



सत्यमेव जयते

Department of Biotechnology  
Ministry of Science and Technology  
Block-2, CGO Complex, Lodhi Road, New Delhi 110 003

## Call for Pre-proposal on Application of Molecular Markers for Crop Improvement Under Accelerated Crop Improvement Programme

Molecular marker-assisted selection (MAS) has been suggested as a major approach to supplement conventional plant breeding for augmenting yield and quality in all major crops. For this purpose, DNA-based molecular markers have been developed for a variety of traits through marker-trait association (MTA) studies in all major crops. Most of these markers are available in public domain and can be utilized for MAS. In several crops, including common bean, rice, pearl-millet, barley and maize product development has also been possible. In India also, commercial hybrids in pearl-millet and maize and pure lines in rice have been developed using MAS, and released to the farmers. Moreover, efforts are being made to develop biotic and abiotic resistant rice, wheat and chickpea, quality protein maize and wheat with improved quality.

In order to develop the area of plant breeding research involving MAS, the Department of Biotechnology, Government of India has already taken steps to develop a major project under Accelerated Crop Improvement Programme on validation and utilization of already identified markers available in public domain for important traits for improving all major and some minor crops for better productivity and quality through MAS. In the first phase, proposals were invited last year, and a number of projects have already been approved for funding.

In order to encourage plant breeders to adopt this new technology as a component of conventional plant breeding, the Department of Biotechnology decided to issue another call for inviting fresh pre-proposals from universities, public and private research institutes and non-profit organization in the country for funding. In particular, concept papers, each giving a brief outline of the project aimed at improving a crop through integrated plant breeding involving MAS will be considered. **Priority will be given to the projects focused at the delivery of product(s) in the form of a variety or improved genetic stock having potential as a breeding material.** Those having expertise in respective areas as evident from the publications in high-impact factor journals or product development may apply. The pre-proposal not exceeding 5–7 pages elaborating the current problems and the proposed molecular breeding strategies for alleviating the problem in 3–5 years period may be submitted.

Fifteen (15) copies of the duly signed pre-proposal (forwarded by the competent authority) may be submitted positively by **28 February 2012** to **Dr R. R. Sinha**, Advisor, Department of Biotechnology, Block 2, 6th Floor, CGO Complex, Lodhi Road, New Delhi 110 003. The pre-proposal should include the following information: (1) title of the concept; (2) its preliminary proof; (3) major objectives/milestones; (4) Whether markers have been validated or not; (5) expected deliverables/outcomes; (6) proof of expertise in form of publications in high impact factor journals or participated in any programme of breeding using MAS; (7) the budget required; (8) projects in hand and (9) association with industry (if any). The Department of Biotechnology encourages joint proposals from competent persons from multiple institutions with clear complementation of activities.

Pre-proposals with scientific merit, **only in the desired area as mentioned above** will be short-listed by a screening committee for discussion and development of detailed research proposals.