

Kunchorn Puchayakorn 2014: Comparison of Hybrid Sugarcane Clones from Different Crosses in CCS and CCS Components of Plant Cane and First Ratoon Cane. Master of Science (Agronomy), Major Field: Agronomy, Department of Agronomy. Thesis Advisor: Associate Professor Rewat Lersrutaiyotin, D.Agr. 234 pages.

CCS, brix, pol, purity and fiber percentage were studied for quality evaluation of 120 sugarcane hybrids from 120 crosses, each cross had 10 hybrids, in plant cane ratoon cane at 10 and 11 month at Cane and Sugar Research and Development Center, Kamphaeng Saen district, Nakhon Pathom province. RCBD with 3 replications of 1-row plot, having 1.5 meters in length and 3 stools was used. Data of CCS, brix, pol and purity was collected by using Saccharomate NIR WII, while brix was also collected by using hand refractometer and fiber percentage was collected by using method of Office of The Cane and Sugar Board (2537). Results revealed that number of crosses having significant among 10 hybrids was highest in fiber percentage, 12 crosses at both 10 and 11 month, and lowest in purity, 8 and 7 crosses at 10 and 11 month respectively. Significant difference among crosses were observed in CCS and purity at both 10 and 11 month, in fiber percentage only at 10 month and in brix and pol only at 11 month. Significant difference among between crosses having same female parents were observed in Kamphaeng Saen 01-41-5 as female parent. As crosses having same male parents were significant only in K 84-200 as male parents at 10 month, difference of crosses in female parents. had lower tendency in effect to quality characteristics than difference of crosses in male parents. Non-significant difference was observed between 2 pairs of reciprocal crosses. Number of crosses having significant difference among hybrids in quality characteristics were higher in plant cane than in ratoon cane, at 10 month than at 11 month and in CCS than in brix and fiber percentage. Most sugarcane hybrids had lower fiber percentage and higher brix in plant cane than in ratoon cane. In CCS, most sugarcane hybrids had higher CCS in plant cane than in ratoon cane only at 11 month, while number of hybrids having higher CCS in plant cane was about the same number of those having higher CCS in ratoon cane. Significantly positive correlation coefficient at 0.001 level between CCS and brix and significantly negative correlation coefficient between CCS and fiber percentage were observed in both plant cane and ratoon cane and at both 10 and 11 month, while significantly positive correlation coefficient between brix and fiber percentage was observed only in ratoon cane at 10 month.

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Student's signature

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Thesis Advisor's signature