TURF TRIAL INFORMATION

GREENMASTER® LIQUID ADVANCE

Pidolic acid

MTU®

Biostimulant package significantly increases rooting for establishing *Lolium perenne*

SUMMARY

- Short desktop trial completed to examine turf-grass rooting during turf establishment.
- Desktop growing chambers were utilized which supply light (16:8 day:night cycle) and supply water and all nutrients via below-rootzone chamber.
- A single application of the registered biostimulant package of MTU® & pidolic acid (now found in Greenmaster Liquid Advance) was made by foliar spray at 5 days after germination of seeded *Lolium perenne.*
- Early plant rooting assessed by mean root length was significantly ($P<0.01$) improved by the application of biostimulant when measured at day 12 after germination.

METHODS

A short desktop trial was carried out utilising two AUK mini desktop herb growers (www.auk.com) (Image 1).

Chambers were filled with a sand:compost:perlite 1:2:1 by volume mix. The integrated LED light supply was utilized providing a 16h:8h day:night cycle throughout. Sub-surface irrigation from integrated water chambers was supplied, supplemented with a complete macro and micro liquid nutrition to ensure no deficiency. Following setup *Lolium perenne* (var. torsion) was equally sown to each cell at a rate approximate to 50g/m^2. Seeds were sown and compressed gently into the growing medium. Germination was first seen at day 5. A single application of MTU® & pidolic acid at 0.25L/ha in 400L water was made by foliar spray to two of four cells in each unit at random at 5 days following germination (Image 2). Non-treated cells were sprayed with tap water.

At day 12 after germination the trial was ended. Cells were emptied and ten individual plants per cell were carefully separated from the rootzone. Root length was measured with a ruler and photographs taken.

Image 1: Mini desktop grower setup.

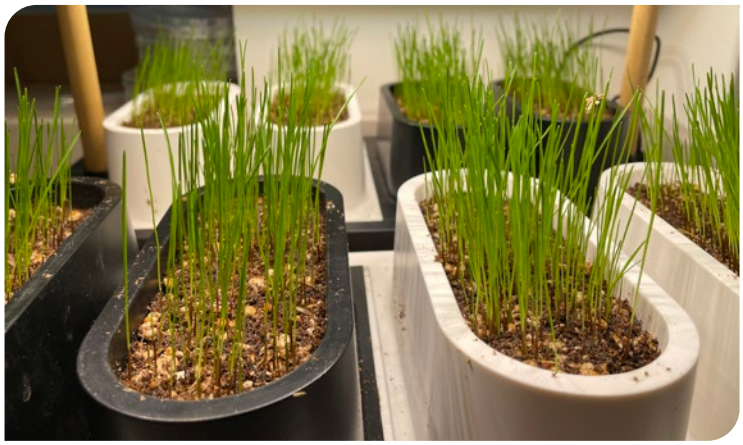

Image 2: Treatment timing day 5 after germination.

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RESULTS

All eight test cells showed germination and early establishment at a similar timescale. Following treatment application on day 5 after germination no visual difference was identified in turf growth or color to day 12 at the trial end.

Mean root length was significantly ($p<0.01$) longer on day 12 for the MTU® & pidolic acid treated plants compared to the untreated plants (Figure 1). A visual examination of the rooting reveals a deeper, more branched and more robust rooting system for the treated plants when compared to the untreated plants.

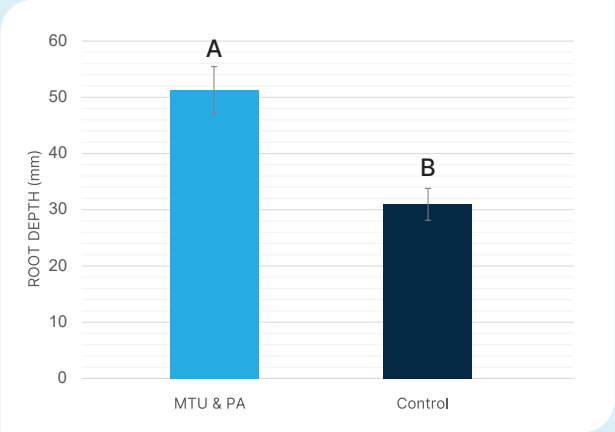

Figure 1: Mean root depth, results sharing a letter are identified as not significantly different.

Image 3: Visual comparison of rooting for ten seedlings.

CONCLUSIONS

A single foliar application of the registered biostimulant package of MTU® & pidolic acid demonstrated significantly improved seedling root growth at day 12 after germination, 7 days after application. A better rooting depth and increased root branching could potentially allow the developing seedling to access greater nutrient resources and water supply, thus leading to more resilient young plant.

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