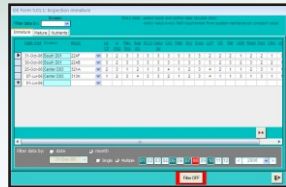## OMP-AMIS software overview

OMP-AMIS is a site-specific information system for oil palm estate management, based on a powerful DBMS and GIS.

The system can be extended with set of Add-In programmes and extensions.

### FIELD UPKEEP

OMP-Field upkeep is a program used to print OMP-AMIS data collection forms and to perform general field assessment surveys, for example, to collect, store and process field survey data on nutrient management and upkeep standards in immature and mature areas.

### Crop loss audit

OMP-Crop loss audit is a program to monitor the estimated crop loss in the field due to sub-standard harvesting. A representative, randomly selected number of blocks is audited after harvesting, and the missed ripe bunches and uncollected loose fruit are used to calculate overall losses for the
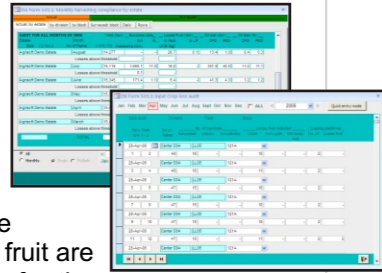
### Yearly crop budget

OMP-Crop budget is a program to prepare yearly production budgets for the upcoming year on a 'per block' basis. Productivity indicators and yield data from previous years are used for decision support during the preparation of the budget.
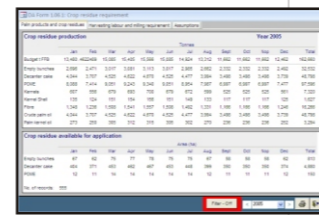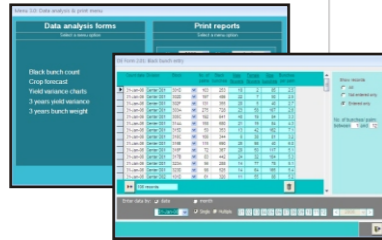
### Pesticide use

OMP-PM is an Add-In module for the planning and monitoring of pesticide and herbicide applications in the estate. The DBMS stores records on recommended pesticide use and actual application and tracks details of the rate, timing, pesticide type and application method for each block.
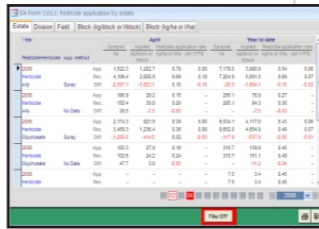
### Black bunch count and yield forecast

OMP-Yield forecast is a program to produce short term yield forecast scenarios. Black bunch surveys in representative blocks are used to calculate the expected yield for the upcoming 4 month.

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### Technical fact sheet

OMP-AMIS is designed for the MS Windows and MS Office IT environment. To use the programs you need to have the following software installed:

OMP-AMIS© :  MS Access 2000 - 2007

OMP-GIS©   :  MapInfo™ 8.0 or later

GIS support :  MapInfo™, ESRI ArcGIS™ or any
comparable GIS software

### Our Customers

Indonesia: Cargill CTP Holdings Pte Ltd: Hindoli, PT Harapan Sawit Lestari, PT Indo Sawit Kekal; PT Agro Indomas (5 estates); PT Agro Bukit (4 estates); PT Bumitama Gunajaya Agro; PT Asiatic Persada; PT Henrison Inti Persada; PT Ganda Buanindo; Bakrie Sumatra Plantations; Permata Hijau.

Malaysia: Kulim (Malaysia) Berhad: EPA (30 estates); Agrohope Sdn. Bhd., Felda Agricultural Services Sdn. Bhd., Kumpulan Guthrie Sdn. Bhd. (Labu estate), PPBOP Sapi Plantations Bhd., IOI Pamol Plantation.

Papua New Guinea: Kulim Ggroup New Britain Palm Oil Ltd (NBPOL): Higaturu, Higaturu Outgrowers, Milne Bay, Milne Bay Outgrowers, Poliamba, Poliamba Outgrowers; Dami Oil Palm Researh Center; SIPEF Hargy Oil Palm ltd.

The Solomon Island: Guadalcanal Plains Palm Oil Ltd (GPPOL).

Guatemala: Agroamerica (Agroaceite and Agrocaribe).

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# PRECISION PLANTATION MANAGEMENT

OMP-AMIS Agriculture Management Information System

# OMP-AMIS©

## Core Database Management System

### Site-specific field data management for precision agriculture

**Site characteristics and potential**

**Palm stand, census, area statement**

**Crop yield, harvesting, productivity**

**Nutrition and crop residue use**

**Leaf analysis, deficiency indicators**

**Soil analysis, properties, protection**

**Pest and disease surveys**

**Pesticide use, IPM**

**Climate, water deficit**

**Field upkeep standards**

**OMP** Oil palm Management Programs
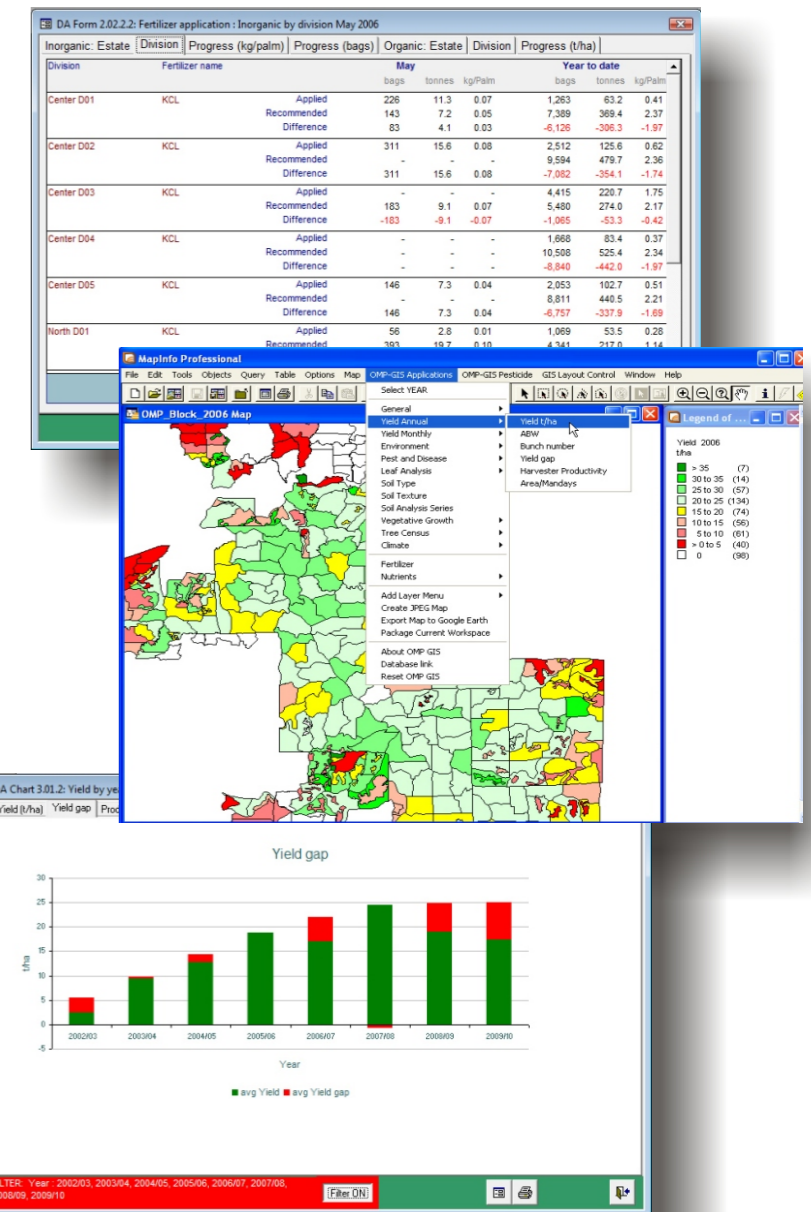
OMP-AMIS *was selected by our customers as agronomy management information systems, because it helps managers and agronomists alike to achieve outstanding results.*



### Answers for planters...

*Where is the yield coming from?*

*How are work plans for field upkeep tasks implemented?*

*Which fields and divisions have delayed fertilizer applications.*

*Which fields do not implement the proper harvesting interval for maximum yield recovery?*

*Where is the installation of soil conservation techniques required to increase productivity?*

### ...Agronomists

*Which fields have the most potential for improvement?*

*Are nutrient programs supported by field data and implemented on time?*

*How are leaf trends and vegetative parameters developing over time and location?*

*What were the changes to soil chemical fertility over the past 10 years? Where and why did they happen?*



### ...and technical services

*How to increase production with sustainable and socially accepted production methods.*

*When is the best time for replanting and what planting material should be used?*

*How are BMP survey blocks performing compared with standard practice blocks?*

## Proven software for site-specific precision management

Oil palm management has become more resource and cost-ccritical after a decade of rapid area extension. Plantation managers need to focus on key issues to maintain a successful and competitive operation:

- **To achieve maximum economic yield for given location.**
- **To optimize input use efficiency.**
- **To minimize negative impact on the environment.**
- **To maintain long term sustainability with socially accepted field management practices.**
- **To document activities and impacts and prove the quality of the product.**

OMP-AMIS and OMP-GIS are suite of programs that form a comprehensive integrated agricultural management information system. OMP is designed for precision plantation management. It support managers, agronomy advisor and technical service departments in strategic and day-to-day decision making.

### OMP - Oil Palm Management Program

OMP addresses: yield potential, yield gap analysis, optimal crop recovery, best management practices, field maintenance standards, nutrient requirements and fertilizer management, soil protection, integrated pest management, ISO and RSPO certification.
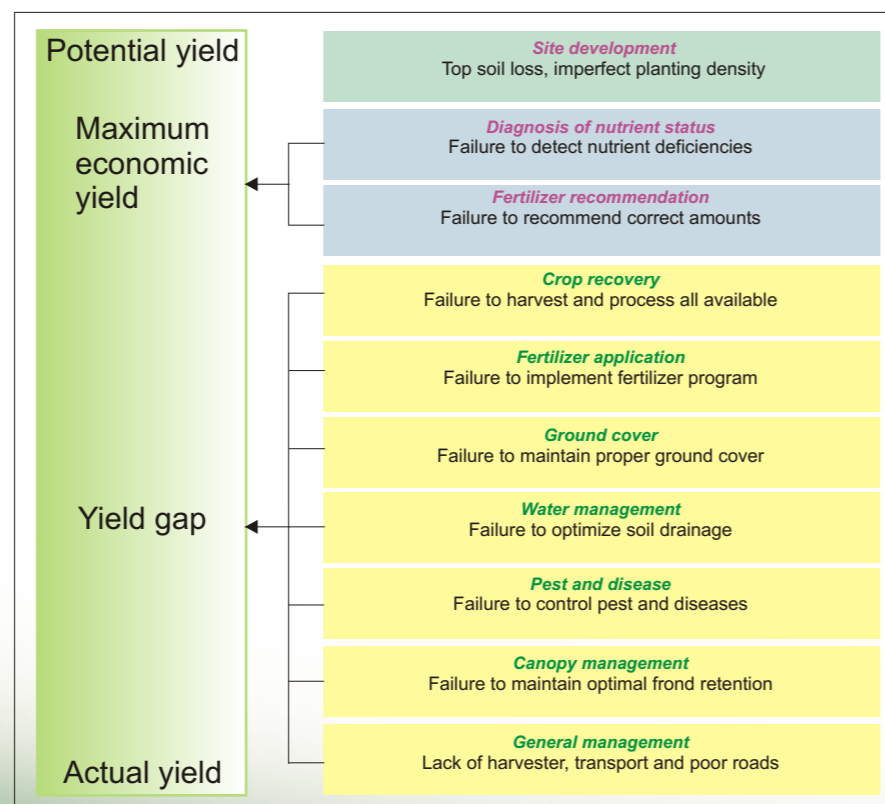
OMP data include all stages of the life cycle of the palm stand: *nursery treatment and culling, site development and planting, immature phase, productive phase, replanting.*

OMP maintains a historic database which allows time-line data analysis and mapping of trends overtime. It is a comprehensive long-term documentation of all management impacts.

### How to increase productivity...

Research has shown that many plantations only achieve less then half of the climatic and genetic potential of a particular site. Yield potential is a very important parameter for planters, and the installation of best management practices as an integrated approach to maximize yield, is an accepted method to develop management plans for maximum economic yield.

OMP-AMIS provides the tools and systems to implement these programs on a large scale. The yield gap model sets the framework for data management.

| Potential yield | **Site development** Top soil loss, imperfect planting density |
|---|---|
| Maximum economic yield | **Diagnosis of nutrient status** Failure to detect nutrient deficiencies |
| | **Fertilizer recommendation** Failure to recommend correct amounts |
| | **Crop recovery** Failure to harvest and process all available |
| | **Fertilizer application** Failure to implement fertilizer program |
| | **Ground cover** Failure to maintain proper ground cover |
| Yield gap | **Water management** Failure to optimize soil drainage |
| | **Pest and disease** Failure to control pest and diseases |
| | **Canopy management** Failure to maintain optimal frond retention |
| Actual yield | **General management** Lack of harvester, transport and poor roads |

A yield gap model identities reasons for low productivity.

## OMP System Overview

OMP-AMIS is a site-specific information system for agronomy and field data management in oil palm estates. It handles data that influence the performance, efficiency and profitability of the estate.

The database keeps comprehensive records of agronomy information and acts as back-end server for add-in and GIS extension programs. Its modular design can be adjusted to specific conditions and requirements.

OMP provides a comprehensive set of data analysis tools and reports for structured decision support and precision agriculture including spatial data analysis GIS.
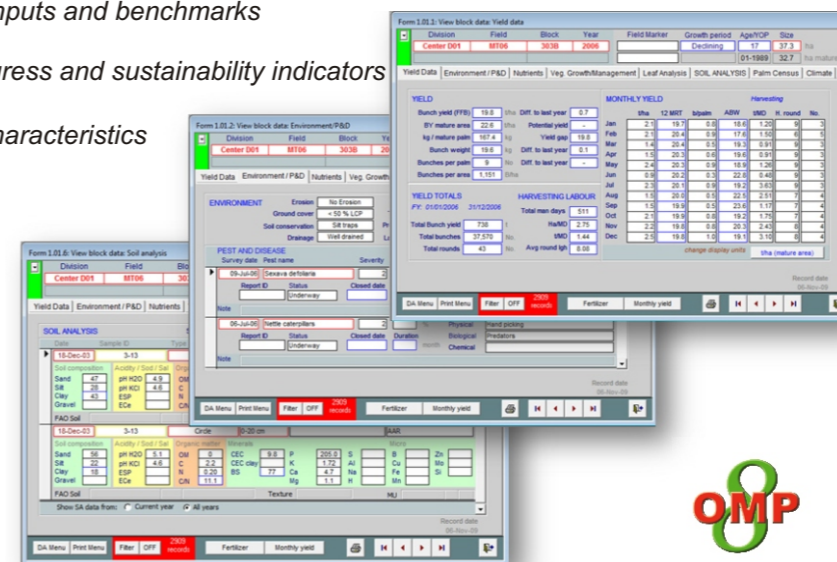
The estate management structure is represented in OMP in four levels: *Estate or Estate group, Division, Field, Block.*

Production and productivity parameter

Inputs and benchmarks

Progress and sustainability indicators

Site characteristics



### 'You can only manage what you measure'

Leading companies in Indonesia, Malaysia, Papua New Guinea, Latin America are using OMP-AMIS already today to close yield gaps and increase productivity. OMP helps to analyze the potential yield of a particular location and to implement and supervise the integrated action plans to close the yield gaps in all development stages of the tree stand.

OMP provides estates managers with information to make sound decisions and to drive productivity and profitability improvements within a sustainable production setup.

OMP provides sharp facts and data to agronomist to analyze field performance, trends over time, problem areas, upkeep methods, field practice impacts, and to recommend viable solution to managers.

- OMP-Nursery keeps track of the planting material by progeny and record treatment, reason for culling and losses, and early growth parameters.
- OMP-AMIS helps to monitor new planting and early development impacts.
- For the immature phase OMP stores data on stand per ha, supply, vegetative growth, soil cover and protection, nutrition programs and pest and disease incidents.
- For the mature phase, OMP provide tools for yield and productivity monitoring, nutrient management, field upkeep, supervision of improvement plans.

### Quick reference

*OMP-AMIS and OMP-GIS provide a set of integrated tools and methods for precision agriculture.*

*OMP is cost efficient and easy to use and maintain.*

*OMP can be installed in one week.*

*The OMP database is set up on estate level and adjusted to site-specifict characteristics.*

*OMP keeps a yearly record of each field in the plantation over two planting cycles.*

*The program has extensive storage, retrieval, sorting, analysis, reporting mapping and charting capabilities.*

*OMP integrates easily with other databases and management information systems for data exchange.*