Annex 5. Conclusion of FNCA 2009 Mutation Breeding Workshop

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1. Rice Sub-project: The standard analysis method for amylose and protein content is Juliano (IRRI) method and Kjeldahl method, respectively. Procedure for estimation of phytic acid contents will be provided by Mr. Suniyom Taprab of Thailand. In mutation breeding program of aromatic rice, although the quantification of aroma should be determined, however, it is acceptable for its screening by human smelling. It is unworthy to take program for the improvement of aroma. On the other hand, it would be worthwhile to change the undesirable characteristics closely linked to aroma trait. Since the characteristics of crops are determined by genotype and environmental effects, standard check varieties are very important to draw any sound conclusion of the experimental findings.

2. Ion Beam Irradiation: The optimal irradiation doses based on survival, growth rate, and fertility have been discussed and decided for each variety that participating countries will utilize in rice mutation breeding program. Most of the experiments are well organized and ion beam irradiation will be continued in order to determine optimal doses and to produce mutated population for obtaining the desired mutants. The next irradiation with ion beam will be carried out on February 5, 2010.

3. Banana Sub-project: The protocol in relation to the breeding of disease resistance of banana such as i) induction of the mutation, ii) *in vitro* culture, iii) screening methods in the laboratory and nursery/greenhouse, and iv) evaluation in the hot spots, etc. will be published.

4. Orchid Sub-project: Although Malaysia remained as the only participating country in the final year of this project, it will be successfully terminated by the development of an ion beam induced orchid mutant line, which is tolerant to insect, and will be registered as a new variety in Malaysia. Participants agreed that the evaluation indications for the project are 4 and the inputs from the other participating countries, Thailand and Indonesia, should be included in the evaluation format.

5. FNCA/RCA Synergy:

All participants agreed to the following recommendations;

1) Mutual participation of selected experts (e.g., Project Leaders/Coordinators) in FNCA and RCA workshop is very beneficial.
2) Improving communication or information exchange between Experts/Project Leaders in charge of FNCA and RCA in each country is important and should be strengthened.
3) Packages of techniques on mutation screening and molecular characterization, which RCA is going to transfer to member states through training courses, should be very useful for effective implementation of FNCA project on mutation breeding of rice and banana.

6. The candidates for organizing next Workshop in 2010 are either Thailand or Bangladesh.