

Teeradech Klaewklom 2011: Seed Quality Assessment of 8 Soybean Lines/ Varieties.

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Thesis Advisor: Associate Professor Wanchai Chanprasert, Ph.D. 89 pages.

Seed quality is an important constraint in soybean breeding program especially in hot-humid regions. Before releasing a soybean variety, its potential in producing good quality seed must be tested. Seed germination, vigor, storability and the ability to withstand unfavorable conditions during development and maturation are characteristics need to be assessed. Six advanced and promising breeding lines of soybean, i.e. KUSL3802-1, KUSL3802-4, KUSL3802-6, NS1 1-12, ST2 34-1 and KUSL20004 under Kasetsart University Soybean Research Project were evaluated comparing to 2 recommended cultivars, i.e. SJ5 and CM60 in 2 growing seasons (late rainy season and dry season). The results from the study of seed deterioration during field storage showed that KUSL3802-1 and KUSL3802-6 were soybean lines best resistant to weathering effect while KUSL20004, NS1 1-12, ST2 34-1 and KUSL3802-4 seemed to be susceptible.

Seed quality after storage revealed that KUSL3802-1, KUSL3802-6 and NS1 1-12 showed high seed quality in both seasons comparing to that of SJ5, while the remainders gave relatively low quality seed similar to that of CM60. Physical properties were different between late rainy season and dry season. Negative correlations were found between seed size and seed storability in dry season. However, KUSL3802-6 and NS1 1-12 which were lines with large seed size showed rather high seed storability in this study.

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Thesis Advisor's signature