



LOOKING AT VIGOUR IN PROPAGATED COCOA PLANTS

Understanding the differences between seedling and vegetatively propagated plants which could lead to accelerated progress in breeding strategies.

In many plant and animal species, crosses made between dissimilar parents result in superior offspring, this is known as hybrid vigour. Many breeding trials have sought to use this effect in cocoa, but studies in Malaysia found that although the seedling plants from such crosses were indeed vigorous, the plants propagated from them, and therefore genetically identical to them, were 40% less vigorous.

It is important for **breeders** and **nursery managers** to understand if this is due to genetic configuration or to other factors.

The project is investigating:

- The effects of juvenility and grafting on early vigour by analysing the growth rates of young plants established from:
 - Seed
 - Budding
 - Somatic embryogenesis from stock of different ages.
- The implications for breeding strategies.
- The implications for stock management.

BUDDING is a special form of grafting in which a single bud of a desired variety is inserted into the stock.

SOMATIC EMBRYOGENESIS generates plants from single cells.

Experiments will also investigate if mature plants can be 're-invigorated' by serial budding.

The project is on-going, however initial indications suggest that there may be other factors involved in vigour than the age of the material or the formation of the graft union.

Information concerning access to information will be posted at the end of the project in 2011.

It is hoped that the findings from this project will contribute to the establishment of clearer cut breeding strategies in the future, together with more efficient strategies for the management of plant stocks.



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