

3D Plant Scanning with the Phenospex PlantEye: Dos and Don'ts

Experimental Set-Up

Dos	Don'ts
Consult us early to assess whether 3D scanning is suitable for your experiment	Pot your plants before discussing the experiment with us
Use a robust experimental design (we can provide you with one if needed)	Run a 3D phenotyping experiment without accounting for environmental effects
Include ≥ 5 biological replicates per genotype/treatment combination	Use only 3 biological replicates
Use identical pots in your experiment	Mix-and match different pot types
Fill all pots to a consistent soil level (ideally near the top)	Use inconsistent soil levels or plant deeply in the pot
Provide expected plant size (height and width)	Withhold information about expected size

Data acquisition

Ensure only the target plant is present	Submit pots overgrown with weeds or additional plants
Plan scan frequency upfront (≥ 6 time points recommended for growth analysis)	Take fewer than 6 scans to calculate growth rates
Be on time for scheduled scans or notify us early to reschedule	Arrive late without notice
Keep plants upright (if needed by staking)	Allow plants to wilt or lean off center
Keep treatments consistent across time points (no mid-experiment changes)	Prune or alter your plants during an experiment

Quality Control

Inspect point clouds before analysis (E.g. in CloudCompare)	Proceed with analysis before checking data quality
Check for obvious issues (e.g. missing time points)	Assume all scans are correct because they were processed
Flag issues early and contact us immediately	Wait until analysis to raise data issues

High-quality 3D data depends on good setup, careful acquisition, and early quality checks.