



*Research samples, left control and right PA treated.

 **PyroAg**[®]
Wood Vinegar

RESEARCH

Peas, Wheat and Ryegrass study demonstrates that PyroAg can substantially enhance crop growth

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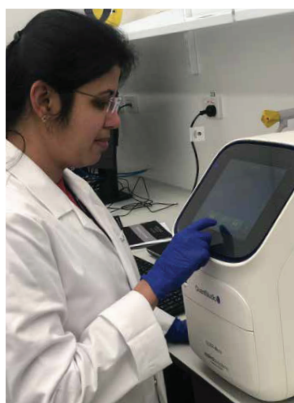
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The study demonstrates that **PyroAg can substantially enhance crop growth and yield** by influencing critical metabolic pathways.

These findings suggest potential applications for PA in sustainable agriculture, improving crop productivity and resilience.

The enriched metabolic pathways in shoots (carbon fixation, tyrosine, glutathione, glycine, serine, threonine, and arginine metabolism) are vital for physiological processes such as cell elongation, water balance, and photosynthesis.

In roots, pathways like valine, leucine, isoleucine, fructose, mannose, starch, and sucrose metabolism were enriched, crucial for, protein synthesis and plant development.



The key findings of this study:

The plants peas, wheat and ryegrass exhibited a similar response towards the PA application.

The PA application enhanced shoot and root length, of wheat by **18.55%** and **21.12%**, respectively.

The dry weight of plants, particularly peas, increased by up to **19.94%** under PA treatment.

The yield per plant, particularly in wheat and peas showed, showed maximum increases of **15.23%** with PA application.

PA application accelerated **early flowering** and **maturity** in all tested crops.

There was a notable increase in total chlorophyll content, with wheat showing a **12.19%** increase over control.

Untargeted metabolomics analysis revealed significant differences in plant metabolites between the PA-applied and control plants.



Research undertaken by lead Academic Professor Megharaj Mallavarapu

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Clarivate Analytics-Web of Science
Highly Cited Researcher



If you wish to read more supporting research please go to PyroAg.com or go one step further and do your own trial and see first hand the boost that PyroAg Wood Vinegar can add to your existing regime.

