

TRIAL DETAILS

Personnel: Qiaoyi Lin (PW)

Location: PW greenhouses

Trial Dates: Summer 2016

MATERIALS AND METHODS

The trial was set up as a pot trial in topsoil. Seeds of *Beta vulgaris* var. 'Boltardy' were sown and inoculated with a range of single species PGPR inocula including *Gluconacetobacter diazotrophicus* (G.dia), *Aspirillum brasilense* (A.bra), *Bacillus megaterium* (B.meg), *Rhizobium sp* (PEP-V), *Agrobacterium sp* (IRBG) and *Dexia lacustris* (HL12).

Plants were grown for 3 months before harvest and assessment.

Assessments:

- Foliar length
- Fresh weight of beets

N.B.: Each treatment received 5 replicates, giving statistical trend readings, but not data of sufficient statistical depth for detailed analysis.

RESULTS

Positive trends were recorded in both foliar length (Figure 1 and 2) and beet size (Figure 3) with the use of three specific PGPRs (A. bra, B.meg and PEP-V)

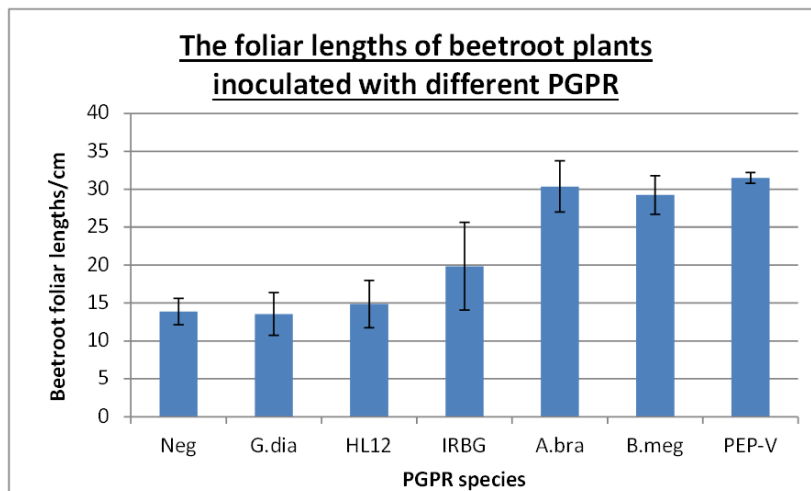


Figure 1: Positive trend in foliar length with A. bra, B.meg and PEP-V



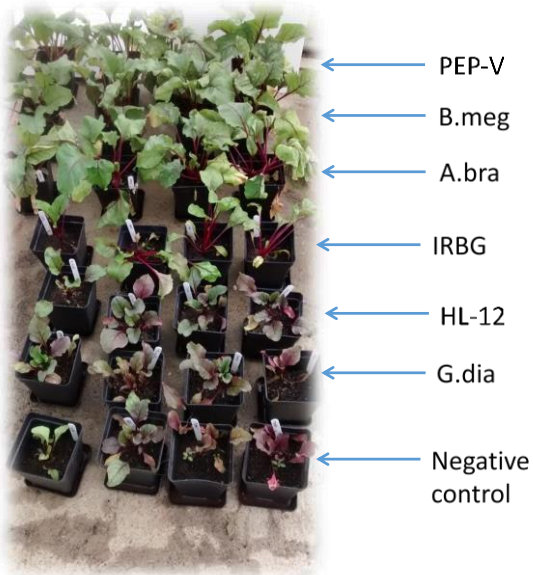


Figure 2: Positive trend in foliar length with A. bra, B.meg and PEP-V

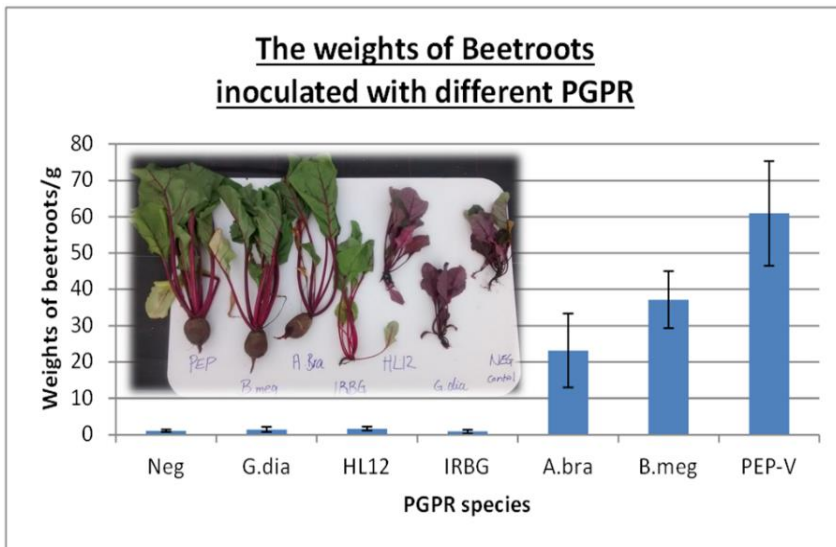


Figure 3: Positive trend in beet fresh weight with A. bra, B.meg and PEP-V

CONCLUSION

This trial demonstrated the potential of PGPR species to enhance crop growth and yield. Also shown was the selective effect of specific PGPR species when matched with specific plant types. This highlighted the need for further study to ascertain the most suited PGPR-plant combinations.

