Insights in Nutrition and Metabolism

Abstract

Particle films: A new and safe technology for production of quality horticultural produce

R.R. Sharma

Principal Scientist (Hort.), Division of Food Science and Postharvest Technology

Abstract:

With the increasing awareness among consumer about harmful effects of pesticidal residues used in the horticultural crops, there has been a rigorous search for non-chemical alternatives that could help in reducing the usage of pesticides. It was not only a rising concern for the consumer health but also for the environmental safety. Perhaps, it is this concern that has forced the planners for the recommendations of the use of Good Agricultural Practices (GAP) throughout the world. As a result, several Good Agricultural Practices (GAPs) have been recommended for the production of horticultural commodities. One of such innovations is the development of the processed Particle Film Technology (PFT). Particle film technology is the development of aqueous formulations from chemically inert mineral particles, which are specifically formulated for spraying over horticultural crops as 'protective films'. Most of the particle film technologies are kaolin-based, which disperses easily in water With the advent of the technical advances in kaolin processing, it is now possible to produce kaolin particles with specific sizes, shapes and light reflective properties. It has led to the development of several such formulations such as Surround®, Surround® WP, RAYNOX®, CocoonTM, Parasol®, Anti-stress 500®, Purshade®, Screen®, Snow®, EclipseTM, Fruit Shield, Savona® SL etc., are available in the global market for their commercial use in horticultural crops for several desirable effects. These particle films reduce sun burn, fruit cracking, harmful insects and plant pathogen damage, in addition to enhancing the photosynthesis and yield and quality of horticultural products due to their basic physical properties. They also reduce solar injury and improve fruit finish but these effects are mainly influenced by the dose and time of application which differ widely among the crops. This technology is becoming increasingly popular in some countries yet others have to follow it. It can become an integral part of organic fruit production globally.

Biography:

R.R. Sharma completed his post graduation from Indian Agricultural Research Institute, New Delhi, India during 1994 and qualified ARS-1995 examination with top position. He joined as Scientist in the Division of Fruits and Horticultural Technology, IARI, New Delhi in 1997 and worked on mango improvement, high-density planting and strawberry up to 2004 and then shifted to Division of Post Harvest technology, IARI, New Delhi. He has developed six mango hybrids and standardized several farmer-friendly fruit production and postharvest management technologies.

Publication of speakers:

1. R.R. Sharma, Physiological and biochemical attributes associated with jelly-seed disorder in mango (Mangifera indica L.)
2. R.R. Sharma, Genotypic variability in nutritional and functional attributes of blueberry varieties grown in northern-western Himalayas
3. R.R. Sharma, Effect of edible coatings on 'Misty' blueberry (Vaccinium corymbosum) fruits stored at low temperature
4. R.R. Sharma, Fruit bagging and bag color affects physico-chemical, nutraceutical quality and consumer acceptability of pomegranate (Punica granatum L.)

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