

Cereal Sampling & Growth Stages

Timing: Sample 7-10 days prior to intended fertiliser applications, e.g. at tillering (21-29), stem elongation (30-34), and/or booting stages (37-49)

Sample volume: 50 –100 plants, with roots removed

Sampling: Select whole plants from a 1-2 ha representative area of the crop. Retain the entire top of the plant before tillering, or 10cm of the basal plant part; remove all roots prior to postage to avoid soil contaminating the sample. Return to the same area for subsequent samples.

Growth Stage	Description	Comments
11-18		<i>Leaves on Main Shoot</i>
	Number of leaves visible	1st leaf more than half visible
		8 or more leaves visible
21-29		<i>Tillering</i>
	Number of tillers and main shoot	Main shoot and 1 tiller
		Main shoot and 5 tillers
		Main shoot and 9 or more tillers
30-34		<i>Stem elongation</i>
	Number of detectable nodes	Stem starts to elongate
		1st node detectable
		4th node detectable
37-49		<i>Booting stage</i>
	Flag leaf visible to First awns visible	Flag leaf visible
		Flag leaf collar just visible
		Mid boot
		First awns visible
50-60		<i>Heading stage</i>
		First spike just visible
		Full heading but not flowering
62-68		<i>Flowering</i>
	No of spikes flowering	20% of spikes flowering
		80% of spikes flowering
70-71		<i>Kernel extending</i>
73-77		<i>Milk development</i>
		Early milk, liquid off-white
		Late milk, increase in solids
83-87		<i>Dough development and ripening</i>

Growth Stage numbering system is in accordance to the extended BBCH, a uniform coding of phenologically similar growth stages for all plant species

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Ph: 03-6420 9600, Fax 03-6427 0230, info@agvita.com.au, www.agvita.com.au