

Indoleamines (Serotonin & Melatonin) in Edible Plants: Its Influence on Human Health

Authors : G. A. Ravishankar, A. Ramakrishna

Abstract : Melatonin (MEL) and Serotonin (SER), also known as [5-Hydroxytryptamine (5-HT)] are reported to be in a range of plant types which are edible. Their occurrence in plants species appears to be ubiquitous. Their presence in high quantities in plants assumes significance owing to their physiological effects upon consumption by human beings. MEL is a well known animal hormone mainly released by the pineal gland known to influence circadian rhythm, sleep, apart from immune enhancement. Similarly, SER is a neurotransmitter that regulates mood, sleep and anxiety in mammals. It is implicated in memory, behavioral changes, scavenging reactive oxygen species, antipsychotic, etc. Similarly Role of SER and MEL in plant morphogenesis, and various physiological processes through intense research is beginning to unfold. These molecules are in common foods viz banana, pineapple, plum, nuts, milk, grape wine. N- Feruloyl serotonin and p-coumaroyl serotonin found in certain seeds are found to possess antioxidant, anti-inflammatory, antitumor, antibacterial, and anti-stress potential apart from reducing depression and anxiety. MEL is found in Mediterranean diets, nuts, cherries, tomato berries, and olive products. Consumption of foods rich in MEL is known to increase blood MEL levels which have been implicated in protective effect against cardiovascular damage, cancer initiation and growth. MEL is also found in wines, green tea, beer, olive oil etc. Moreover, presence of SER and MEL in Coffee beans (green and roasted beans) and decoction has been reported us. In this communication we report the occurrence of indole amines in edible plants and their implications in human health.

Keywords : serotonin, melatonin, edible plants, neurotransmitters, physiological effects

Conference Title : ICBNPA 2015 : International Conference on Behavioral Nutrition and Physical Activity

Conference Location : Sydney, Australia

Conference Dates : December 10-11, 2015