

## Almond Sampling & Growth Stages

**Timing:** Begin sampling at or just before stage 7.2 (shuck fall). A Second sample should be taken at stone hardening (7.5-7.9). Nutrition should be monitored throughout nut development by taking two to three samples at equal intervals apart. A Final sample should be taken at harvest.

**Sample volume:** 80 shoot tips.

**Sampling:** Collect 10 cm of new shoot tips from current season's growth at mid crown height (or shoulder height for large trees); sample from the same trees for subsequent sampling.

**Fruit Sampling:** 40 young almonds are selected from around the whole tree (representative trees) at a growth stage between 7.3 (fruit 30% size) and 7.6. The number of nuts should remain the same throughout the sampling period. It is recommended to sample nuts at the same time as shoots.

Primary stage	Secondary stage	Description	Comments
5		<b><i>Inflorescence emergence</i></b>	
	5.1		Inflorescence buds swelling: buds closed, light brown scales visible.
	5.3		Bud burst: scales separated, light green bud sections visible.
	5.4		Inflorescence, enclosed by light green scales, (not all cultivars).
	5.7		Sepals open: petal tips visible, single flowers with white or pink petals (closed).
	5.9		Most flowers with petals forming a hollow ball (popcorn).
6		<b><i>Flowering, concurrent with leaf and shoot development</i></b>	
	6.1		Beginning of flowering: 10% of flowers open.
	6.5		Full flowering: 50% of flowers open, first petals falling.
	6.7		Flowers fading: majority of petals fallen, ovary growing. First leaves unfolded, axis of developing shoot visible.
7		<b><i>Fruit development</i></b>	
	7.2	<b>Shuck fall</b>	All petals fallen, end of flowering, First leaves fully expanded, shoots > 10cm long
	7.5		Fruit about half final size.
	7.7	<b>Stone hardening</b>	Fruit about 70% of final size. Stone may become hard (cannot be easily cut).
	7.9		Fruit about 90% of final size. Stone becomes hard (cannot be easily cut).
8		<b><i>Maturing of fruit</i></b>	
	8.1		Fruit at full size, beginning of fruit coloring.
	8.5	<b>Harvest</b>	Coloring advanced.
	8.9		Fruit ripe for harvest.
9		<b><i>Beginning of dormancy</i></b>	
	9.1		Shoot growth completed: foliage still fully green.
	9.3		Beginning of leaf fall.
	9.9		All leaves fallen.

*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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