

A-150

Potential of soybean seed production related to global climate change in Chiangmai province, Thailand

*Laongdown Sangla**, Chiang Mai Field Crops Research Center, Chiang Mai, Thailand

Jongrak Phunchaisri, Chiang Mai Field Crops Research Center, Chiang Mai, Thailand

Supanee Phangkham, Chiang Mai Field Crops Research Center, Chiang Mai, Thailand

Climate change has affected soybean seed production. This research was to evaluate soybean seed yield, and seed quality in a changing climate. The experiment was conducted at CMFCRC, Chiangmai during 2013-2015. It was split plot design with three replications. Main plot consisted of three planting dates; November to January and June to August in dry and rainy seasons, respectively. Sub plot consisted of four soybean varieties (CM2 and CM9513-3; early maturity group, CM60 and CM6; medium maturity group). Results revealed that daily accumulative temperature, shorten photoperiod planting and precipitation affected to soybean seed yield, and quality. In dry season, the proper planting dates for the highest seed yield and quality were November to December (1,969 - 3,238 kg ha⁻¹) due to the lower in daily accumulative temperature and precipitation include shorten photoperiod planting. Furthermore, it provided the longer period for maturity and higher seed growth rate during seed filling stage with higher average daily seed weight accumulation than January. Soybean could also avoid from improper climate, particularly unfavorable temperature and excessive precipitation during harvesting time (March). In rainy season, the appropriate planting date were June to July (2,013 - 2,706 kg ha⁻¹) that also gave the longer maturity period and/or higher average daily seed weight accumulation. In addition, only early maturity group could escape from improper climate, therefore the narrow planting time for medium maturity group was shown in July only. In order to minimize these impacts, soybean seed production should start early planting time in both seasons with proper variety was selected to suit the season, water source, and good harvesting and postharvest management.