D42

A STUDY OF GENETIC PARAMETERS FOR FLOWERING TIME IN WINGED BEAN (*PSOPHOCARPUS TETRAGONOLOBUS* (L.) DC)

A Sooriyakala
Postgraduate Institute of Agriculture, Peradeniya

H N de Silva
Dept. of Botany, University of Colombo

The genetic parameters for flowering time in winged bean were investigated using six basic generations derived from a cross between an early flowering introduced variety URS 122 and a late flowering local selection SLS 44. Additive and dominance gene effects were found to make significant contributions to the expression of flowering time. Epistasis, notably additive X additive and dominance X dominance gene effects were also significant. Non-allelic interactions were predominantly of a duplicate kind and the interacting alleles were dispersed.

This work was supported by the Winged Bean Institute

References

1. De Silva, H.N. and Omran, A. (1986) Diallel analysis of yield and yield components of winged bean (Psophocarpus tetragnolobus (L.) DC). Journal Agricultural Science Cambridge 106 485 - 490.
2. De Silva, H.N. and Omran, A. (1986) Genetics of phenological and vegetative characters in winged bean (Psophocarpus tetragnolobus (L.DC). Tropical Agriculture 63 181 - 186.
3. Mather, K. and Jinks, J.L. (1971) Biometrical genetics, 2nd ed. Chapman and Hall, London.

multiple layers measuring a few mm in thickness. The topmost layers were thinner than the lowermost layers. The topmost layers were found to consist of fine grained quartz in a calcareous matrix whereas the lower layers had coarser quartz grains. In both layers, the mineralogy was the same, the other minerals present being calcite, dolomite and accessory feldspar, magnetite, mica and ilmenite.

In the calcareous matrices, both calcite and dolomite were noted. The matrices also showed cracks which had subsequently been filled with secondary calcite. Reddish brown carbonaceous material was found disseminated in the calcareous matrices. Some of this carbonaceous material resembled paddy husks and hay.

The unburnt carbonaceous material suggests a non thermal process for the manufacture of the plasters, whose plasticity could have been obtained by the addition of a plastic clay which may have contained the minor minerals such as feldspar, mica, ilmenite etc. Multiple layering characterized by different types of paintings suggest the development of the plaster over different archaeological periods. The frequent occurrences of dolomitic marble in the environs of Sigiriya seem to have tempted the ancient technicians to use them as the base material for plasters.