

## Sun Flower Sampling & Growth Stages

**Timing:** Commence sampling at stage 1.4 or 1.6 and continue every 2-3 weeks until full flowering (6.5) or as required monitoring a specific nutrition program (e.g. 1-2 weeks after application)

**Sample volume:** 1 petiole each from 30-40 plants

**Sampling:** Sample from a representative area of the crop (e.g. 1-3ha in size). Walk in a transect W or S pattern over the sampling area and return to the same area for subsequent nutrition monitoring (plant or soil tests). Collect the youngest fully expanded leaf (YFEL), usually the 4<sup>th</sup> or 5<sup>th</sup> leaf from the top from individual, representative plants. Discard the leaf blades and retain petioles for testing

Primary Stage	Secondary Stage	Description	Comments
<b>1</b>			<b><i>Leaf Development</i></b>
	<b>1.2</b>	<b>Vegetative</b>	2 leaves (1 <sup>st</sup> pair) unfolded
	<b>1.6</b>		6 leaves (3rd pair) unfolded
	<b>1.8</b>		8 leaves (4th pair) unfolded
<b>5</b>			<b><i>Inflorescence Emergence</i></b>
	<b>5.1</b>	<b>Budding</b>	Inflorescence just visible
	<b>5.5</b>		Inflorescence separated from youngest foliage leaf
	<b>5.9</b>		Ray florets visible; inflorescence still closed
<b>6</b>			<b><i>Flowering</i></b>
	<b>6.1</b>	<b>Flowering</b>	Beginning of flowering: ray florets extended, disc florets visible in outer third of inflorescence
	<b>6.5</b>		Full flowering: disc florets in middle third of inflorescence in bloom
	<b>6.9</b>		End of flowering: most disc florets have finished flowering, ray florets dry or fallen off
<b>7</b>			<b><i>Development of Seed</i></b>
	<b>7.1</b>	<b>Seed growth</b>	Seeds on outer edge are grey and have reached final size
	<b>7.5</b>		Seeds in middle third are grey and have reached final size
<b>8</b>			<b><i>Maturing of Seed</i></b>
	<b>8.1</b>	<b>Seed ripening</b>	Seeds on outer third or anthocarp dark and hard. Back still green
	<b>8.5</b>		Seeds in middle third dark and hard. Seeds about 60% dry matter
	<b>8.9</b>		Fully ripe: Seeds on inner third of anthocarp dark and hard. Back of anthocarp brown. Seed about 85% dry matter
<b>9</b>			<b><i>Plant Senescence</i></b>
	<b>9.2</b>	<b>Harvest</b>	Seeds about 90% dry matter
	<b>9.9</b>		Harvest

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

© 2008 AgVita Analytical Pty Ltd., PO Box 188, Devonport TAS 7310  
Ph: 03-6420 9600, Fax 03-6427 0230, info@agvita.com.au, www.agvita.com.au