

Piyatida Insuk 2010: Stability Analysis in CCS and Its Components of 2000 and 2001 Kamphaeng Saen Sugarcane Cultivars. Master of Science (Agronomy), Major Field: Agronomy, Department of Agronomy. Thesis Advisor: Associate Professor Rewat Lersrutaiyotin, D.Agr. 116 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 20 varietal trials, 5 in the northwestern, 5 in upper part of western, 5 in lower part of the western, 3 in lower part of northern and 2 in eastern. Data of CCS and its component in plant cane and first ratoon. Important CCS components were analyzed by path-coefficient and were collected varietal stability were analyzed by AMMI.

The resulted revealed that Kamphaeng Saen 94-13 and Kamphaeng Saen 01-1-12 had the highest CCS, respectively, in plant cane in which Kamphaeng Saen 94-13 had the intermediate stability and Kamphaeng Saen 01-1-12 had the low stability. In ratoon cane, Kamphaeng Saen 01-1-12 and Kamphaeng Saen 00-129 had the highest CCS, respectively, in which both varieties had the high stability. Results from the studies of relationship and effect of CCS components to CCS revealed that CCS had the highest positive correlation coefficient with pol in almost the same level as those with brix and purity. Correlation coefficient was observed to be highest between brix and pol in every area and in both plant cane and ratoon cane. Fiber percentage was found to have the positive correlation coefficient with CCS and with other components, but had the negative direct effect to CCS and negative indirect effects via other components to CCS in every area and in both plant cane and ratoon cane. Moreover, the plant cane of the northeastern had the lower values in correlation coefficient, direct effect and indirect effect compared to other areas.

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Thesis Advisor's signature