

A computer model for land use planning and analysis

A TOOL for land use analysis that generates natural resource management options is needed to guide policy changes, and to assess the scope of agricultural systems beyond the constraints of current policies.

In collaboration with 'Systems Research Network for Eco-regional Land Use Planning in Support of Natural Resource Management in Tropical Asia' (SysNet), a user-friendly computer model for exploratory agricultural land use planning has been developed, assessed and tested in a localized regional setting. It was based on an exploratory land use study approach, and employed the 'Interactive Multiple Goals Linear Programming (IMGLP)' optimization model. The model is called 'Land Use Planning and Analysis System (LUPAS)'. It employed the following inputs; a) objective functions, b) land units c) land evaluation, d) resource balance (land, water and labor), e) promising land use types and

production technology, f) agricultural inputs and outputs, and g) market demand for agricultural products. The model simulates current and future scenarios with a built-in capability for handling 'what-if' questions. A prototype model has been developed using optimization software with links to a spreadsheet, where input data are retrieved and the results of optimizations are saved. It is also linked to GIS databases for spatial display of the results. A user-friendly interface has also been built using a local web server, to provide easy running of the model and retrieval of the results. The output is in the form of tables, charts and maps. The prototype also offers facilities for comparing results between model runs.

News source: **MARDI, Malaysia**

For further information:
E-mail: ismailab@mardi.my

Germination of Selected Palm Species

MOST PALM species take a long time to germinate, and the percentage of seeds germinating is very variable. These make the availability of planting materials a problem. Results of research by Protacio *et al.* of the University of the Philippines at Los Baños, Laguna, Philippines, improved the germination percentage of palms.

Fish-tail palms (*Caryota rumphiana*). Keeping seeds inside the vegetable compartment of a refrigerator at 8° C for 1 week improved germination to 91.13%. Cleaning freshly harvested seeds, and storing them for one month in an air-conditioned room (23±3°C) gave 75.53% germination.

Bunga palm, Betel palm (*Areca catechu*). Soaking seeds for two days in tap water, then keeping them for seven weeks in 1:1 sand and coconut coir dust gave 100% germination. Seeds soaked in hot water (50°C) for 15 minutes had a germination rate of 95.88%.

McArthur palm (*Ptychosperma macarthurii*). Seeds soaked in tap water for two weeks and sown in 1:1 sand and coconut coir dust medium had a 100%

germination rate. Seeds kept in paper towels and newspapers had a 98% germination rate after eight weeks.

Pinanga Tiger palm (*Pinanga maculata*). Seeds soaked in tap water for two days and sown in 1:1 sand and coconut coir dust had a 93.33% germination rate.

Bamboo palm (*Chamaedorea seifrizii*). Seeds had an 83.33% germination rate, 2.5 months after sowing, using the exposed technique and 1:1 soil and coconut coir dust as a medium.

Anahaw palm (*Livistona sp.*). Seeds were soaked in tap water for two weeks to remove the fleshy pericarp. They germinated in garden soil under full sunlight.

News source: **The Philippine Council for Agriculture, Forestry and Natural Resources Research and Development**

For further information: PCARRD Highlights 2000
E mail: pcarrd@ultra.pcarrd.dost.gov.ph
Fax: 63-49-536-0016

Selection of Local Litchi Cultivars in Vietnam

MOST PRODUCTION areas of litchi in Vietnam are planted in an early cultivar, Thieu Thanh Ha. The harvest season of this variety is very short. This gives rise to a problem of storage and marketing. In order to solve these problems by diversifying the varieties grown, screening and evaluation of local varieties were carried out to assess their yield, the quality of their fruits, and their fruiting season.

Seven major production provinces in the North were surveyed, from which 31 cultivars were collected and evaluated. Of these, eight cultivars were evaluated as outstanding. The earliest two varieties, Duong Phen and Hao Hong, were harvested from mid-April, while the latest, Thieu Thanh Ha, ended its harvest season at the end of June. Balanced distribution of these cultivars should elongate the harvest season to 70-80 days. The

single fruit weight of these 8 cultivars ranged from 20.7 g (Thieu Thanh Hoa) to 33.4 g (Binh Khe). These selected cultivars were found to be highly productive and relatively resistant to pest and diseases.

Based on these survey results, it is now being proposed to register the two cultivars, Thieu Thanh Ha and Hung Long, as national litchi varieties in Vietnam. The other six promising cultivars are to be included in a regional testing program for litchi.

News source: **Department of Agriculture and Forestry Extension, MARD**

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Development of Silkworm Breed, 'Hachojam'

A SILKWORM breed was developed and given a name of 'Hachojam'. This breed does not make the usual cocoons. Pupae yield per 10,000 individuals of the breed was on average 24% higher than that of cocoon-producing breeds. Because the effort for cocoon cutting was not required with this breed, the labor of producing *Paecilomyces japonica* could be reduced by 34%. This breed is expected to be useful for the

production of substances to lower blood glucose level, interferon, and functional food materials, for which cocoon making is unnecessary.

News source: **National Institute of Agricultural Science & Technology, RDA Suwon 441-707, Korea**

For further information: E-mail: kangpd@rda.go.kr