

Adisak Nadkratoke 2010: Kamphaeng Saen Sugarcane Varietal Testing in the Lower Part of the Western Sugarcane Plantation. Master of Science (Agronomy), Major Field: Agronomy, Department of Agronomy. Thesis Advisor: Associate Professor Rewat Lersrutaiyotin, D.Agr. 117 pages.

Fifteen Kamphaeng Saen sugarcane varieties series 2000-2001 of Cane and Sugar Research and Development Center, Kasetsart University and 5 checked sugarcane varieties were planted in 5 varietal trials in the lower part of the western sugarcane plantation. Varietal stability were analyzed by AMMI and effect of components were analyzed by path coefficient.

The resulted revealed that potential sugarcane varieties that had high cane yield, CCS and sugar yield and had high stability in plant cane were Kamphaeng Saen 01-1-12, Kamphaeng Saen 01-1-25, Kamphaeng Saen 94-13, KK 3, K 95-84 and Kamphaeng Saen 01-3-5, respectively, while in first ratoon cane were K 95-84, KK 3, Kamphaeng Saen 94-13, Kamphaeng Saen 01-1-12 and LK 92-11, respectively. Varieties that had high average values of plant cane and first ratoon cane were Kamphaeng Saen 01-1-12, KK 3, Kamphaeng Saen 94-13, K 95-84, Kamphaeng Saen 01-4-29, Kamphaeng Saen 01-3-5 and Kamphaeng Saen 01-1-25, respectively. In the study of component effects, cane yield had very high effect to sugar yield. Stem number per rai was the yield components that had the highest effect to cane yield and pol was the CCS components that had the highest effect to CCS. Starch content was found to have positive correlation coefficient with CCS and CCS components but gave negative correlation coefficient with sugar yield, cane yield and yield components in both plant cane and first ratoon cane. Chlorophyll components (nitrogen in leaf, SPAD-reading and leaf size) were found to have positive correlation coefficient with sugar yield, cane yield and yield components but gave negative correlation coefficient with CCS and CCS components.

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Thesis Advisor's signature