

## Supplementary Table S2: Analyses of variance for genotype, experiment and condition factors, and their interactions

For each RIL set,  $-\log(p \text{ values})$  of main and interaction effects calculated by the analysis of variance (ANOVA) from the following model :

$$Y_{ijkl} \sim \mu + \alpha_i + \beta_j + \gamma_k + \delta_{ij} + \lambda_{jk} + \sigma_{ik} + \epsilon_{ijkl}$$

where

$Y_{ijkl}$ : phenotype;  $\mu$ : mean;  $\alpha_i$ : effect of the condition;  $\beta_j$ : effect of the experiment;  $\gamma_k$ : effect of the genotype;  $\delta_{ij}$ : effect of the interaction condition\*experiment;  $\lambda_{jk}$ : effect of the interaction experiment\*genotype;  $\sigma_{ik}$ : effect of the interaction condition\*genotype;  $\epsilon_{ijkl}$ : residuals

NS = Not Significant

RIL set	Phenotype	Condition	Experiment	Genotype	Condition * Experiment	Experiment * Genotype	Condition * Genotype
CvixCol	PRA29	726,57	26,33	526,59	75,81	51,37	16,87
CvixCol	Compactness29	57,54	212,95	378,58	50,64	13,01	NS
CvixCol	RER16-29	555,13	499,28	138,67	69,48	8,13	3,06
YoxCol	PRA29	450,11	27,20	185,91	20,90	47,28	3,30
YoxCol	Compactness29	12,03	96,39	151,05	25,42	NS	NS
YoxCol	RER16-29	482,02	355,28	84,52	8,39	6,57	NS
BlaxCol	PRA29	211,83	10,96	212,99	NS	184,35	9,44
BlaxCol	Compactness29	NS	4,27	183,33	NS	4,85	4,96
BlaxCol	RER16-29	161,24	47,86	112,12	NS	73,21	3,69
BurxCol	PRA29	402,90	14,73	168,74	7,37	4,92	11,24
BurxCol	Compactness29	34,46	8,21	91,88	NS	NS	NS
BurxCol	RER16-29	407,91	22,25	149,56	NS	11,60	13,24