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ESTABLISHMENT OF A CORE COLLECTION OF WILD *HEVEA BRASILIENSIS* (WILLD.EX ADR.DE JUSS.) MUELL. ARG. GERMPLASM IN INDIA

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The present study is the first attempt towards establishment of a core collection of *Hevea brasiliensis* germplasm. The method adopted makes use of both quantitative data identified as morphological markers along with a set of qualitative morphological characterization data for evaluating the diversity in the base collection using principal component scores and Shannon-Weaver Diversity Index. The functional relationship between the cumulative contribution of the wild *Hevea* accessions to the total sum of squares and the number of accessions, which was essentially a logistic regression model, was used to decide the appropriate size for the core set. The method selected 23 wild accessions of wild *H. brasiliensis* constituting 28.75% of the base population.

Key words: Core collection, Germplasm, *Hevea brasiliensis*.

INTRODUCTION

Germplasm collections form an invaluable reservoir of genetic diversity of agriculturally important crops and of native plant species, many of which are being lost worldwide due to habitat destruction, invasion of foreign species and reliance on fewer high yielding geno types. In view of the long-term needs of mankind, countries all over the world have set up facilities for conservation and management of large collections of germplasm of various crops for their use by breeders and research workers either directly or indirectly. The usefulness of the collections largely depends on the extent of genetic diversity present in such collections. Most gene banks include a large number of accessions posing serious problems in its management and accessibility for breeding purposes besides imposing severe limitations on land and resources (Frankel, 1984; Frankel and Brown, 1984).

Recognizing the problems associated with large germplasm collections, Frankel (1984) proposed the concept of core collection, which was further elaborated by Frankel and Brown (1984) and Brown (1989). A core collection is defined as a subset consisting of a limited set of accessions derived from the base collection, chosen to represent the genetic spectrum in the whole collection. It is a manageable-sized, structured sample representing the diversity of the collection. The degree to which a collection represents the genetic diversity available in the species is more

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