Seminar Announcement

IMPROVING LEAF PHOTOSYNTHESIS FOR BOOSTING RICE YIELD POTENTIAL

ABSTRACT: Rice (*Oryza sativa, L.*) is a staple crop for nearly one-half of the world population. Given the burgeoning growth of the world's population, there is an urgent need to increase rice yield. Rice yield is a complex trait that is directly associated with panicle number, grain size, and the number of grains per panicle. Photosynthesis is carried out predominantly in leaves which is the sources of carbohydrates filled in rice grains. Therefore, leaf photosynthesis has been focusing to improve crops yield. Leaf anatomy is highly related to leaf performances and positively linked to yield potential. Screening of leaf traits such as leaf thickness, leaf size, mesophyll cells size and volume of 500 varieties of rice from IRRI's and the Rice Department's collections is now our major targets. One of the new techniques that we are now using to analyse leaf anatomy is confocal microscopy, a microscopic technology that allow us to see the mesophyll structures in 3D. Linking these leaf anatomical characteristics with its physiological characteristics; e.g. CO_2 assimilation rate, chlorophyll contents, stomatal density, RubisCO content, is massively essential for the High Yield Rice Breeding Programs. Development of a set of molecular markers via Genome-Wide Association Study (GWAS) is our important tool to map and track for the genes that regulate all the leaf physiological traits that are required for high yield rice.

Department of Biotechnology

Graduate Seminar

WHEN

SEP 14, 2017
1.30 pm – 3 pm

WHERE

L02

Faculty of Science,
Mahidol University

WHO

Dr. SUPATTHRA NARAWATTHANA

Thailand Rice Science Institute
Ministry of Agriculture and Cooperatives

COURSES

SCBT591, 592
Special Topics in Biotechnology I, II
SCBT594, 595, 596
Advanced Topics in Biotechnology I, II, III

ALL WELCOME