

Effect of biostimulant-priming on speed of germination of sugar beet

O. Lekan Jolayemi¹, Ali H. Malik², Tobias Ekblad³, Marie Olsson¹, Eva Johansson¹

¹Swedish University Of Agricultural Sciences (SLU), Alnarp

²*Nelson Seed Development AB, Lund, Sweden*

³*Maribo Hilleshög Research AB, Landskrona, Sweden*

INTRODUCTION

Uneven emergence



Photo: Steven Poindexter, (2016)

MATERIALS AND METHODS

- Modified protocol of Bourgne *et al.* 2000

Priming

Pelleting

Coating

Seed enhancement techniques for sugar beet seeds processing

RESULTS

Table 1: Analysis of variance for growth rate of three sugar beet varieties affected by priming agents, incubation temperature and their interaction.

SV	DF	Var1	Var2	Var3
Priming agent (PA)	6	5.01***	6.61***	5.90***
Temperature	1	0.55ns	17.21***	85.57***
PA*Temp	6	0.95ns	1.48ns	3.42**
Error	32			

SV; source of variation, DF; degree of freedom, Var: variety, ***: $p < 0.0001$, **: $p < 0.01$, ns: not significant



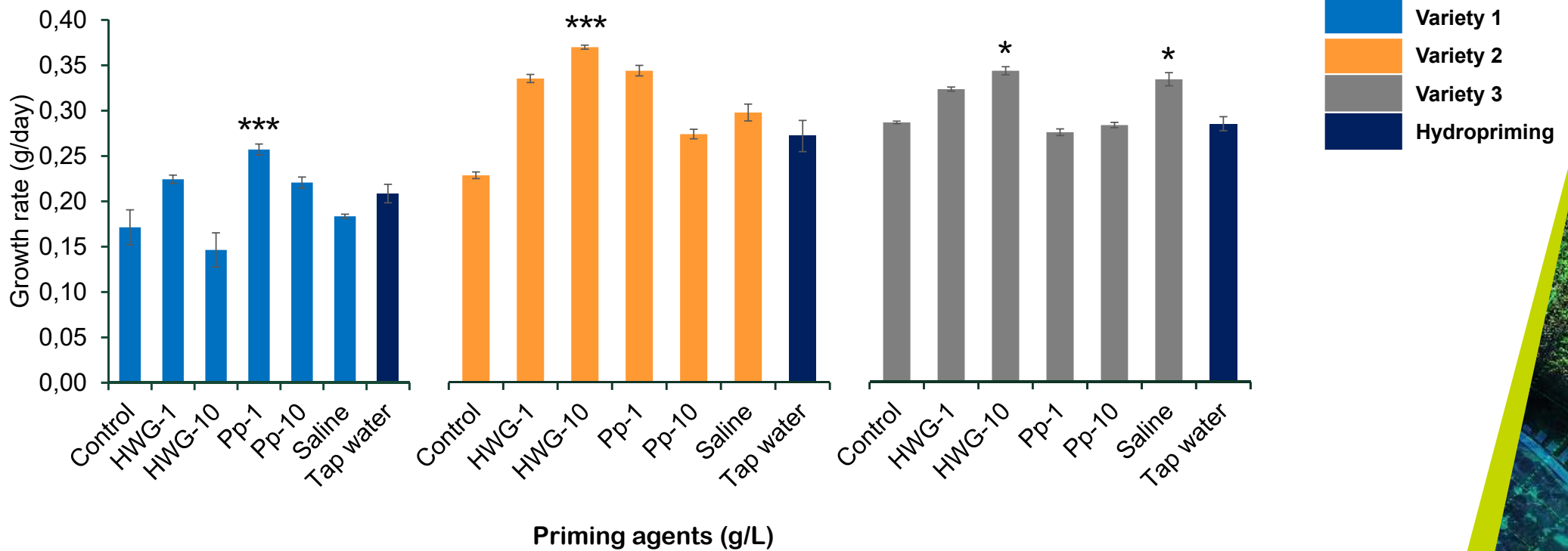


Fig 1: Growth rate (g/day of 100 seed weight) of three sugar beet varieties under different priming treatments 4-d after sowing *in-vitro*. Each bar is mean of 3 replicates (100 sugar beet seeds weight per replicate). Means were separated by \pm standard error of mean. . ***: significant difference at $P < 0.001$; *: significant difference at $P < 0.05$.



Conclusion and next steps????

- Biostimulant priming enhanced germination speed
- Varietal differences
- Variety 1 Pp 1 g/l
- Variety 2 HWG 10 g/l
- Variety 3 HWG 10 g/l, saline
- Evaluate the reasons for the different behavior:
 - ✓ Proteomic analysis
 - ✓ Varieties Ploidy level



Acknowledgement



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