Objectives
To discuss the techniques adopted in sugarcane crossing as well as the results of 2009 crossing season at Sugar Research Institute of Fiji.

Material and Methods
Pollen viability tests were carried out for polycrosses, *Erianthus* and *S. robustum*. The seed set from the crosses was achieved after fuzz sowing and correlation were carried out. The pollen viability of *Erianthus arundinaceus* and *S. robustum* was also studied at different

Results and Discussion
The pollen viability for the polycrosses range was found to be as high as 85% while for *Erianthus* was 80% and for *S. robustum* range was 50%.

The r value was found to be 0.1906 while the \( r^2 \) value came to 0.036 for correlation between pollen viability and seed set of the 2009 crosses meaning poor correlation between the both which is expected since parent incompatibility, fuzz storage and growth also may contribute to poor seed set.

Some crosses with 0% pollen viability gave good seed set hence indicating pollen contamination — however no major discrepancy is expected since majority are polycrosses.

*Erianthus arundinaceus* sheds pollen between 5-6 a.m. with the highest viability of 70-80% between 5.30 and 6.30 a.m. Further studies will be done in 2011 to ascertain this.

Conclusion
There is no correlation between pollen viability results and the seed set which is expected since other factors like pollen incompatibility, fuzz handling/ storage and growth medium are involved. The anthesis time for *Erianthus arundinaceus* was found to be 5.30 a.m. to 6.00 a.m. however more data need to be collected over a few more days to ascertain this.