

# Increasing Concentrations of *Arthrospira maxima* Sonicated Biomass Yields Enhanced Growth in Basil (*Ocimum basilicum*, Lamiaceae) Seedlings

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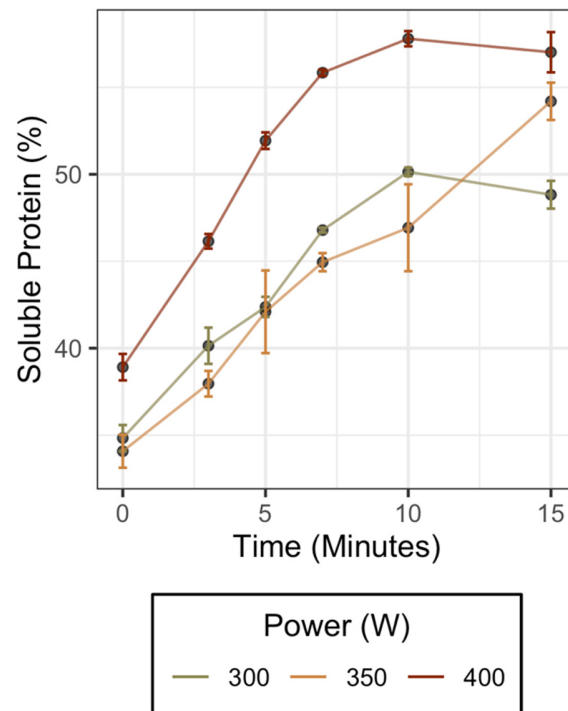
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## Supplemental Material 1

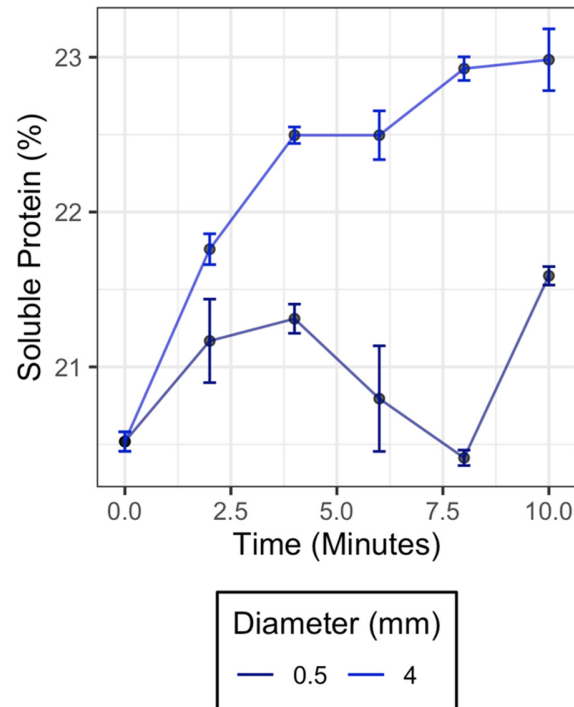
Three mechanical lysis methods were tested: ultrasonication, freezing, and glass beads. For the ultrasonication assay, three power settings (300, 350, 400 W) were tested on 18 samples (Figure 2). For the glass beads assay, two diameters (0.5 and 4 mm) were compared on 18 samples each (Figure 3). For the freezing assay, two drying treatments were compared on 20 samples each, shade dried vs. sun dried (Figure 4). Efficiency of cell lysis was determined through measurement of soluble protein using Lowry protein assay [51]. Optimal conditions of each assay are compared in Table 1.

**Table S1.** Summary of results of cell rupture methods.

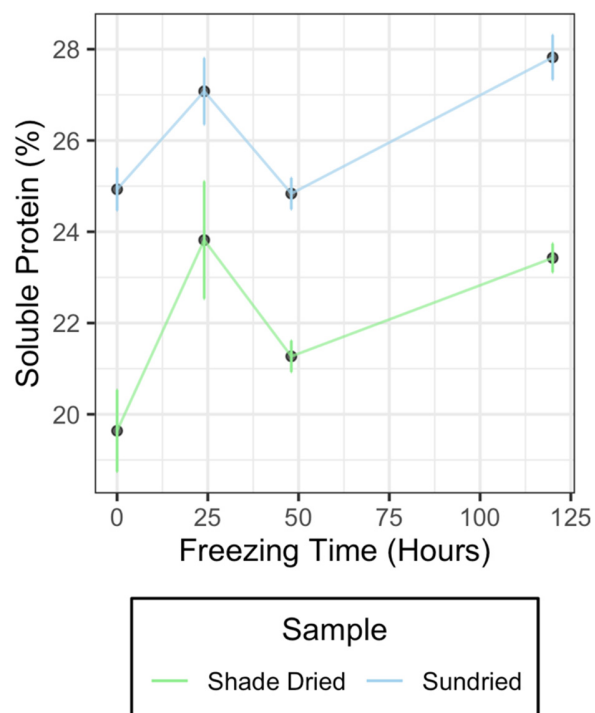
Cell Lysis Method	Optimal Conditions	Maximum Soluble Protein (%)	Increase in soluble protein (%)
Ultrasound	15 minutes, 400 W	57.02 ± 1.16	22.19
Freezing	120 hours	27.82 ± 0.49	13.04
Glass Beads	10 minutes, 4mm diameter	22.98 ± 0.20	2.46



**Figure S1.** Effect on soluble protein content: Ultrasound lysis at different powers and operation times



**Figure S2.** Effect on soluble protein content: Glass beads lysis at different bead's diameters and operation times



**Figure S3.** Effect on soluble protein content: Freezing lysis at different operation times for shade-dried and sun-dried biomass

## REFERENCES

51. Lowry, O.H.; Rosebrough, N.J.; Farr, A.L.; Randall, R.J. Protein Measurement with the Folin Phenol Reagent. *J Biol Chem* **1951**, *193*, 265–275, doi:10.1016/s0021-9258(19)52451-6.