

Clean Bioprocess for white pepper production

White pepper is the most remunerative value-added form of green and black pepper, which is an elegant culinary agent. White pepper is produced by decortication (dismantling) of the outer skin of black pepper. A limited quantity of white pepper is also being managed through selective decortication of ripened fresh pepper berries. The dismantling process is achieved through careful mechanical stripping, chemical treatment or biological methods. Biological process is preferred to others since it enables preparation of skin-free pepper, without foreign substance getting added or valuable ingredients being flushed out of the kernel.

Scientists of NIIST have invented and patented a simpler, more cost-effective and pollution-free microbial technology that ensures production of superior quality white pepper within a short span of time as compared to the conventional routes. This microbial process has been developed for bulk production of white pepper by enabling clean removal of pepper skin from fresh and dried black pepper. The process is designed to cleave the pectin molecular bonding between the skin and oil glands of the pepper kernel by the actions of enzymes produced in-situ. The process uses enzymes to degrade pectins, the cementing tissues present in between the skin and oil glands on the pepper kernel. The process also generates methane gas and organic fertilizer as a by-products.

This technology has bagged NRDC Award as well as WIPO Gold Medal in the year 2009. Several licenses of this technology have already been transferred and are under commercial implementation. Mananthavady-based Wayanad Social Service Society (WSSS), one of the licencees of this technology has plans to set up a bigger plant to meet its export demand. The new unit will also have a biogas plant.

Scientists of NIIST receiving the Award





White Pepper Plant Inaugurated at Sultan Bathery, Wayanad on 30th May 2010

