

Benjarat Ampan 2012: Comparison of Yield and Yield Components of Sugarcane Clones from Different Crosses. Master of Science (Agronomy), Major Field: Agronomy, Department of Agronomy. Thesis Advisor: Associate Professor Rewat Lersrutaiyotin, D.Agr. 151 pages.

The significance in yield component of 120 hybrid sugarcane clones of 12 crosses (each cross had 10 clones) were evaluated. The experiment was planted using RCBD with 3 replications. Each plot had one row of 1.5 meters having 3 stools and spacing between rows was 1.5 meter. Data of stem number per stool, stem length, stem diameter and weight per stem at 10 and 11 month and that of yield at 11 month were collected. Significant differences were observed in the average yield and yield component characteristics of sugarcane hybrids between different crosses and between different female and male parents. Most of yield component among hybrids of each cross were significant. From the correlation coefficient analysis, stem length, weight per stem and stem number per stool were observed to have high correlation coefficient with yield, respectively. Stem length was also the important component of weight per stem, in which stem number per stool had negative correlation coefficient with weight per stem. Stem length was observed to have low correlation coefficient with different parts of stem diameter. Stem diameter was observed to have high correlation coefficient among different parts of stem. From the evaluation of path coefficient, stem number per stool was observed to be the yield component having the most significant effect to yield, in which was direct effect, in total hybrids. Stem length and weight per stem also had high effect to yield and were also direct effect. On the other hand, stem diameter had rather low effect to yield and had rather high indirect effect through weight per stem. In the hybrids having the same female or male parents, stem number per stool was still the yield component having the most significant direct effect in most of parental varieties and stem diameter was the yield component having low effect. The difference in significant yield component yield components of hybrids of hybrids of each female and male parent tended to be not relate to yield component characters of female and male parents. Moreover, the difference of weight per stem calculated from samples and plot was about 30 percentage in each cross. The increase of weight per stem between 10 and 11 month in each cross was about 30-50 percentage, while those of stem length and stem diameter were about 0-10 percentage

---

Student's signature

---

Thesis Advisor's signature