

Better control of 'Blight' challenges during cropping

Late Blight (*Phytophthora infestans*) is renowned as a major disease in potatoes due to its potential to severely affect both yield and quality. Early Blight (*Alternaria solani*) is another fungal disease that can cause considerable damage, primarily to the foliage of the crop affecting productivity.

Effective potato production demands that excellent preventative control must be achieved of these diseases from early on before infections can occur.

Achieving good control often involves use of chemical fungicides in a regular spray program. Certain systemic products (such as those containing active substances like Propamocarb Hydrochloride

and/or Flupicolide) are favoured as being effective due to movement via the plant's internal sap flow mechanisms to regions of new plant growth – which typically develop rapidly and can be left insufficiently protected in between spray applications.

give greatest efficacy. Often the relied-on process of sap flow is disrupted by adverse environmental conditions affecting osmotic processes (essentially the flow of sap) inside the plant from operating in the most ideal way.

“Necessity for undisrupted and optimal sap flow”

Always a concern is how to be sure that the application of expensive, but effective, systemic products are being taken up and moved around the plant, via its own transport system (sap flow) to

“Limiting the impact of environmental stresses”



An experimental program to deliver results



To improve the effectiveness of systemic fungicide movement and therefore plant protection, Lallemand Plant Care, in partnership with Richard Austin Agriculture, have been examining the very powerful osmoprotectant (sap flow enhancer) IntraCell in combination with conventional systemic fungicides used in crop production.

Rich in natural Glycine Betaine (from plant origin) IntraCell reduces negative osmotic influences (stresses) on plant cells - increasing the systemic effectiveness of foliar applications and consequently is able to increase the uptake and/or movement efficiency of systemic fungicides and other products that are dependent on systemic activity.

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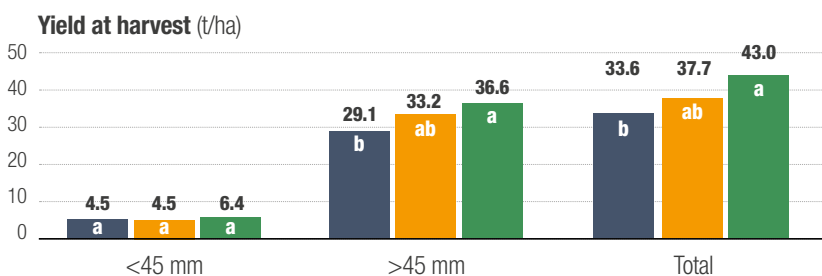
Lincolnshire, England, 2020



Objective	Evaluate the efficacy of a powerful osmoprotectant product partnered with a popular systemic fungicide for the control of potato blight diseases
Variety	Melody
Type of soil	Silt loam
Trial layout	Randomized complete block design (RCB) with 4 replications of 8 m x 2 rows

Applications

Untreated control
Chemical Reference, Infinito, (62.5 g/L Flupicolide and 625g/L Propamocarb Hydrochloride) applied in a standardized repeated program at 1.6 L/ha.
Chemical Reference + IntraCell® (>96% Glycine Betaine) applied in a standardized repeated program at 1.6 L/ha + 1 kg/ha respectively.



We were able to clearly see a difference in the yield results achieved with both treatments where much higher outputs were obtained than in the Untreated Control but only the treatment that included IntraCell® experienced a statistically significant difference in result compared to the Control.

Against the Control the Chemical Reference treatment yielded a total of 4.1 t/ha more and the combination of Chemical plus IntraCell® treatment yielded 9.4 t/ha more. This combination treatment yielded 5.2 t/ha more than the Chemical Reference alone.



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