Thunyamon Sungsiri 2011: Infection Biology, Disease Incidence and Control of Black Mold and Fruit Rot on Longkong Fruit (*Aglaia dookkoo* Griff.) During Pre- and Post-harvest.
Master of Science (Plant Pathology), Major Field: Plant Pathology, Department of Plant Pathology.
Thesis Advisor: Associate Professor Somsiri Sangchote, Ph.D. 98 pages.

The causal organism of black mold on longkong was identified by its morphological characteristics and a molecular technique. It showed that this fungus is in the genus *Leptoxyphium* sp. that had not been reported in Thailand. Its nucleotide sequences is similar to *L. madagascariense* CBS 124766 at 97% and also very closely related to *L. madagascariense* and *L. fumago.* Infection of *Leptoxyphium* sp. on different stages flower and fruit development till harvest were investigated it started infected fruits at 45 days and increasing according to stage of fruit development. It infested on EFNs (extrafloral nectaries) and then, extended to hair on the fruit surface without infected to the fruits tissue. At mature stage of EFNs, lignin and suberin were accumulated at the secretory tissue. Secretory pole showed no cracking on the surface but it had an opening pore surrounding this pole. Nectar consisted of fructose, sucrose, and glucose and a total soluble solids was 20 °Brix, *Phomopsis* sp., *Leptoxyphium* sp. and *Colletotrichum gloeosporioides* spore germinated at 87.3, 54.3 and 20%, respectively in this nectar.

Control of black mold by preharvest treatment with azoxystrobin 125 ppm and *Bacillus subtilis* in season 1 (2552) and carbendazim 1,500 ppm, mancozeb 1,500 ppm, sodium hypochlorite 5,000 ppm and citric acid 200 ppm in season 2 (2553) at 2 weeks interval till harvest. The result showed that azoxystrobin (season 1) and carbendazim (season 2) were the most effective chemical but preharvest spray with mancozeb 1,500 ppm and carbendazim 1,500 ppm 1 week before harvest were ineffective in reducing black mold. Preharvest spray with carbendazim 1,500 ppm, mancozeb 1,500 ppm, sodium hypochlorite 5,000 ppm and citric acid 200 ppm to control fruit rot at 2 weeks interval till harvest, carbendazim was the most effective in reducing fruit rot and fruit drop. Postharvest treatments to control fruit rot with chemical and hot water showed that prochloraz 750 ppm, hot water at 47 °C and hot prochloraz 750 ppm at 47 °C were the promising treatments. At 3 days after treatments, the residue was 0.71 mg/kg which was less than Codex standard.

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