

Nantida Sena-ach 2006: Study on Fiber Percentage of Sugarcane in First and Second Stage Selection. Master of Science (Agriculture), Major Field: Agronomy, Department of Agronomy. Thesis Advisor: Assistant Professor Rewat Lertrutaiyotin, D.Agr. 73 pages.
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Fiber percentage of 117 sugarcane hybrid clones from 9 crosses (94-12-13 x UT3, 94-12-13 x 98-2-081, 94-12-13 x 98-2-035, 94-12-13 x 99-14-1, 99-14-62 x UT3, 98-2-105 x 99-14-1, 98-2-105 x 98-2-081, 98-2-024 x UT3 and 98-2-024 x 98-2-144) were evaluated in three selection population; ratoon cane of first stage selection, plant cane of second stage selection and ratoon cane of second stage selection. Data were collected in 12 months old cane. Results revealed that fiber percentage in plant cane was higher than those in ratoon canes. Significant difference among crosses in fiber percentage were observed in ratoon cane of both first stage and second stage selection, but were not observed in plant cane of second stage selection. Groups of sugarcane hybrid clones having different female or male parents tended to have non significant difference of average fiber percentage. The evaluation of fiber percentage in different part of stem showed that most of sugarcane hybrid clones had small difference of fiber percentage among three parts. However, some sugarcane hybrid clones were found to have high fiber percentage in top part or basal part of stem. Moreover, fiber percentage had positive correlation coefficient with stem length and negative correlation coefficient with stem diameter in ratoon cane of first stage selection. On the other hand, no significant correlation coefficient between fiber percentage and other yield components were observed in second stage selection. From evaluation of path coefficient, positive direct effect of stem length and negative direct effect of stem diameter to fiber percentage were observed in most of crosses. Direct effect of stem number per stool and brix differed in each cross, but tended to have indirect effect via stem length and stem diameter.

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