

Seed morphometrics study of *Jatropha curcus* L. of North-east India for the potentiality of oil content

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SUMMARY

The paper deals with the detail study of the morphological characteristics of seeds, viz., seed weight, seed kernel weight, seed coat weight, seed length, seed breadth, seed thickness and colour of the *Jatropha curcus* L. of north-east India. The study suggested the kernel weight and kernel percentage affect the seed weight of *Jatropha curcus* L. However, variation of coat percentage has no effect on kernel weight and kernel percentage.

Key Words : *Jatropha*, Seed morphometrics, North-east India

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Seed morphology serves as a source of systematic characters to circumscribe sub generic groups or hypothetical relationship among species within a genus (Mathews and Levins, 1986; Augustine *et al.*, 2001). The morphological characters of seeds not only serve as taxonomical markers but also serve in deducing phylogenetic relationship. The morphometric characters of seeds are ever challenging to the taxonomic and phylogenetic issues that would be a great help both in academic as well as in applied ventures (Rani *et al.*, 1993). Different morphological characters together with seed yield are necessary for identification of suitable selection criteria for developing high yielding varieties.

Jatropha curcus L. is a prominent plant with wide variety of uses. Seeds, leaves and bark are used in traditional medicine and for veterinary purposes. The oil has a strong purgative action and is widely used for skin diseases and to soothe rheumatic pain. A decoction of leaves is used against cough

and as an antiseptic after birth (Heller, 1996a and 1996b).

Environmental factors in combination with genetic and physiological factors play important role in determination of plant potential for seed quality. These characters appear to be under strong genetic control (Roy and Chinsamy, 2004). Depending on the species, responds of seed vary according to geographical and environmental factors, viz., latitude, elevation, soil moisture, soil nutrient, temperature, type and density of plant cover, degree of habitat disturbance where the seed mature. So far, only few records are available for *Jatropha* species where an attempt has been examined the genetic variation for seed characters (Ginwal *et al.*, 2005).

MATERIALS AND METHODS

Well developed matured seeds of *Jatropha curcus* L. were collected from various parts of the North-Eastern India. Seeds were properly dried under sunlight. Data on the following parameters of the seeds were taken into consideration – i). Seed length ii). Seed breadth iii). Seed thickness iv). Weight of the seeds v). Weight of the kernels vi). Weight of the seed coat vii). Percentage of the kernel viii). Percentage of whole seed coat ix). Seed colour and x). Seed type. The seed weight, seed length, breadth and thickness were measured using the method of Ginwal *et al.* (2005). Weight was taken in an electric digital balance while measurements for length, breadth and thickness were taken with the help of

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