

COTTON Innovate



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Scientific Talks



As a part of week scientific seminar, Dr. S. Manickam, Principal Scientist (Plant Breeding) delivered a talk on "Overview of Pain" on October 25, 2014. Pain is a sensory experience and is intensely subjective experience. Though pain is unpleasant, it serves a protective function by making us aware of actual or impending damage to the body. Although pain is bad, not feeling pain can be worse. Individuals with congenital absence of pain receptors are rare but not unknown. The life span of such individuals is short. Thus pain acts as a sensation with enormous survival value.



During the presentation, the various aspects of Pain as its definition, history of research on pain, epidemiology, physiologic effects of pain, psychiatric disorders in chronic pain, autonomic response to pain, types of pain like acute and chronic pain, pharmacological and non pharmacological management amongst others were covered

Literature Scan

New role for chromoplasts unveiled as a new bioenergetic organelle

There is another organelle other than chloroplast and mitochondria, the chromoplast, able to synthesize energy for its metabolism. A chromoplast is a plant organelle characterized by accumulating carotenoids, the pigments that confer yellow, orange and red colours to many flowers, fruits and roots. Besides their role in carotenoid synthesis, the chromoplast is a very active organelle involved in different biosynthetic processes during fruit ripening. According to the new study, chromoplasts are also able to produce chemical energy -- in other words, to synthesize molecules of adenosine triphosphate (ATP) -- by means of a respiratory process named chromorespiration.

References and Image Source:

M. Renato, I. Pateraki, A. Boronat, J. Azcon-Bieto. Tomato Fruit Chromoplasts Behave as Respiratory Bioenergetic Organelles during Ripening. *Plant Physiology*, 2014; 166 (2): 920 DOI: 10.1104/pp.114.243931.

Irini Pateraki, Marta Renato, Joaquín Azcón-Bieto, Albert Boronat. An ATP synthase harboring an atypical γ -subunit is involved in ATP synthesis in tomato fruit chromoplasts. *The Plant Journal*, 2013; 74 (1): 74 DOI:10.1111/tpj.12109

Contributed by Dr. J. H. Meshram, Scientist, Plant Physiology, CICR, Nagpur.



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Chief Editor : Dr. Nandini Gokte-Narkhedkar

Editors : Dr. J. Annie Sheeba, Dr. Vishlesh Nagrare, Dr. J. Amudha, Dr. M. Saravanan

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Central Institute for Cotton Research
Post Bag No. 2, Shankar Nagar PO, Nagpur 440010
Phone : 07103-275536 Fax : 07103-275529; email: cicrnagpur@gmail.com