

MPOB BREEDING INFORMATION SYSTEM (MPOB-BIS)

MOHD DIN, A; RAJANAIDU, N; KUSHAIRI, A; MARHALIL, M and ZAHARAH, R

599

MPOB INFORMATION SERIES • ISSN 1511-7871 • JUNE 2012

MPOB TT No. 512

The MPOB Breeding Information System (MPOB-BIS) was developed for efficient handling of data for oil palm breeding (Figure 1). The integration and sharing of data from various sites are facilitated and made more systematic. MPOB-BIS comprises data entry, record checking, data analysis and data storage. Reports are produced in tabular form together with statistical outputs. MPOB-BIS is based on Client/Server Architecture technology, where data is stored in the database on a computer server and accessible through a personal computer.

METHODOLOGY

MPOB-BIS comprises two modules:

1. Data Processing Module – data from breeding research activities such as recording of bunch yield, bunch analysis, vegetative measurement, fatty acid composition and vitamin E, which are entered and checked. Raw data are used to generate derived data. Reports on population mean, family mean and analysis of variance (ANOVA) are produced (Figure 2).
2. Breeding Process Module – germplasm data collection are captured in the module followed by data from the crossing programme, which includes source of pollen, pollination, seed germination, nursery, field planting and passport data. Reports on activities, parents and pedigrees are produced (Figure 3). The flow chart of MPOB-BIS is shown in Figure 4.

BENEFITS

- Provides an infrastructure for delivery of information in a user-friendly manner and with easy and quick access of information, whenever and wherever required.
- Ensure that outputs are generated in a timely, accurate and measureable manner.
- An efficient back-up system to safeguard against data loss or damage.

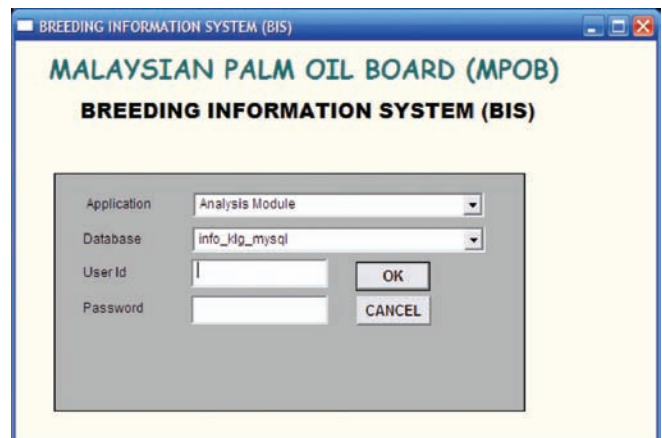


Figure 1. MPOB-BIS start menu.

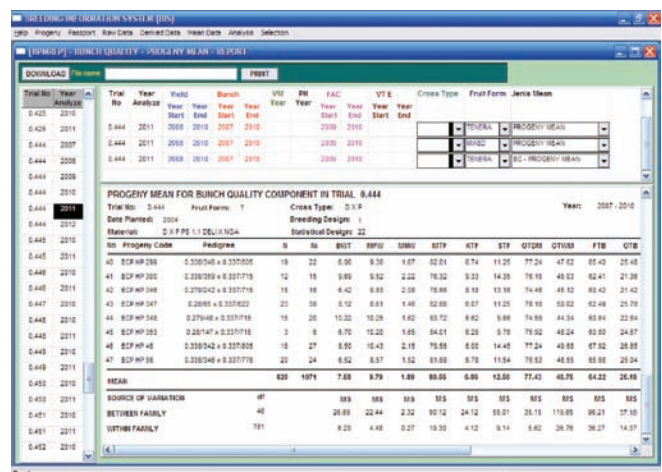


Figure 2. MPOB-BIS output on Data Processing Module.

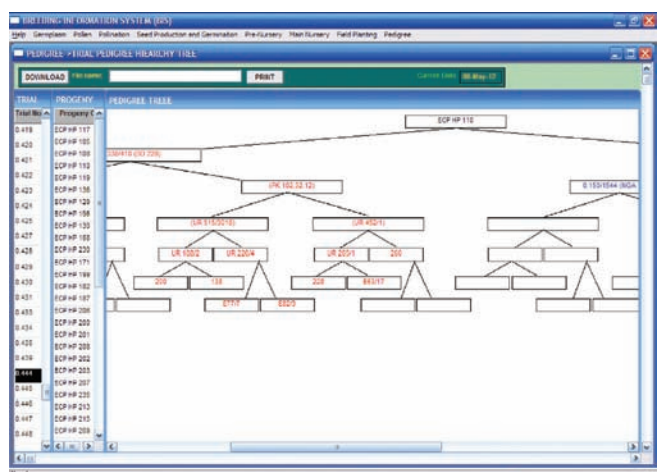


Figure 3. MPOB-BIS output on Breeding Process Module.



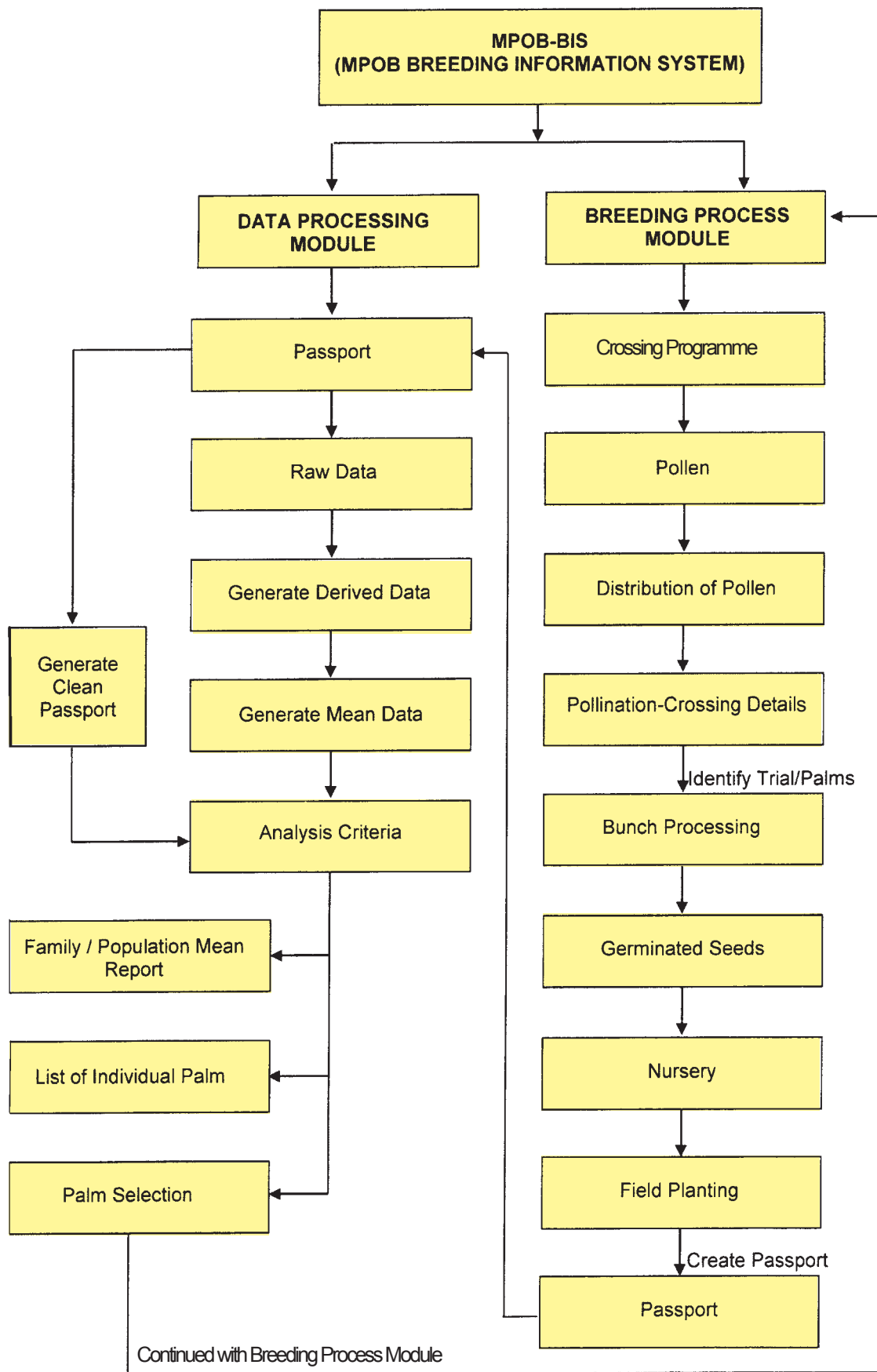


Figure 4. Flow Chart of MPOB Breeding Information System (MPOB-BIS).

REQUIREMENT

Personal computer with appropriate software and server.

PROPOSED BUSINESS MODEL

MPOB proposes to license this technology to an IT company or members of the oil palm industry, which will provide the following services:

- installation;
- training;
- data migration; and
- technical after sales service.

ECONOMICS

- Time required for data checking and data entry reduced from seven to four days.
- Data can be accessed in real time and immediately.
- Time required for data entry and generation of report reduced from 25 to seven days.
- Labour and material costs reduced significantly.

WHO WILL BENEFIT

Members of the industry involved in plant breeding activities.

REFERENCES

KUSHAIRI, A and RAJANAIDU, N (2000). Breeding populations, seed production and nursery management. *Advances in Oil Palm Research*. Vol. 1. MPOB, Bangi. p. 39-88.

KUSHAIRI, A; MOHD DIN, A and RAJANAIDU, N (2010). Oil palm breeding and seed production. *Further Advances in Oil Palm Research*. Vol. 1. MPOB, Bangi. p. 47-101.

RAJANAIDU, N; KUSHAIRI, A; RAFIL, M; MOHD DIN, A; MAIZURA, I and JALANI, B S (2000). Oil palm breeding and genetic resources. *Advances in Oil Palm Research*. Vol. 1. MPOB, Bangi. p. 171-237.

For more information, kindly contact:

Director-General
MPOB
P. O. Box 10620
50720 Kuala Lumpur, Malaysia.
Tel: 03-8769 4400
Fax: 03-8925 9446
www.mpob.gov.my