

Deterioration of quality soybean seeds (*Glycine Max (L.) Merr. AGS 190*) at harvest stages, seed moisture content and storage temperature in Malaysia

ABSTRACT

Soybean [*Glycine max (L.) Merrill AGS 190*] is an important vegetable and oil in the Asian communities like Malaysia. Seed deterioration is a harmful feature of agriculture crops which hindered quality seed of Soybean. Thus, the purpose of the study is to determine the effect of non-ultra-dry and ultra-dry seed moisture content stored in room temperature and cold room conditions for seed harvested stages on the quality or seed deterioration of soybean seeds (AGS 190) which grown under the humid tropical region. This study was conducted at Faculty of Agriculture, University Putra Malaysia in three harvested stages such as R6 (Full seed stage), R7 (Commencement of maturity period), and R8 (Fully maturity stage), moisture content (12% non-ultra-dry and $\leq 5\%$ ultra-dry) and storage temperature (room storage at 25 to 30°C and cold room storage at 10°C). The result of this study showed that the seed deterioration rate was less in harvest stage R7 compared to R6 and R8 especially for ultra-dry seeds. In addition, seed deterioration can decrease at room temperature by the ultra-dry treatment compared non-ultra-dry but deterioration was higher for non-ultra-dry seed during storage at room temperature than cold room.

Keyword: Ultra-dry; Antioxidant enzyme; Deterioration; Soybean; Harvest and storage