

## Citrus Fruit Sampling & Growth Stages

**Timing:** Begin sampling at pre bloom, take a second sample at flowering. Take four samples at equal distance apart during the fruit growth stage. Take a final sample at harvest.

**Sample volume:** 20 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:** 20 Fruitlets are selected from around the whole tree at stage 7.1 to stage 8.7 (harvest) from representative trees. The sample number should remain the same throughout the sampling period. Sampling should occur at the same time as shoot sampling.

Primary Stage	Secondary Stage	Description	Comments
3		<i>Shoot development</i>	
	3.1		Beginning of shoot growth: axes of developing shoots visible.
	3.5		Shoots about 50% of final length.
5		<i>Inflorescence emergence</i>	
	5.1	Pre-bloom	Buds swelling: buds closed, light green scales visible.
	5.3		Bud burst: Scales separated floral tips visible.
	5.6		Flower petals elongating; sepals covering half corolla (white buds).
	5.9		Most flowers with petals forming a hollow ball.
6		<i>Flowering</i>	
	6.1		Beginning of flowering: about 10% of flowers open.
	6.5		Full flowering: 50% of flowers open; first petals falling.
	6.9		End of flowering: all petals have fallen.
7		<i>Development of fruit</i>	
	7.1	Fruit set	Beginning of ovary growth; beginning of fruitlets abscission.
	7.3		Some fruit slightly yellow: beginning of physiological fruit drop.
	7.4		Fruit about 40% of final size. Dark green fruit: end of physiological fruit drop.
	7.9		Fruit about 90% of final size.
8		<i>Maturity of fruit</i>	
	8.1	Color break	Beginning of fruit coloring
	8.3		Fruit ripe for picking; fruit has not yet developed variety-specific color.
	8.5		Advanced ripening; increase in intensity of variety-specific color.
	8.9		Fruit ripe for consumption; fruit has typical taste and firmness

*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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