

# Fresh fruits irradiation for phytosanitary purposes in Thailand using a multipurpose irradiation facility

S. Tunlayadechanont

Acta Horticulturae 973: 35-44: 2013.

---

## Abstract

Thailand reached an agreement with the USA for the commercial irradiation of six types of exotic fresh fruits, mango, mangosteen, longan, rambutan, lychee, and pineapple for the purpose of a phytosanitary treatment under the US Department of Agriculture (USDA) Pre-Clearance Program for importation into the USA for several years. Synergy Health Thailand (formerly Isotron Thailand) has participated in the program since 2008, and the multipurpose pallet irradiator, which normally processes medical devices and other products, was certified by USDA in early 2008. This irradiator was modified to be able to deliver a minimum dose of 400 Gy, while it is still predominately used for the application of a minimum dose of 25 kGy. The practicality of commercial processing utilizing a very low dose for the phytosanitary treatment of fresh fruits in Thailand for the Pre-Clearance Program for importation into the USA is described. Technical aspects of the irradiator, and how it can be commercially utilized to deliver a wide dose range from 400 Gy to more than 100 kGy in practice is discussed. The requirements of the relevant authorities, mainly the National Plant Protection Office and the USDA Animal and Plant Health Inspection Service (APHIS), for the facility certification and re-certification is covered. The relationship between the participants in this program and the operation of the database for the phytosanitary treatment that provides traceability of irradiated fruits is outlined.