

Crop data from NASA Veggie and Advanced Plant Habitat research

Published values as reported. Each panel is a separate experiment; values are not comparable across panels.

Mizuna mustard • VEG-04A • Veggie on ISS

Total fresh edible biomass per treatment, single harvest. Cabin CO₂ ~2009 μmol mol⁻¹ (day mean); ground chamber at KSC, ground CO₂ ~2139 μmol mol⁻¹ (day mean). Absolute PPFD and photoperiod not reported. Totals reflect plant survival; no statistics were run on totals. Per surviving plant, the paper found no significant light or location effect (P > 0.05).

293	97	141	121	35
g	g	g	g	days after initiation (DAI)
Total fresh edible biomass, red-rich 90%R:10%B, n = 5 plants, flight	Total fresh edible biomass, blue-rich 50%R:50%B, n = 3 plants, flight	Total fresh edible biomass, red-rich, n = 3 plants, ground control	Total fresh edible biomass, blue-rich, n = 3 plants, ground control	VEG-04A duration to single harvest

Source: Bunchek JM, Hummerick ME, Spencer LE, Romeyn MW, Young M, Morrow RC, Mitchell CA, Douglas GL, Wheeler RM, Massa GD. 2024. J. Plant Interactions 19(1):2292220. doi:10.1080/17429145.2023.2292220 (NTRS 20240000823)

Lettuce • VEG-01A/01B/03A • Veggie

'Outredgeous' red romaine; 12R:3B:1G; 16 h light / 8 h dark

~200	33
PPFD (400-700 nm), μmol m ⁻² s ⁻¹	days
At pillow surface, center of Veggie; baseplate 30.5-31.75 cm below LEDs (not canopy)	VEG-01B growth duration

Source: Khodadad CLM, Hummerick ME, Spencer LE, et al. 2020. Front. Plant Sci. 11:199. doi:10.3389/fpls.2020.00199 (Table 1, Table S1)

Chile pepper • PH-04 • APH on ISS

'NuMex Española Improved'; 16 h light / 8 h dark; 27%R/33%G/40%B

300	137
photon flux density, μmol m ⁻² s ⁻¹ (paper's term: PPF; waveband not stated)	days
Avg. at each of 3 preset heights above science-carrier surface (2.54, 15.2, 35.6 cm)	PH-04 total duration; harvests at 109 and 137 days

Source: Khodadad CLM, Dixit AR, Hummerick ME, et al. 2026. Sci. Rep. 16:12863. doi:10.1038/s41598-025-20440-9

Radish • PH-02 • APH on ISS

'Cherry Belle'; light/environment not reported

19 harvested / 9 eaten

radishes (count)
Count, not mass

Source: Massa G, Romeyn M, Spencer L, Johnson C, Poulet L, Wheeler R. 2021. NCERA-101 Station Report from Kennedy Space Center. NTRS 20210024230

GROUND STUDY, NOT FLIGHT • 'Extra Dwarf' pak choi

Supplemental far-red (FR, 700-800 nm) study. 16 h; 3000 ppm CO₂; 23 °C; 50% RH; n = 6 plants per cycle × 3 cycles. Shoot fresh mass at 28 days after planting (DAP).

74.68	80.71
g plant ⁻¹	g plant ⁻¹
Average shoot fresh mass per plant, 28 DAP, ground only, control (no added FR). PPFD (400-700 nm, canopy average) 319.6 ± 17.1 μmol m ⁻² s ⁻¹ ; FR band (700-800 nm) 7.6 μmol m ⁻² s ⁻¹	Average shoot fresh mass per plant, 28 DAP, ground only, +FR treatment. PPFD (400-700 nm, canopy average) 319.1 ± 20.5 μmol m ⁻² s ⁻¹ ; FR band (700-800 nm) 23.4 μmol m ⁻² s ⁻¹ . Not significantly different from 74.68 (α = 0.05)

Source: Spencer LE, Romeyn MW, Wheeler RM, Massa G, Mickens MA. 2020. Effects of Supplemental Far-Red Light on Leafy Green Crops for Space. ICES-2020-380. NTRS 20205004376 (Table 2)