

Supplementary Information

Table S1. Markers used in this study.

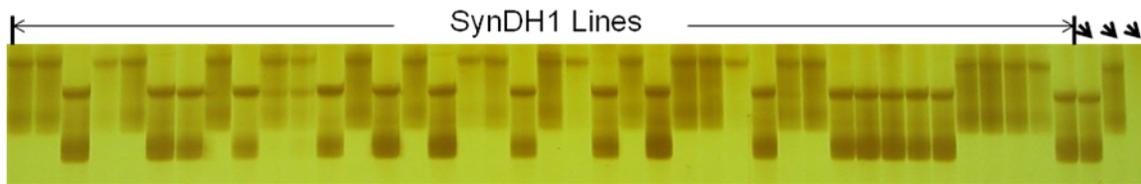
Markers scored in SynDH1 and SynDH2			Markers scored in SynDH3		
Marker	Chromosome	Repeat Motif	Marker	Chromosome	Repeat Motif
<i>Xwmc312</i>	1A	(GA)	<i>Xwmc36</i>	1D	(CA)(GT)
<i>Xbarc17</i>	1A	(TAA)	<i>Xgwm642</i>	1D	(GT)
<i>Xbarc148</i>	1A	(CT)	<i>Xwmc609</i>	1D	(GA)
<i>Xbarc287</i>	1A	(TTA)	<i>Xcfd15</i>	1D	(CT)(TGTA)
<i>Xgwm357</i>	1A	(GA)	<i>Xgwm337</i>	1D	(CT)(CACT)(CA)
<i>Xwmc83</i>	1A	(GT)	<i>Xgpw7109</i>	1D	(GT)
<i>Xbarc187</i>	1B	(CT)	<i>Xgpw357</i>	1D	(CA)
<i>Xbarc137</i>	1B	(CT)	<i>Xgpw7082</i>	1D	(TGT)
<i>Xbarc81</i>	1B	(ATG)	<i>Xgdm126</i>	1D	(CA)
<i>Xwmc406</i>	1B	(CA)	<i>Xcfd282</i>	1D	(TG)
<i>Xbarc302</i>	1B	(ATT)	<i>Xcfd61</i>	1D	(CACAA)(AC)
<i>Xgwm11</i>	1B	(TA)CATA(CA)(TA)	<i>Xcfd27</i>	1D	(CA)
<i>Xgwm273</i>	1B	(GA)	<i>Xbarc99</i>	1D	(TAG)(TAA)
<i>Xbarc61</i>	1B	(TAGA)	<i>Xcfd83</i>	1D	(TG)
<i>Xwmc128</i>	1B	(GT)	<i>Xcfd161</i>	2D	(G)(A)
<i>Xgwm153</i>	1B	(GA)	<i>Xgwm157</i>	2D	(CT)
<i>Xwmc420</i>	2A	(GT)	<i>Xgwm484</i>	2D	(CT)
<i>Xwmc522</i>	2A	(CT)(TC)	<i>Xgdm77</i>	2D	(GA)
<i>Xgwm526</i>	2A	(CT)	<i>Xgwm320</i>	2D	(GT)(GA)
<i>Xgwm265</i>	2A	(GT)	<i>Xgdm93</i>	2D	(GA)
<i>Xwmc658</i>	2A	(GA)	<i>Xgwm261</i>	2D	(CT)
<i>Xwmc317</i>	2B	(GT)	<i>Xgwm539</i>	2D	(GA)
<i>Xgwm120</i>	2B	(CT)(CA)	<i>Xwmc41</i>	2D	(GA)(GCC)
<i>Xwmc592</i>	2B	(GA)	<i>Xgwm382</i>	2D	(GA)
<i>Xbarc19</i>	3A	(TAA)	<i>Xcfd44</i>	2D	(CT)
<i>Xgwm376</i>	3B	(CA)(GA)	<i>Xcfd233</i>	2D	(GA)
<i>Xgwm493</i>	3B	CA	<i>Xcfd53</i>	2D	(CT)(CA)
<i>Xgwm389</i>	3B	(CT)(GT)	<i>Xgwm71</i>	3D	(GT)
<i>Xgwm284</i>	3B	(GA)	<i>Xcfd9</i>	3D	(TC)
<i>Xgwm181</i>	3B	(GA)	<i>Xgwm161</i>	3D	(CT)
<i>Xgwm285</i>	3B	(GA)	<i>Xcfd152</i>	3D	(TC)
<i>Xgpw7774</i>	3B	(AGC)	<i>Xgwm314</i>	3D	(CT)
<i>Xbarc139</i>	3B	(CA)	<i>Xgwm383</i>	3D	(GT)
<i>Xgpw1146</i>	3B	(CT)	<i>Xcfd35</i>	3D	(GT)(CT)
<i>Xgpw7148</i>	3B	(AG)	<i>Xgwm664</i>	3D	(GA)
<i>Xgwm299</i>	3B	(GA)(TAG)	<i>Xgdm72</i>	3D	(CT)
<i>Xgwm247</i>	3B	(GA)	<i>Xbarc323</i>	3D	(CT)
<i>Xgpw3134</i>	3B	(GA)	<i>Xwmc457</i>	4D	(CA)
<i>Xgpw3248</i>	3B	(AG)	<i>Xwmc331</i>	4D	(CA)(CT)
<i>Xwmc675</i>	3B	(GA)	<i>Xwmc720</i>	4D	(GA)
<i>Xgwm340</i>	3B	(GA)	<i>Xwmc473</i>	4D	(CA)
<i>Xwmc313</i>	4A	(CA)	<i>Xgdm61</i>	4D	(GT)

Table S1. Cont.

Markers scored in SynDH1 and SynDH2			Markers scored in SynDH3		
<i>Xwmc468</i>	4A	(CT)	<i>Xwmc285</i>	4D	(CA) (CA)
<i>Xgwm610</i>	4A	(GA)	<i>Xgdm34</i>	4D	(GA)
<i>Xgwm251</i>	4B	(CA)	<i>Xgwm192</i>	4D	(CT)
<i>Xgwm595</i>	5A	(GA)	<i>Xwmc443</i>	5D	(CT)
<i>Xbarc151</i>	5A/7A	(CT)	<i>Xgwm212</i>	5D	(CT)
<i>Xbarc142</i>	5B	(CT)	<i>Xgdm63</i>	5D	(CT)
<i>Xgwm499</i>	5B	(GA)	<i>Xgwm190</i>	5D	(CT)
<i>Xgwm544</i>	5B	(CT)(ATCT)(CT)	<i>Xcfd12</i>	5D	(CTT)
<i>Xwmc28</i>	5B	GT)	<i>Xcfd3</i>	5D	(CA)
<i>Xgwm67</i>	5B	(CA)	<i>Xwmc318</i>	5D	(GT)
<i>Xgwm604</i>	5B	(GA)	<i>Xgwm639</i>	5D	(GA)
<i>Xbarc232</i>	5B	(CT)	<i>Xbarc347</i>	5D	(CT)
<i>Xgwm234</i>	5B	(CT)(CA)	<i>Xcfd57</i>	5D	(GA)
<i>Xbarc59</i>	5B	(TAGA)	<i>Xwmc233</i>	5D	(CA)
<i>Xbarc4</i>	5B	(TTA)	<i>Xwmc357</i>	5D	(GA) (GT)
<i>Xgwm356</i>	6A	(GA)	<i>Xgwm325</i>	6D	(CT)
<i>Xbarc3</i>	6A	(CCT)	<i>Xgwm469</i>	6D	(CT)(CA)
<i>Xgwm570</i>	6A	(CT)(GT)	<i>Xwmc416</i>	6D	(CA)(CA)(CA)
<i>Xgwm550</i>	6A	(CT)(GT)	<i>Xgdm36</i>	6D	(GT)
<i>Xwmc553</i>	6A	(CA)	<i>Xcfd42</i>	6D	(GA)
<i>Xgwm133</i>	6B	(CT)	<i>Xcfd49</i>	6D	(GA)
<i>Xwmc398</i>	6B	(GT)	<i>Xbarc173</i>	6D	(ATT)(TAG)(CAA)
<i>Xbarc178</i>	6B	(ATT)	<i>Xbarc96</i>	6D	(TAA)
<i>Xwmc494</i>	6B	(GT)	<i>Xcfd33</i>	6D	(CA)
<i>Xwmc537</i>	6B	(CA) (CT)	<i>Xgdm99</i>	7D	(GA)
<i>Xbarc79</i>	6B	(TAGA)(TC)	<i>Xgwm111</i>	7D	(CT)(GT)
<i>Xwmc487</i>	6B	(CA)	<i>Xgwm428</i>	7D	(GA)
<i>Xgwm626</i>	6B	(CT)(GT)	<i>Xwmc94</i>	7D	(GT)
<i>Xgpw1079</i>	6B	(GT)	<i>Xwmc438</i>	7D	(CA)(CA)
<i>Xgpw3153</i>	6B	(AC)	<i>Xgdm86</i>	7D	(CT)
<i>Xbarc127</i>	7A	(CT)	<i>Xwmc824</i>	7D	(GA)
<i>Xgwm130</i>	7A	(GT)	<i>Xcfd14</i>	7D	(TC)
<i>Xgwm276</i>	7A	(CT)	<i>Xwmc506</i>	7D	(GA) (GA)
<i>Xwmc346</i>	7A	(GA) (GT)	<i>Xcfd31</i>	7D	(GA)
<i>Xcfa2257</i>	7A	(TG)	<i>Xpsp3123</i>	7D	(TC)
<i>Xbarc72</i>	7B	(CT)(TCTA)(TC)	<i>Xbarc172</i>	7D	(ATT)
<i>Xwmc76</i>	7B	(GT)	<i>Xcfd68</i>	7D	(GT)
<i>Xwmc364</i>	7B	(CA)	-	-	-
<i>Xgwm333</i>	7B	(GA)	-	-	-

Of the 160 markers, 148 were mapped using the SynDH populations used in this study. The mapped locations of the remaining 12 markers (highlighted as red) were determined on the basis of information from GrainGenes (<http://wheat.pw.usda.gov/cgi-bin/graingenes/browse.cgi?class=marker>). The 12 markers highlighted as yellow were used in both SynDH1 and SynDH2 populations. The repeat motifs highlighted as blue were obtained in this study by SSR sequencing.

Figure S1. SSR amplification patterns of marker *Xbarc137* in some SynDH1 lines.



SSR amplification patterns of marker *Xbarc137* in some SynDH1 lines. The arrows show the three parents AS313, Langdon and AS60 from left to right, respectively.

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