



SELF-INCOMPATIBILITY AND EVIDENCE OF DOMINANCE RELATIONSHIP BETWEEN S-ALELES IN PASSION FRUIT

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Introduction

Passion fruit exhibits sporophytic self-incompatibility, which leads to several implications for plant breeding strategies.

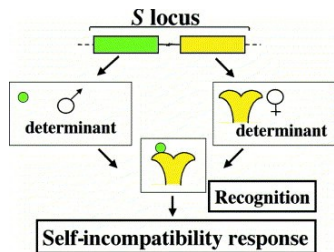


Figure 1: The process of self incompatibility determination in plants

Self-incompatibility is a widely known mechanism in hermaphrodite plants, which leads to the prevention of self-fertilization and cross between related plants, being one of the most important systems to prevent inbreeding

Objective

This work aimed to evaluate the genetic compatibility among elite accessions of the Passionfruit Breeding Program of the Universidade Federal de Viçosa.

Materials and methods

1) Plant formation



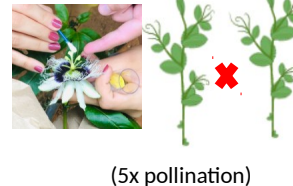
Cultivation of the 13 genotypes in a greenhouse

2) Emasculation



Emasculation process in the pre-anthesis

3) Crossing in diallel scheme



(5x pollination)

Evaluation of compatibility by pollination.

Results and discussion

Table 1: Classification of the crossings obtained.

Classification	Number of genetic combinations	Percentage (%)
Compatible	40	25.64
Incompatible	55	35.26
Partially compatible	61	39.10
Total	156	100

Difference between Hybrid and reciprocal compatibility

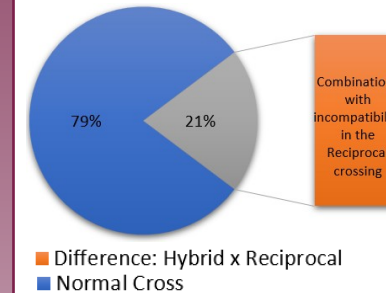


Figure 2: Percentage of combinations with difference in hybrid and reciprocal crossing

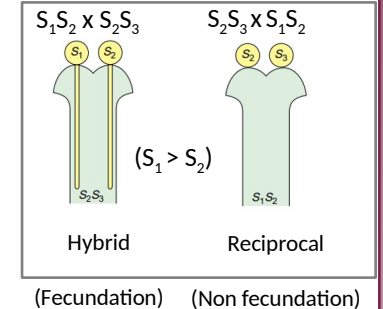


Figure 3: Dominance relationship between the S-alleles

Conclusion

The information of compatibility between the genotypes and the understanding of the allelic relationships obtained will enable better establishment of the crossing strategies between these genotypes, with greater efficiency.

Acknowledgments

The authors thank CAPES, CNPQ and FAPEMIG for their support.