Why is White Light Better?

$q_M$ - is the fluorescence change caused primarily by chloroplast migration. Chloroplast migration is a light avoidance mechanism that occurs at high actinic light levels, found in nature.

$q_M$ only occurs under intense white light and under intense blue light. Intense red light has little effect. Furthermore, $q_M$ causes leaf absorbance to change.

The $iFL$ measures leaf absorbance. (See Above)

$q_M$ can affect reliable measurements of $Y(II)$, ETR, J, NPQ, $q_M$, $C_C$, $A/Q$ curves and $A/C_C$ curves at high light levels.

Reference:

Opti-Sciences uses a stable white light actinic light source with an intense blue spectrum in the $iFL$, the OS5p+, and the OS5p+ chlorophyll fluorometers.

The OS5p+ measures $q_E$, $q_M$, $q_I$, $q_T$, & $q_Z$.

Includes:
The Loriaux 2013 $F_M^0$ correction protocol
Kramer lake model quenching protocol
Hendrickson lake model quenching protocol
Puddle model quenching protocol
Strasser OJIP protocol
Vredenberg OJIP quenching protocol
Rapid light curves with curve fitting
$F_V/F_M$ & $F_V/F_O$, $Y(II)$, ETR

$q_M$ represents about 30% of fluorescence non-photochemical quenching or NPQ.

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Please contact Niko Geldner (niko.geldner@unil.ch) or David Salt (david.salt@abdn.ac.uk) for additional information.
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Reference:

Opti-Sciences uses a stable white light actinic light source with an intense blue spectrum in the $iFL$, the $OS1p$, and the $OS5p+$ chlorophyll fluorometers.

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Includes:
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- Kramer lake model quenching protocol
- Hendrickson lake model quenching protocol
- Puddle model quenching protocol
- Strasser OJIP protocol
- Vredenberg OJIP quenching protocol
- Rapid light curves with curve fitting
- $F_v/F_m$ & $F_v/F_o$ Y(II), ETR

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Reference:
SYMPOSIUM I: Plant Responses to Abiotic Stress
Presenting new insights regarding a broad range of abiotic stresses that impact plants that have resulted from employing a variety of experimental approaches used in both laboratory and field settings.
Organizer: Michael Thomashow
Speakers: Mike Thomashow, Don Ort, Steve Howell, and Mary Lou Guerinot

SYMPOSIUM II: CSPB President’s Symposium – Synthetic Biology of Specialized Metabolism
Highlighting advances in probing the immense diversity of plant specialized metabolism made possible by high throughput sequencing of medicinal plant species combined with bioinformatic tools and other approaches to identify unknown candidate genes involved in the biosynthesis of different classes of major plant natural products.
Organizer (Canadian Society of Plant Biology): Vince De Luca
Speakers: Sarah O'Connor, Barbara Halkier, Vincent Martin, and Boo Kyeon Ro

Bringing together some of the most influential individuals and creative thinkers across the societal spectrum to discuss aspects of ensuring food security that are not readily identified by plant scientists.
Organizer: ASPB’s journals – Plant Physiology and The Plant Cell
Speakers: Tim Benton, Mark Tester, Pamela Ronald, and Philip Pardey and Derek Yach

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Highlighting the latest advances in multifaceted plant signaling pathways encompassing novel mechanisms orchestrating energy, peptide and hormonal signaling that govern cellular bioenergetics, stem cell homeostasis, vascular differentiation, and cell-cell communication.
Organizer (Gibbs Medal Awardee): Jen Sheen, Massachusetts General Hospital/Harvard Medical School, Boston, Massachusetts
Speakers: Jen Sheen, Thomas Laurin, Hiroo Fukuda, and Ykä Helariutta

SYMPOSIUM V: ASPB President’s Symposium – Firsts in Plant Science
Celebrating discoveries in plant biology that were the first instance of the identity and elucidation of a principle that is relevant to all eukaryotes and often pointed to some paramount issue in human disease.
Organizer: Alan Jones
Speakers: David Baulcombe, Julie Law, Magnus Nordborg, and Pamela Ronald

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