Supplemental Materials and Methods

Plant material

The phyA-201 phyB-1 cry1-1 cry2-1, phyA-201 cry1-1 cry2-1, phyB-1 cry1-1 cry2 (fha-1) and cry1-1 cry2-1 mutants of Arabidopsis thaliana, accession Landsberg erecta, used in this study (Figure 3) have been described elsewhere (Mazzella et al., 2001; Yanovsky et al., 2000).

Growth conditions

Arabidopsis thaliana seeds were surface-sterilized utilizing vapour-phase with a 2:1 solution of commercial Sodium Hypochlorite (5.5 %) and HCl (1M), and then sown under a laminar flow hood in clear plastic boxes (4 X 3.5 cm, previously sterilized with UV), containing 5 mL of 0.8% agar plus 1X Murashige and Skoog salts. The boxes were incubated at 4 °C for 5 days to break seed dormancy, and then incubated at 22 °C under 100 µmol m⁻² s⁻¹ of white light (fluorescent tubes Philips TLD 15W/54) for 3 days to induce seed germination and subsequent seedling de-etiolation. Finally the boxes were transferred to a glasshouse at the experimental field of the Faculty of Agronomy, University of Buenos Aires, Argentina (34° 35’ S, 58° 29’ W) under canopies of Lolium multiflorum of different densities. A control not exposed to shade (i.e. exposed to sunlight not filtered by the canopy) and a dark control (exposed to 15 min far-red light and wrapped in black plastic and aluminium foil, and plotted at red / far-red ratio= 0) were also grown in the glasshouse.
Hypocotyl length

The length of the hypocotyl was measured with a ruler after 4 days of shade treatment. The ten tallest seedlings of each genotype and box were used for the analysis.

Light measurements

An R/FR SKR 110 sensor (Skye Instruments Ltd) was used to measure the red / far-red quantum-flux ratio, red and far-red irradiance and the photosynthetically-active radiation experienced by the seedlings at midday. The cosine-corrected probe of the sensor was placed at the same position where the seedlings were grown.

References
