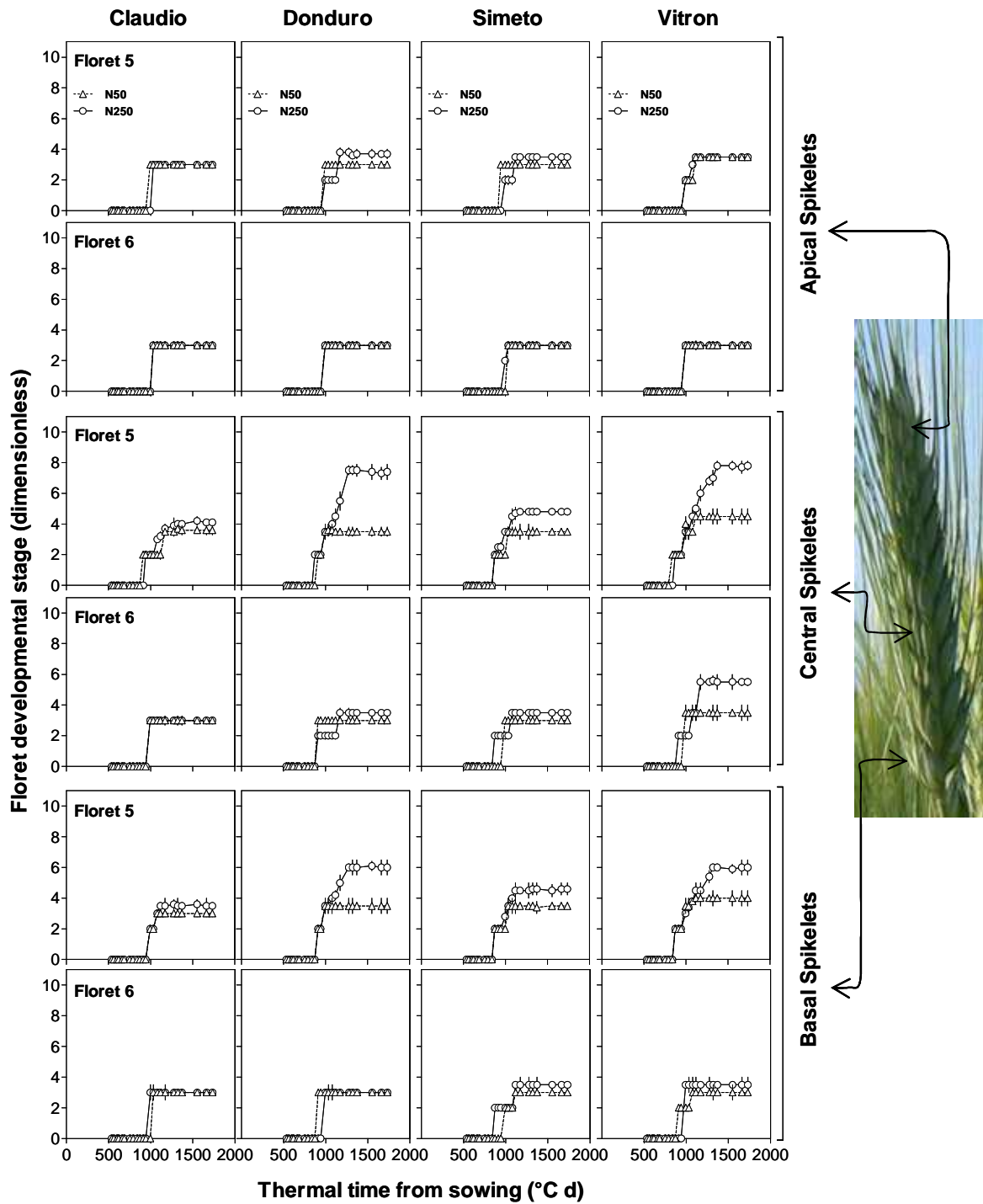
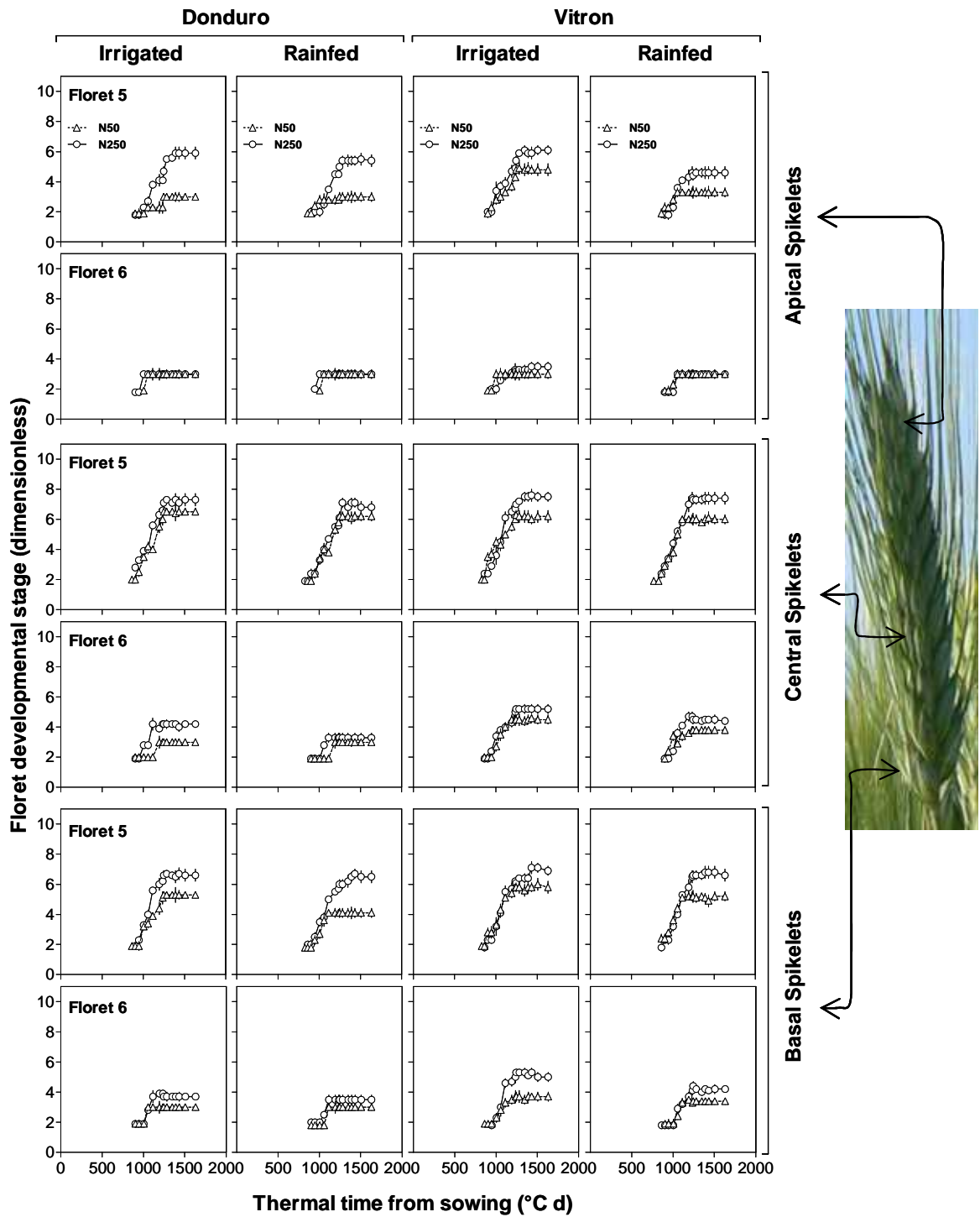


**Title:** Floret development and grain setting differences between modern durum wheats under contrasting nitrogen availability.

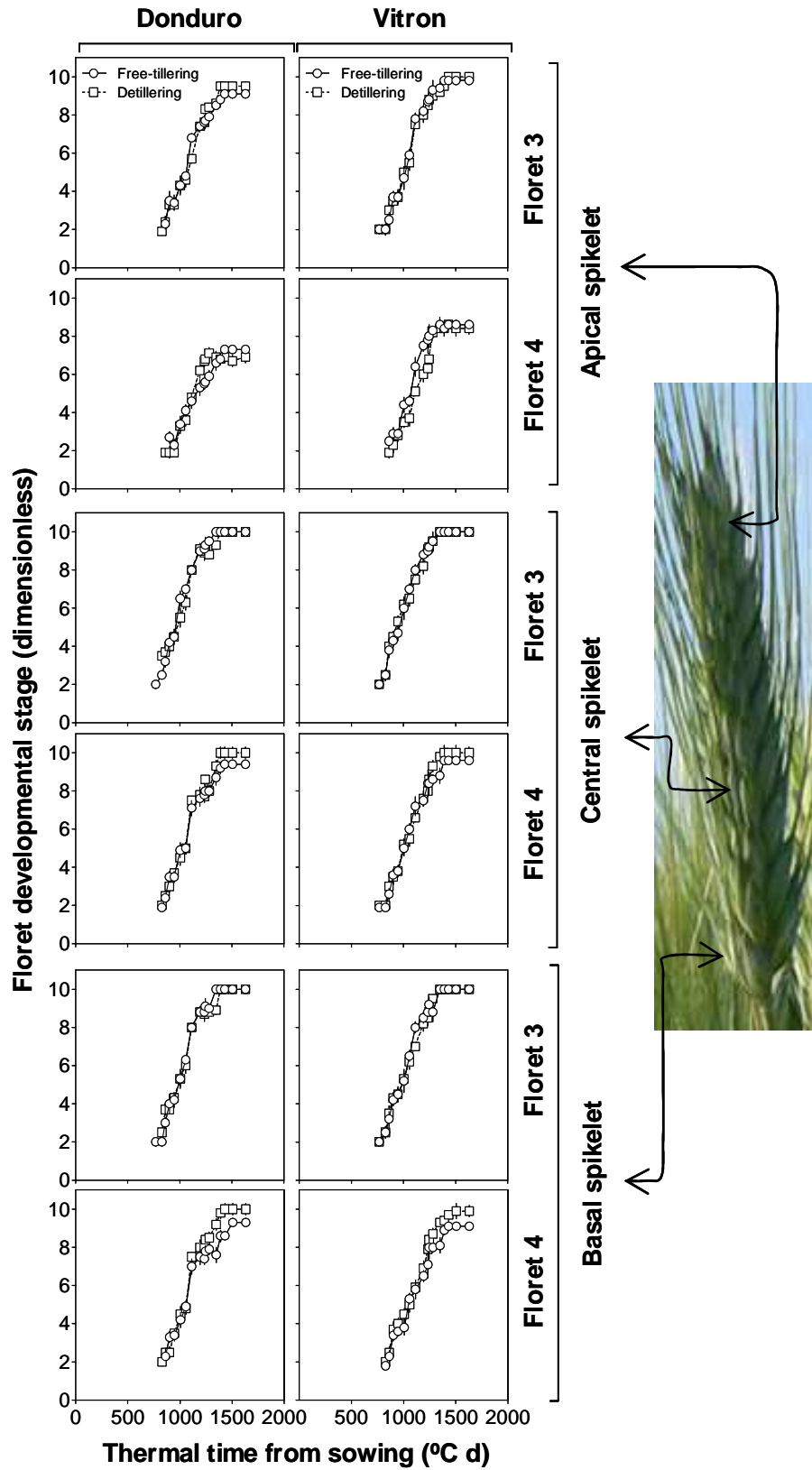
**Authors:** Ariel Ferrante, Roxana Savin, Gustavo A. Slafer



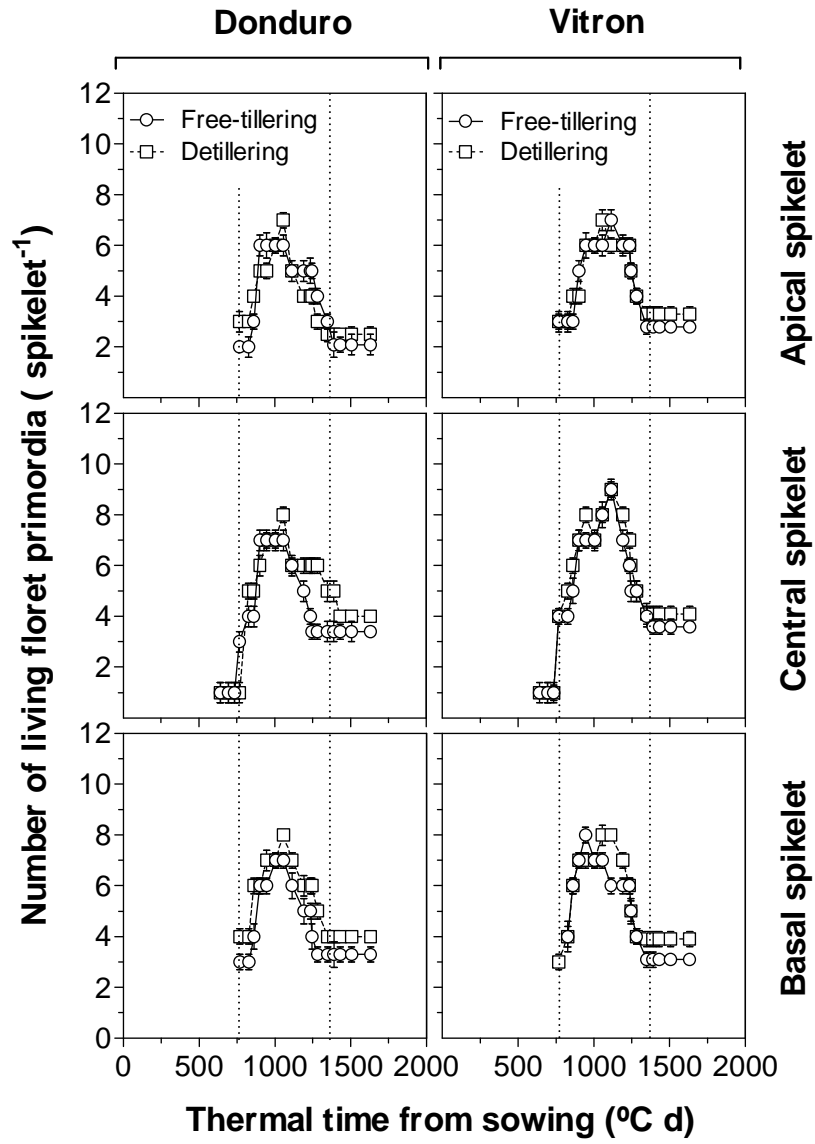
Supplementary Figure 1A at JXB online. Ferrante *et al.*



Supplementary Figure 1B at JXB online. Ferrante *et al.*



Supplementary Figure 2 at JXB online. Ferrante *et al.*



Supplementary Figure 3 at JXB online. Ferrante *et al.*

**Table S1.** Mean squares of the stage of development (Waddington et al., 1983) reached at anthesis of the crop by floret primordia (F1-F6) for the apical, central and basal spikelets analysed in both growing seasons (2008/09 and 2009/10).

Source of variation	df	Apical spikelets						Central spikelets						Basal spikelets					
		F1	F2	F3	F4	F5	F6	F1	F2	F3	F4	F5	F6	F1	F2	F3	F4	F5	F6
<b>2008-09</b>																			
Genotype (G)	3	- <sup>a</sup>	-	2.07***	1.60***	0.27***	-	-	-	0.31***	2.44***	6.87***	2.75***	-	-	0.99***	1.19***	3.64***	0.13***
Nitrogen (N)	1	-	-	11.80***	13.41***	0.54***	-	-	-	0.38***	15.06***	30.20***	3.38***	-	-	4.95***	46.23***	14.02***	0.38***
G x N	3	-	-	1.57***	1.27***	0.19***	-	-	-	0.31***	2.06***	3.75***	1.13***	-	-	0.86***	6.92***	3.61***	0.13***
Error	14	-	-	0.02	<0.01	<0.01	-	-	-	0.01	0.01	<0.01	<0.01	-	-	0.05	<0.01	<0.01	<0.01
<b>2009-10</b>																			
Genotype (G)	1	-	0.18***	0.92***	1.04***	0.84***	0.09***	-	-	0.00	0.96***	0.03NS	7.82***	-	-	<0.01***	1.04***	1.70***	3.76***
Nitrogen (N)	1	-	1.35***	2.47***	16.31***	22.62***	0.09***	-	-	0.24***	4.86***	6.62***	2.87***	-	-	2.34***	15.02***	16.34***	4.25***
Water (W)	1	-	0.18***	0.92***	3.53***	4.59***	0.09***	-	-	0.24***	0.54***	0.28***	1.98***	-	-	0.09***	0.11*	2.04***	0.77***
G x N	1	-	0.30***	0.35***	0.06***	2.73***	0.09***	-	-	0.00	0.06***	0.67***	<0.01NS	-	-	<0.01***	0.67***	0.38***	0.35***
G x W	1	-	0.18***	0.26***	1.04***	2.10***	0.09***	-	-	0.00	0.06***	0.06*	0.15***	-	-	0.18***	<0.01NS	0.02NS	0.40***
N x W	1	-	0.09***	0.35***	0.08***	0.09***	0.09***	-	-	0.24***	0.06***	<0.01NS	0.26***	-	-	0.09***	0.20**	0.96***	0.26***
G x N x W	1	-	0.09***	0.70***	1.93***	0.15***	0.09***	-	-	0.00	0.24***	<0.01NS	0.26***	-	-	0.18***	<0.01NS	0.17**	0.07***
Error	14	-	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	0.01	<0.01	-	-	<0.01	0.02	0.01	<0.01
<b>2009-10</b>																			
Genotype (G)	1	-	-	1.08***	2.61***	<0.01NS	8.33***	-	-	-	0.03***	0.00	1.40***	-	-	-	0.01NS	1.47***	3.31***
Detillering (D)	1	-	-	0.27***	0.16**	1.20***	0.08**	-	-	-	0.75***	0.12*	2.34***	-	-	-	2.08***	0.56***	3.52***
G x D	1	-	-	0.03***	0.40***	0.08**	0.01NS	-	-	-	0.03***	0.27*	0.44***	-	-	-	0.03NS	0.16***	0.37**
Error	6	-	-	<0.01	0.01	<0.01	<0.01	-	-	-	<0.01	0.01	<0.01	-	-	-	0.04	<0.01	0.02

The asterisks stand for the level of significance of the mean squares: \* P<0.05; \*\*P<0.01; \*\*\*P<0.001; NS not statistically significant.

<sup>a</sup> In all cases there was not variance in the stage of development reached by the florets. This was normally the case with (i) proximal florets (F1 always, F2 most of the times, F3 in central and basal spikelets in the detillering analysis) which ended up being fertile florets in all cultivars under any environmental conditions, and (ii) the most distal floret (F6) in apical spikelets of experiment 1 did virtually not develop much in any of the treatments.

**Supplementary Table 1 at JXB online. Ferrante et al.**

**Table S2.** Mean squares of grain number per spike, maximum number of living florets (MNLF), number of fertile florets (FF) and survival ratio (SR) for the apical, central and basal spikelets analysed in both growing seasons (2008/09 and 2009/10).

Source of variation	df	Apical spikelets			Central spikelets			Basal spikelets			Grains per spike
		MNLF	FF	SR (10 <sup>-2</sup> )	MNLF	FF	SR (10 <sup>-2</sup> )	MNLF	FF	SR (10 <sup>-2</sup> )	
<b>2008-09</b>											
Genotype (G)	3	0.47NS	0.61**	1.14*	1.93***	1.82***	1.46***	4.56***	1.11***	1.16***	31.6**
Nitrogen (N)	1	3.38**	4.17***	3.87**	9.37***	5.04***	1.62***	13.50***	8.17***	3.09***	2053.1***
G x N	3	0.60NS	0.61**	0.79**	1.93***	0.26NS	0.64**	0.72*	1.06***	1.03***	77.3***
Error	14	0.23	0.10	0.31	0.19	0.09	0.08	0.17	0.10	0.08	5.2
<b>2009-10</b>											
Genotype (G)	1	5.04*	0.02NS	1.14*	1.50**	3.01**	3.28*	0.67*	4.16**	5.79*	270.3**
Nitrogen (N)	1	2.04NS	3.30***	4.18**	0.16NS	3.76**	7.01**	0.17NS	3.37**	5.96*	1093.7***
Water (W)	1	0.37NS	1.55***	2.64*	2.67***	0.26NS	0.20NS	1.50**	0.67NS	0.02NS	85.4*
G x N	1	0.37NS	1.87***	2.84**	0.17NS	0.51NS	0.81NS	<0.00NS	0.37NS	0.97NS	1.3NS
G x W	1	0.37NS	0.09NS	<0.01NS	2.67***	0.01NS	1.06NS	0.67*	0.17NS	0.02NS	0.1NS
N x W	1	0.04NS	0.70**	1.50*	0.67*	1.76*	6.39**	0.17NS	2.04*	5.96*	2.4NS
G x N x W	1	0.04NS	0.77**	1.77*	0.67*	0.01NS	0.61NS	0.67*	0.04NS	0.97NS	12.0NS
Error	14	0.61	0.06	0.31	0.15	0.24	0.66	0.13	0.30	0.87	19.2
<b>2009-10</b>											
Genotype (G)	1	0.18NS	0.75**	0.98NS	10.08***	0.52**	0.72**	0.33NS	0.02NS	0.22NS	276.9*
Detillering (D)	1	1.02NS	4.08***	5.59**	0.75NS	1.40***	0.78**	0.33NS	2.17***	2.41***	335.5*
G x D	1	1.02NS	0.08NS	0.15NS	0.75NS	0.01NS	0.09NS	1.33**	0.01NS	0.65*	42.1NS
Error	6	0.37	0.35	0.19	0.19	0.22	0.04	0.08	0.01	0.06	27.0

The asterisks stand for the level of significance of the mean squares: \* P≤0.05; \*\*P≤0.01; \*\*\*P≤0.001; NS not statistically significant.

Supplementary Table 2 at JXB online. Ferrante *et al.*