

Abstract:

Recently, brown spot disease of longan fruit was widely spread in the major longan growing areas in Thailand. Serious damage was recognized on fruit of off-season during the rainy months of the year. The symptom of the disease was visually seen as small brown lesion of about 1-2 mm in size on the fruit skin causing low quality of the product. When the fruit skin was split open, the dark brown discoloration on the inner skin of the under side of the surface lesion was also noticed. Diseased fruit samples from Chiang Mai and Chanthaburi were isolated for the causal agent. All isolates were inoculated back on longan fruits in orchard conditions. After 72 hours of inoculation, isolate unknown 5 from Chiang Mai and one Chanthaburi isolate were caused brown spot and fruit cracking. The mycelia of both isolates were septate, branching at right angle and produced no spores. Noticeably, the hyphae of both fungi morphologically looked alike those causing fruit rots in mango and guava. Later, the inoculative results revealed that isolates from mango and guava were also capable to incite brown spot and fruit cracking on longan. Inducing sporulation was trial on 48 treatment combinations comprised of PDA, CA (carrot agar), V8 juice agar at pH of 5, 6, 7 and 8 and kept on dark and light conditions at 25°C and room temperature. All four isolates that caused brown spot on longan were failed to produce spores in all treatments. Thereafter, the relationship among the fungi causing longan fruit discoloring and *Rhizoctonia solani* was studied by comparing their isozyme esterase patterns. The result revealed that all cultures were dissimilar. Another experiment was assigned to investigate on the effectiveness of certain fungicides for controlling of the fungi like isolate unknown 5 and isolate from Chanthaburi. The result pointed out that benomyl 50% WP, carbendazim 50% WP, procymidone 50% WP, tebuconazole 25% EW, difenoconazole 25% EC and carbendazim 50% WP + benomyl 50% WP were effective to cease the growth of unknown 5 mycelium, on the other hand only procymidone 50% WP and tebuconazole 25% EW were stop the growth of Chanthaburi isolate.