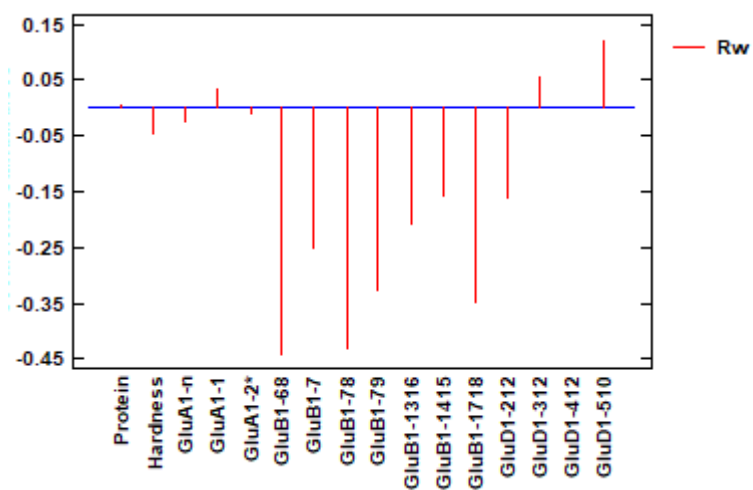


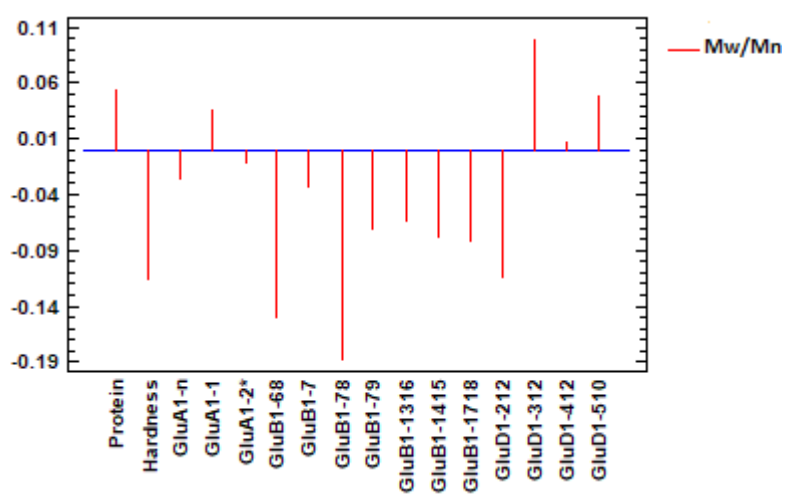
Figure S2. Mean, Min and Max of the sum of the cumulated water precipitations per month for May, June and July in the 3 experimental locations in 2004, 2 in 2005, 3 in 2009 and 3 in 2010.



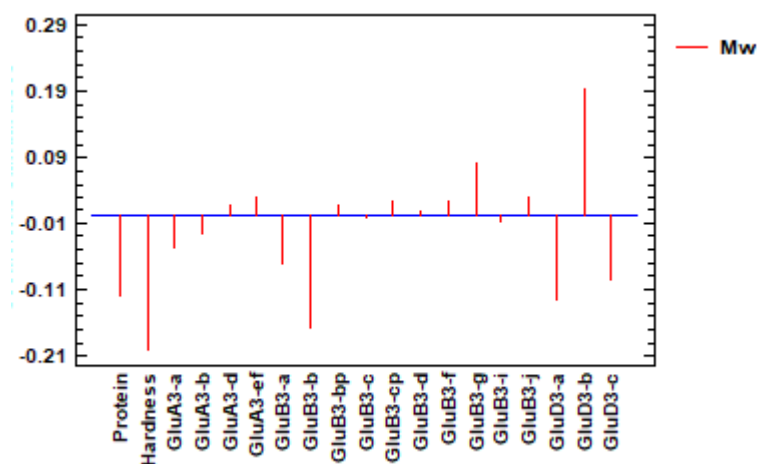
3a



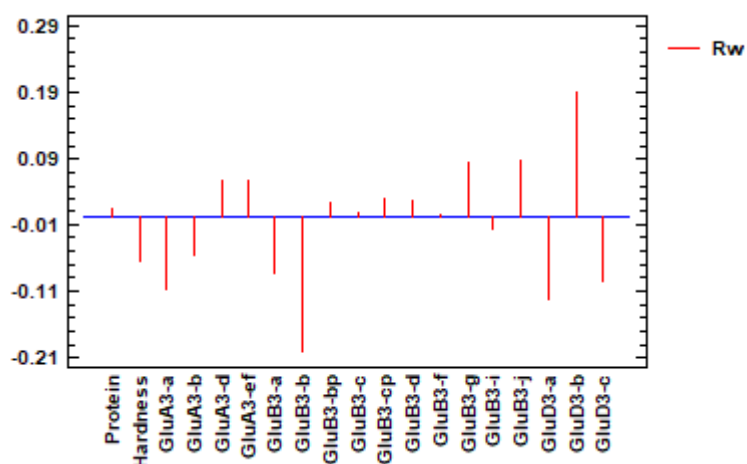
3b



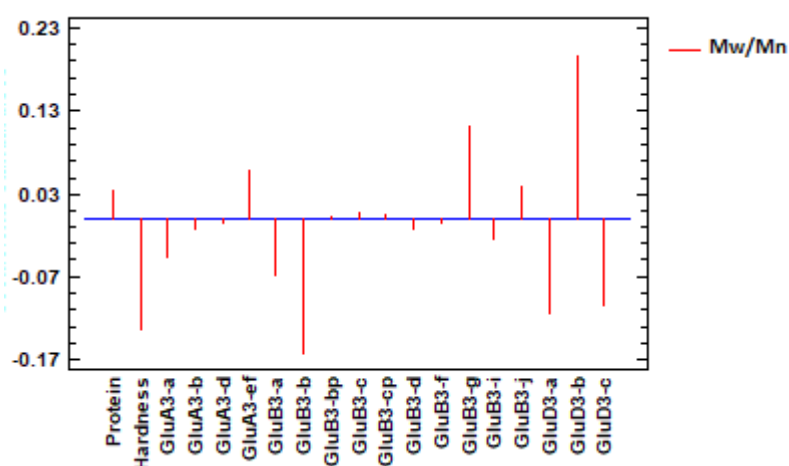
3c



3d



3e



3f

Figure S3. Standardized coefficients of the PLS regressions aimed to explain the Mw, Rw and PI= Mw/Mn characteristics of the polymers. The protein concentration of the grain PC (noted protein) and grain hardness GH (noted hardness) were explanatory variates first introduced in regression then alleles of HMW-GS (a–c, respectively) or alleles of LMW-GS (d–f, respectively).