Foreword

Welcome to the fifth issue of 2026 of the Pertanika Journal of Tropical Agricultural Science (PJTAS)!

PJTAS is an open-access journal for studies in Tropical Agricultural Science published by Universiti Putra Malaysia Press. It is independently owned and managed by the university for the benefit of the world-wide science community.

This issue contains 25 articles: three review articles and the rest are regular articles. The authors of these articles come from different countries namely China, India, Indonesia, Iraq, Japan, Malaysia, Oman, Thailand, Turkey, and United Kingdom.

The review article entitled "A Review on the Use of Spices in the Blending of Malaysian Curry Powder Matrix" synthesises current knowledge on the principal spices used in formulating Malaysian curry powder to provide a scientific basis for quality control and product optimisation. Examining the integrated spice matrix across popular commercial brands, the study details how common ingredients such as coriander, cumin, fennel, chilli, turmeric, black or white pepper, cinnamon, star anise, cardamom, cloves, nutmeg, fenugreek, and ginger, contribute distinct sensory and functional properties. It correlates specific volatile compounds, including linalool, cuminaldehyde, trans-anethole, turmerones, and zingiberene, with their botanical sources and flavor profiles, while distinguishing the robust, redder characteristics of meat curry powders from the milder, more aromatic, and yellowish profiles of fish curry powders. Furthermore, the review outlines essential processing operations, quality parameters, and compliance with the Malaysian Food Regulations 1985 requirements, such as maintaining at least 85% spice content and a minimum volatile oil limit. Further details of this study can be found on page 2155.

The regular article entitled "Microalgae for Anti-Aging Cosmeceuticals: Synergistic Bioactivities and Physicochemical Potential" evaluates the antioxidant and anti-aging properties of ethanol-water extracts derived from Thalassiosira weissflogii TRG10-P105 (Tw), Arthrospira platensis (Sp), Chlorella vulgaris (Cv), and a 1:1 Sp-Cv mixture (SC). Utilising 90% ethanol as an optimal extraction solvent, the study established that Tw possessed high carotenoid and flavonoid content, whereas the SC mixture exhibited superior total phenolic content,

featuring diverse bioactive compounds like catechin, quercetin, ferulic acid, and caffeic acid, alongside strong radical-scavenging activity and potent collagenase inhibition reaching 100% at 10 μg mL^{-1}. When formulated into anti-aging creams at concentrations of 1% and 2.5%, both Tw and SC extracts yielded stable, skin-compatible, smooth, and easily spreadable topical emulsions, highlighting their viability as natural bioactive ingredients for cosmeceutical applications. Full details of this study are available on page 2413.

The regular article entitled "Maximising Growth and Quality of Caulerpa Lentillifera through Multilevel Cultivation with LED Approach" evaluates a multilevel cultivation arrangement for the edible green macroalga Caulerpa lentillifera (Laktud) under white LED, pink LED, and natural sunlight over a 28-day period at Kubang Badak, Langkawi. Assessing parameters such as frond density, frond length, plate weight, daily growth rate (DGR), and biomass yield across nine cultivation plates, the study found that white-LED plate W2 achieved the highest plate weight (1,305 g), frond density (79.33 per 100 cm^2), daily growth rate (0.018551 day^{-1}), and biomass yield (247.76 g m^{-2} day^{-1}). While sunlight-exposed plate S1 yielded the longest individual fronds (4.628 cm), natural sunlight exhibited significant variability across shelf positions, with lower tiers declining, whereas LED lighting provided more consistent growth performance across the multilevel setup. Further details of this study can be found on page 2603.

We anticipate that you will find the evidence presented in this issue to be intriguing, thought-provoking and useful in reaching new milestones in your own research. Please recommend the journal to your colleagues and students to make this endeavour meaningful.

All the papers published in this edition underwent Pertanika's stringent peer-review process involving a minimum of two reviewers comprising internal as well as external referees. This was to ensure that the quality of the papers justified the high ranking of the journal, which is renowned as a heavily-cited journal not only by authors and researchers in Malaysia but by those in other countries around the world as well.

We would also like to express our gratitude to all the contributors, namely the authors, reviewers and Editorial Board Members of PJTAS, who have made this issue possible.

PJTAS is currently accepting manuscripts for upcoming issues based on original qualitative or quantitative research that opens new areas of inquiry and investigation.

Editor-in-Chief
Md Kamal Uddin