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(71) Applicants: **TEMASEK LIFE SCIENCES LABORATORY LIMITED** [SG/SG]; 1 Research Link, National University of Singapore, Singapoore 117604 (SG). **MASSACHUSETTS INSTITUTE OF TECHNOLOGY** [US/US]; 77 Massachusetts Avenue, Cambridge, Massachusetts 02139 (US).

(72) Inventors: **JANG, In-Cheol**; c/o Temasek Life Sciences Laboratory LIMITED, 1 Research Link, National University of Singapore, Singapore 117604 (SG). **SNG, Benny Jian Rong**; c/o Temasek Life Sciences Laboratory Limited, 1 Research Link, National University of Singapore, Singapore 117604 (SG). **SINGH, Gajendra Pratap**; c/o Singapore-MIT Alliance for Research and Technology (SMART) Centre, 1 Create Way, #03-06/07/08 Research Wing, Singapore 138602 (SG). **RAM, Rajeev J.**; c/o EECS, Massachusetts Institute of Technology, 50 Vassar Street, Cambridge, Massachusetts 02142 (US).

(74) Agent: **DOWSING, Bruce John**; Marks & Clerk Singapore LLP, Tanjong Pagar, P.O. Box 636, Singapore 910816 (SG).

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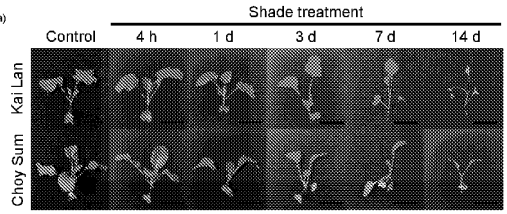
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(54) Title: RAMAN OPTICAL BIOMARKER FOR SHADE AVOIDANCE SYNDROME IN PLANTS

FIG. 13



(57) Abstract: The present invention relates to the use of a Raman spectral signature for detection of plant metabolites, specifically carotenoids, in tissue of a plant leaf. Carotenoids are used as a biomarker for an early, real-time diagnosis of shade avoidance syndrome (SAS) in growing plants in a non-invasive or non-destructive way in order to detect the adverse effect of the SAS upon their health, and ultimately their yield. The early, real-time diagnosis of SAS provides a window period within which further adverse effects of SAS may be slowed or prevented without negatively affecting the yield of growing plants or leafy vegetables.

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