



Figure 45: Coteyldon growth stage of Coriander *in-situ* (commercial control, (a)) and layout of peat-free based treatments on flood benches at trial start (b). Coloured lollipop sticks allowed for easier identification of trial as it moved through the facility.

### 6.3.2 Crop growth

Crop growth (see Figure 46) was strongest in the Commercial Control (Peat), a strongly significant ( $p < 0.05$ ) difference in height compared to the Peat-Free control is evident. At 28days growth the commercial control grew to a mean of 21.33cm, an increase 6.52cm against the Peat-Free control (see Table 20 for detailed results). The best performing Peat-Free treatment was the Fertilizer + AMF treatment, and was significantly ( $p < 0.05$ ) improved in growth rate compared to that of the Peat-Free control (19.41cm and 14.81cm, respectively). The Fertilizer and AMF amended Peat-Free pots performed at a similar rate to the Peat-Free control, with the fertilizer amendment performing better than both the control and AMF treated pots at each assessment date. This was only statistically significant in the early and middle growth stages of the trial.

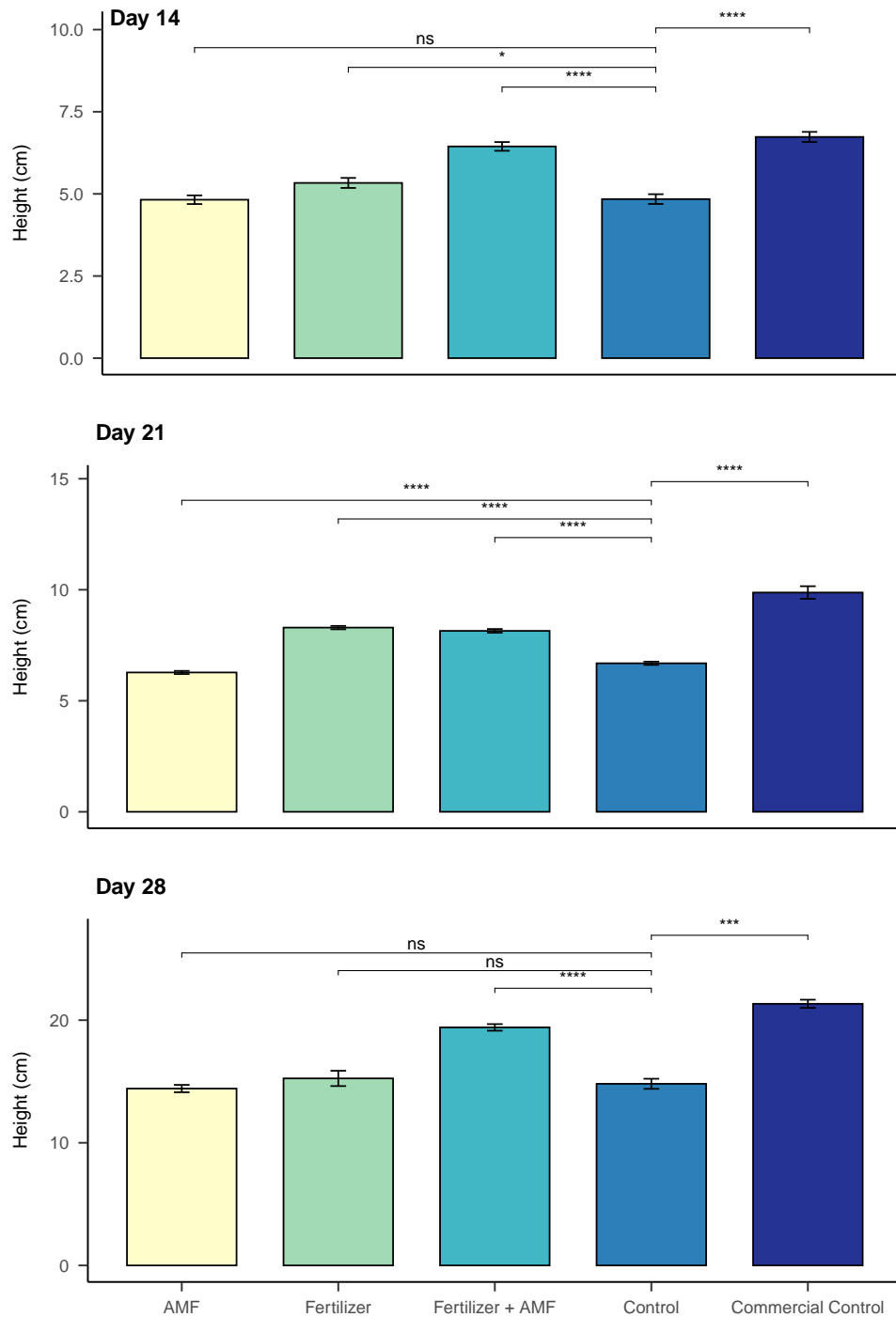


Figure 46: The mean heights of each treatment at 14, 21 and 28 days growth. Means compared to Peat-Free control treatment (*ns* = not significant). The commercial control (Peat) performs best in regards to crop height, with higher levels of crop growth compared to the Peat-Free control and all other treatments at each assessment interval. However, the next best performing treatment is that of Fertilizer + AMF. This treatment achieved a mean height of 19.41cm against the peat commercial control at a mean of 21.33cm.

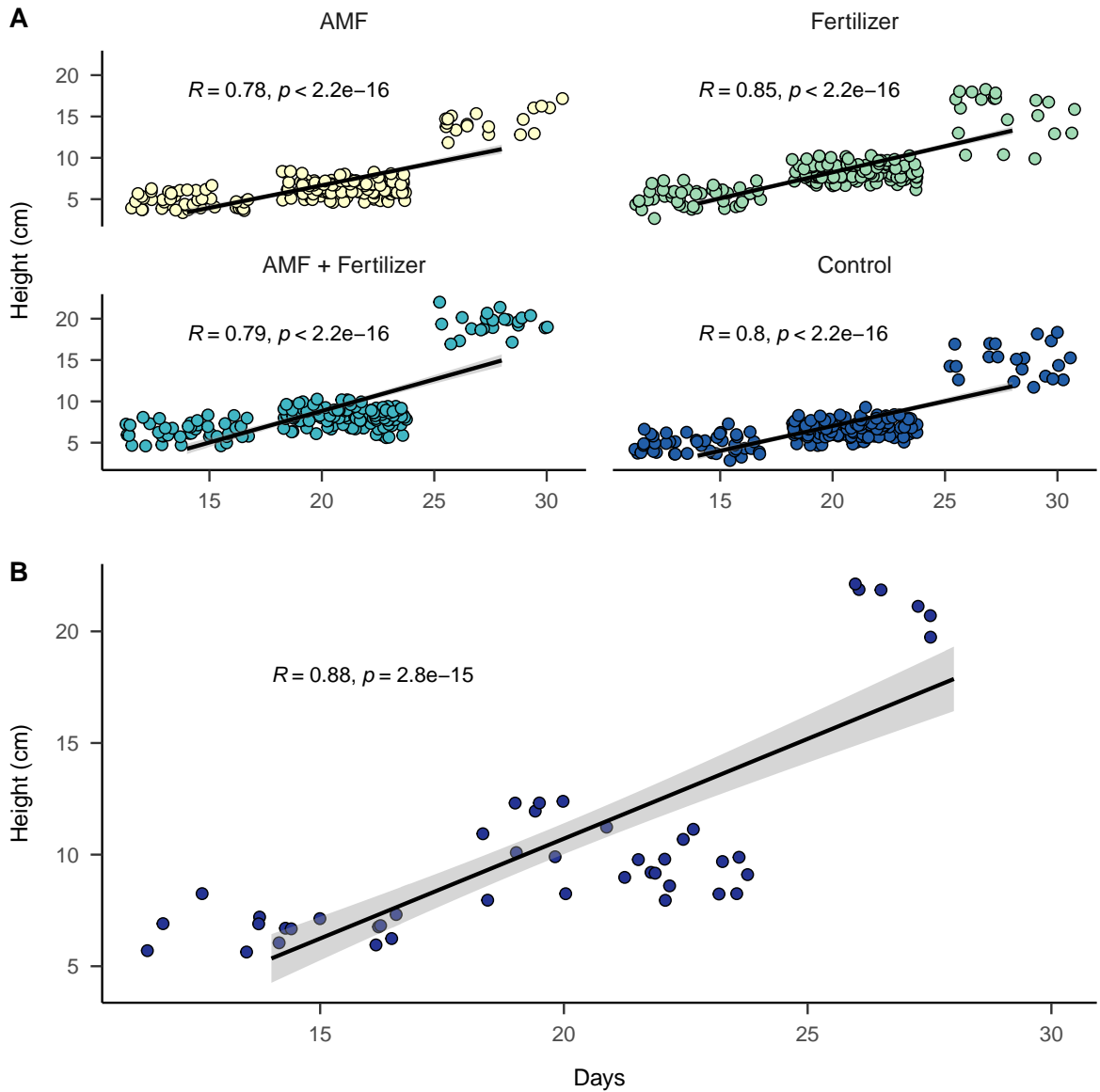


Figure 47: Scatterplot and linear regression of crop height over time. Unlike crop emergence, non-amf treatments demonstrate a higher correlation to growth over time. **A:** Peat-Free substrates, **B:** Peat based substrate (commercial control)

Table 20: Height mean and standard deviation over the growing period

Day	AMF	Fertilizer	Fertilizer + AMF	Control	Commercial Control
14	4.82 (0.89)	5.33 (1.02)	6.44 (0.89)	4.84 (0.99)	6.73 (0.59)
21	6.27 (0.82)	8.30 (0.88)	8.15 (0.98)	6.69 (0.85)	9.88 (1.39)
28	14.42 (1.30)	15.25 (2.79)	19.41 (1.26)	14.81 (1.89)	21.33 (0.82)

The correlation coefficients demonstrated between height and day is not unexpected (see Figure 47). This relationship is a typical of plant growth. However, the variation in strength of this relationship between treatments is important. AMF treatments have a lower correlation value