

EDITORIAL

We are pleased to share with you the first issue of **Global Journal of Agricultural Innovation, Research & Development**, the new refereed academic journal. It is a real honor to participate as Co-Editor-in-Chief of this journal.



Global Journal of Agricultural Innovation, Research & Development journal is published twice a year by Avanti Publisher. The journal will publish original articles, review articles, technical notes, and short communications, related to Agricultural field. It specifically encourages articles that represent numerous investigations and important advances realized in Soil Science, Agronomy, Crop Physiology, Animal Science, Plant Science, Agricultural Engineering, Agricultural Machinery, Microbial Biotechnology, Agricultural Development, Agricultural Economics, Sustainable Agriculture, Organic Agriculture, Forestry, Food Science and Technology, Genetic Engineering and Plant Breeding

The objective of Avanti Publisher is to give your readers and authors, quality online publications, as well as other services that are specifically tailored to their interests and needs. In this pursuit, your effort focuses upon quality publishing and an unquestioned commitment to the highest standards of professional and corporate ethics.

This inaugural issue of the GJAIRD, Vol. 1, Issue 1, includes four peer-refereed original articles, from authors representing four countries: Argentina, Australia, Italy and Switzerland.

The first paper of this issue is entitled “Volatile Terpenoids from Water Pepper (*Polygonum punctatum*) Against *Pseudomonas aeruginosa* and *Staphylococcus aureus* Virulence Strategies” by M. Gilabert, E. Cartagena, G. Escobar, A. Bardón and M.E. Arena. The authors worked with *Polygonum punctatum* Elliot (water pepper), which is a pungent herb ancestrally employed as a disinfectant in traditional medicine by Toba Indians of the north-eastern region of Argentina and also commonly used as spice in Japanese cuisine. The antipathogenic effects on the bacterial growth and biofilm formation of the extract (of Water Pepper) were evaluated against two *Staphylococcus aureus* and two *Pseudomonas aeruginosa* strains. These results provided evidence that support the antimicrobial use of *P. punctatum* against *P. aeruginosa* and *S. aureus*.

The second manuscript entitled “Derivation of a Cropping System Transfer Function for Weed Management: Part 1 – Herbicide Weed Management” is presented by G. Brodie. This paper derives the transfer function for crop yield potential as a function of herbicide input, in the presence of herbicide resistance in the weed population, using several mathematical components for crop and weed ecology from published literature. The resulting transfer function reveals the herbicide application rate for optimal crop yield potential and highlights the growing herbicide resistance problem in no-till cropping systems.

The third article is “Vis-NIR Spectroscopy for Determining Physical and Chemical Soil Properties: An Application to an Area of Southern Italy” by M. Conforti and G. Buttafuoco. The objective of the paper was to assess the potential of Vis-NIR spectroscopy coupled with PLSR to determine soil chemical and physical properties such as organic carbon, sand, silt, clay, and calcium carbonate contents in a sample site of southern Italy. Spectral curves showed that the soils could be spectrally separable on the basis of chemical and physical properties. The accuracy of the calibration and validation models for the different soil properties was evaluated with the coefficient of determination (R^2) and the root mean squared error (RMSE). The results showed that predictions were satisfactory for all soil properties analyzed. A combination of Vis-NIR spectroscopy and multivariate statistical techniques, therefore, can be used as a rapid, low cost and quantitative means of characterizing the soils of southern Italy.

The fourth and last paper of this issue is “Qualitative and Quantitative Models Based on Handheld NIR Spectroscopy to Monitor the Tomato Fruit Development During Early and Full Season” by C. Camps, L. Deltheil and C. Gilli. The purpose of this paper is to follow the tomato fruit development and quality by hand-held near-infrared spectroscopy. Results showed that in both seasons, fruit can be classified from fruit setting to harvest at maturity by using qualitative models (factorial discriminant analyses). Quantitative models based on PLS regressions allowed the prediction of soluble solids content, titrable acidity and color of fruit. The results are promising in the context of developing a tool to assist in fruit phenotyping on site.

We hope that the readers will find the papers included in this inaugural issue informative and useful. We are sincerely grateful to Avanti Publisher for their professional services.

Thanks to all you who have helped to get us to this point. Most important have been the other wonderful members of the journal editorial team, the publishing team at Avanti Publisher, the editorial board, and also to our authors, who have had faith in us by sending articles to us.

Finally we want to thank our reviewers for their time and we look forward to working with you all to make ***Global Journal of Agricultural Innovation, Research & Development*** a major and respected contributor in peer-reviewed literature in the agricultural field.

Nora Bertola

Co-Editor-in-Chief

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