

Supplementary Table S1. Crop growth and development stages according to the Zadoks scale.

Primary growth stages	Name of the secondary stages
0 - Germination	00 - Dry seed 01 - Start of water absorption 03 - Seed fully swollen 05 - First root emerged from seed 07 - Coleoptile emerged from seed 09 - First green leaf just at tip of coleoptile
1 - Seedling growth	0 - First leaf through coleoptile 11 - First leaf emerged 12 - Two leaves emerged 13 - Three leaves emerged 14 - Four leaves emerged 15 - Five leaves emerged 16 - Six leaves emerged 17 - Seven leaves emerged 18 - Eight leaves emerged 19 - Nine or more leaves emerged
2 - Tillering	20 - Main stem only 21 - Main stem and one tiller 22 - Main stem and two tillers 23 - Main stem and three tillers 24 - Main stem and four tillers 25 - Main stem and five tillers 26 - Main stem and six tillers 27 - Main stem and seven tillers 28 - Main stem and eight tillers 29 - Main stem and nine or more tillers
3 - Stem elongation	30 - Pseudostem (youngest leaf sheath erection) 31 - First node detectable 32 - Second node detectable 33 - Third node detectable 34 - Fourth node detectable 35 - Fifth node detectable 36 - Sixth node detectable 37 - Flag leaf just visible 39 - Flag leaf ligule just visible
4 - Booting	41 - Flag leaf sheath extending 43 - Boots just visible swollen 45 - Boots swollen 47 - Flag leaf sheath opening 49 - First awns visible
5 - Ear emergence from boot	51 - Tip of ear just visible 53 - Ear quarter emerged 55 - Ear half emerged 57 - Ear three quarters emerged

	59 - Ear emergence complete
6 - Anthesis	61 - Beginning of anthesis (few anthers at middle of ear)
	65 - Anthesis half-way (anthers occurring half way to tip and base of ear)
	69 - Anthesis complet
7 - Milk development	71 - Kernel water ripe
	73 - Early milk
	75 - Medium milk
	77 - Late milk
8 - Dough development	83 - Early dough
	85 - Soft dough
	87 - Hard dough
9 - Ripening	91 - Grain hard, difficult to divide
	92 - Grain hard, not dented by thumbnail
	93 - Grain loosening in daytime
	94 - Over-ripe straw dead and collapsing
	95 - Seed dormant
	96 - Viable seed giving 50% germination
	97 - Seed not dormant
	98 - Secondary dormancy induced
	99 - Secondary dormancy lost