

Thanoodath Lerksapanee 2011: Stability of Kamphaeng Saen Sugarcane Cultivars in the Upper Part of Western. Master of Science (Agronomy), Major Field: Agronomy, Department of Agronomy. Thesis Advisor: Associate Professor Rewat Lersrutaiyotin, D.Agr. 98 pages.

Five sugarcane varietal trials were conducted in which 5 trials were in the upper part of western. Each trial had 15 Kamphaeng Saen sugarcane varieties of Cane and Sugar Research and Development Center as tested varieties and 5 checked varieties. Sugarcane varietal stability was evaluated using (AMMI).

The results showed that cultivars with high yield were the Kamphaengsaen 94-13 the Kamphaengsaen 01-1-25 the Kamphaengsaen 01-4-29 the Kamphaengsaen 01-1-12 and the Kamphaengsaen 00-92 respectively. The most stability cultivars were Kamphaengsaen 01-1-25 Kamphaengsaen 01-1-12 respectively. The other low stability cultivars were Kamphaengsaen 94-13 and Kamphaengsaen 01-4-29. For ccs value KK 3 and Kamphaengsaen 01-1-12 gave a high value. For the high yield cultivars KK3 was the highest stability cultivars whereas Kamphaengsaen 01-1-12 gave a medium stability. For sugar yield, the high sugar yields were Kamphaengsaen 94-13 Kamphaengsaen 01-1-12 and KK 3 respectively. All cultivars gave nearly the same yield. The highest stability cultivar with high yield was Kamphaengsaen 94-13

The main factors that effect the variation of cane yield and sugar yield in plant cane was environment. While affect of environment and variety were almost the same level in ccs. Affect of environment, ccs and sugar yield in ratoon cane were almost the same level in plant cane. Yield components that suitable for selection the high cane yield variety were weight per stem and stem number per rai. For high ccs variety, all components of ccs should be considered. Moreover, both cane yield and ccs would affect the high sugar yield.

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Thesis Advisor's signature