11th GERMPLASM AND BREEDING & 8th MOLECULAR BIOLOGY WORKSHOPS

Drought Tolerance of Sugarcane Crosses and Parents

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The target

it’s possible or not to make drought evaluation without irrigation control?

Table 1 Materials and trial information

Trial	Cross number	Female parent number	Male parent number	Parent number
Trial1	78	50	48	86
Trial2	38	33	32	63
Trial3	77	53	42	87

Results

Table 2 Consistency of parents' classification

Level	trials 1 and 2 (%)	trials 1 and 3 (%)	trials 2 and 3 (%)	All trials (%)
Same level	39.83	46.75	46.75	24.24
One level difference	41.56	43.72	41.99	50.65
Less than one level difference	81.39	90.48	88.74	74.89

Drought Tolerant Parents

There are 108 parents are consistent between trials 1 and 3, and 33 direct parents shared at least in one trial. The parents with best performance are CP65-357, CP72-1210, ROC11, ROC26, CDZ93-88, CGZ75-65, CGT92-66, CGT94-119, CGT00-122, CYT00-236, CYN73-204 and CYZ89-7. The parents of poorest performance are CP84-1198, ROC1, ROC5, ROC10, ROC22, ROC25 and CGT02-901.

What changes will be made for next following two years trials?

The first is the investigated traits, for the family trials we investigate the green leaf numbers and dry leaf numbers and calculate the ratio between green leaf numbers and total leaves.

The second is to carry out standard drought trials in Hainan during drought seasons.













The primary shows that the first traits was the death rate of stalk, it’s ok for the poor performance varieties.
However, if one variety had the low death, it will be not sure for good drought tolerances or not. And also the result can’t explain why some varieties with poor drought tolerances can be cultivated in production.
so we need to look for other traits. It seems the volume of internode will be ok for there were not differences before and after drought stress for the treatment. it’s mess if you them for classification. The problem came from interaction between variety and treatment. So ration of volume before stress and stress would be much better.
Some changing will be made for the this dry season.


Thanks for your attention!
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