



Agrisoft Systems NEWSLETTER

Thirty-seventh edition, Apr.— Jun. 2021

Message from the Management

News from Agrisoft Systems

Dear Customers and Friends,

The past months at Agrisoft Systems have unfortunately been overshadowed by the worsening outbreak of Covid-19 in Indonesia. We wish our customers in Indonesia and all other heavily affected areas of the world all the best in getting through this difficult time. Nevertheless, we have continued to work on our on-going projects, first and foremost being the next planned OMP release, OMP Plantation 10.1. One major component of this next version upgrade is a new standalone OMP-GIS module. This newsletter contains a feature article that provides a more detailed preview of what you can expect from the new OMP-GIS. Within the main OMP application, the largest upcoming change is that it will be possible to record explicitly changes in the block area and area in yield on a monthly basis. This allows far greater flexibility for accurate area reporting and yield calculations, particularly in cases where blocks are coming into or out of production at some point in the middle of the year. It also means that the palm census and palm stands can be recorded on a monthly basis. As the area and palm stands affect very many calculations throughout OMP and the various add-in programs, this change requires a significant amount of work behind the scenes. However, in addition to the improvements in the yield calculation an additional benefit is that it prepares the way for the new field work module that is planned for the future.

Away from the development work, we have been cooperating with LMC International and Tropical Crop Consultants Ltd in writing a comprehensive

“Company guide to Oil Yield Intensification in Oil Palm”. In this booklet, we analyze and discuss the main options available to oil palm companies for increasing profits both from a financial and practical agronomic perspective. Based on an analysis of best management practice projects as well as past financial and agronomic data from listed companies, we argue that oil yield intensification on existing plantings offer the greatest opportunity for increasing profits. The oil yield intensification process is described in detail over six phases: identifying the opportunity, strategic analysis, detailed planning, motivating the company, establishing a BMP pilot project, and scaling up. Scaling up is complex, and involves updating Standard Operating Procedures (SOPs) and making BMPs routine throughout the plantation. The guide looks in detail at how high level management and the board of directors can take charge and drive their company along the path to higher yields and profits. The paper, which we released in May 2021, can be purchased as an e-book from the TCCL webshop found under <https://tropcropshop.com/>. A more detailed abstract can also be obtained on our website at <http://www.agrisoft-systems.com/news/publications/>.



Yours sincerely,

Max Kerstan



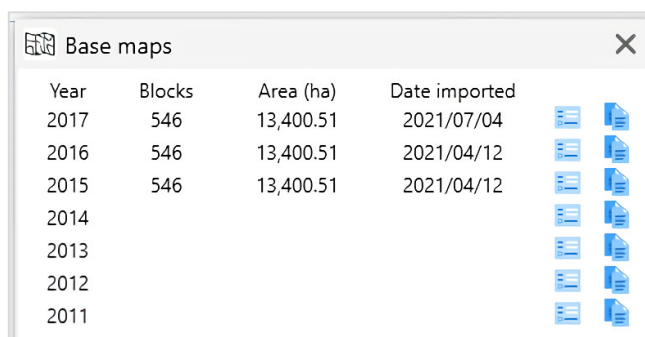
Agrisoft Systems NEWSLETTER

Apr.— Jun. 2021

Feature

Preview: new OMP-GIS add-in

Many oil palm plantations consist of a large number of blocks dispersed over a large area, with often significant differences in site characteristics such as soil type, topography or drainage requirements. In this context, thematic mapping provides an excellent way of visualizing spatial correlations between yield or yield components, which can help in identifying the underlying reasons for differences in block performance. Even in a plantation on a very homogeneous site, thematic maps often provide a very intuitive “big picture” overview that is easier to grasp at a glance than looking through a report with a long list of blocks. Pest and disease outbreaks spreading through the plantation can also be visualized very nicely e.g. using a time series of multiple thematic maps of the severity by block in different months.



Year	Blocks	Area (ha)	Date imported
2017	546	13,400.51	2021/07/04
2016	546	13,400.51	2021/04/12
2015	546	13,400.51	2021/04/12
2014			
2013			
2012			
2011			

Figure 1: Base map manager.

For the reasons above, the OMP-GIS thematic mapping module has been a firm favourite with our customers since its initial release back in 2006. However, a major weakness of the existing module is that it requires either MapInfo Professional or ESRI ArcGIS as a host application for GIS map display. These applications are not part of

the standard software on an average office computer and licenses can be pricey. As a consequence, many companies choose to only purchase GIS software licenses for a limited number of designated GIS users, who are then responsible for providing thematic maps in pdf format to other users in a regular manner or on request. Furthermore, the existing system is also unsatisfactory from the internal perspective of our development team, as a lot of work is required to try to keep the module running with constantly changing versions of the host applications. In this framework it is also difficult to add new features such as extended support for point mapping.

To overcome the challenges of the existing module, we have decided to completely re-code the GIS module as a standalone application written in C# .Net. The new OMP-GIS will be able to run on any Windows PC without relying on any GIS host application and will be released as part of OMP Plantation 10.1. Of course, the new OMP-GIS module ties in with the rest of the OMP Plantation 10.1 infrastructure, and in particular it will be able to connect to the SQL Server back-end database. In contrast with the old system, base block maps that form the basis of thematic maps do not need to be copied into a specific folder with a prescribed file name and table column names. Instead, base maps for each year can be imported using the common .shp shapefile format that is supported by practically all GPS devices and GIS programs. During this process, you have the option of specifying the field names in the shape file corresponding to the unique identifiers of the block in OMP, so you do not have to edit your actual shape file at all.



Agrisoft Systems NEWSLETTER

Apr.— Jun. 2021

Feature

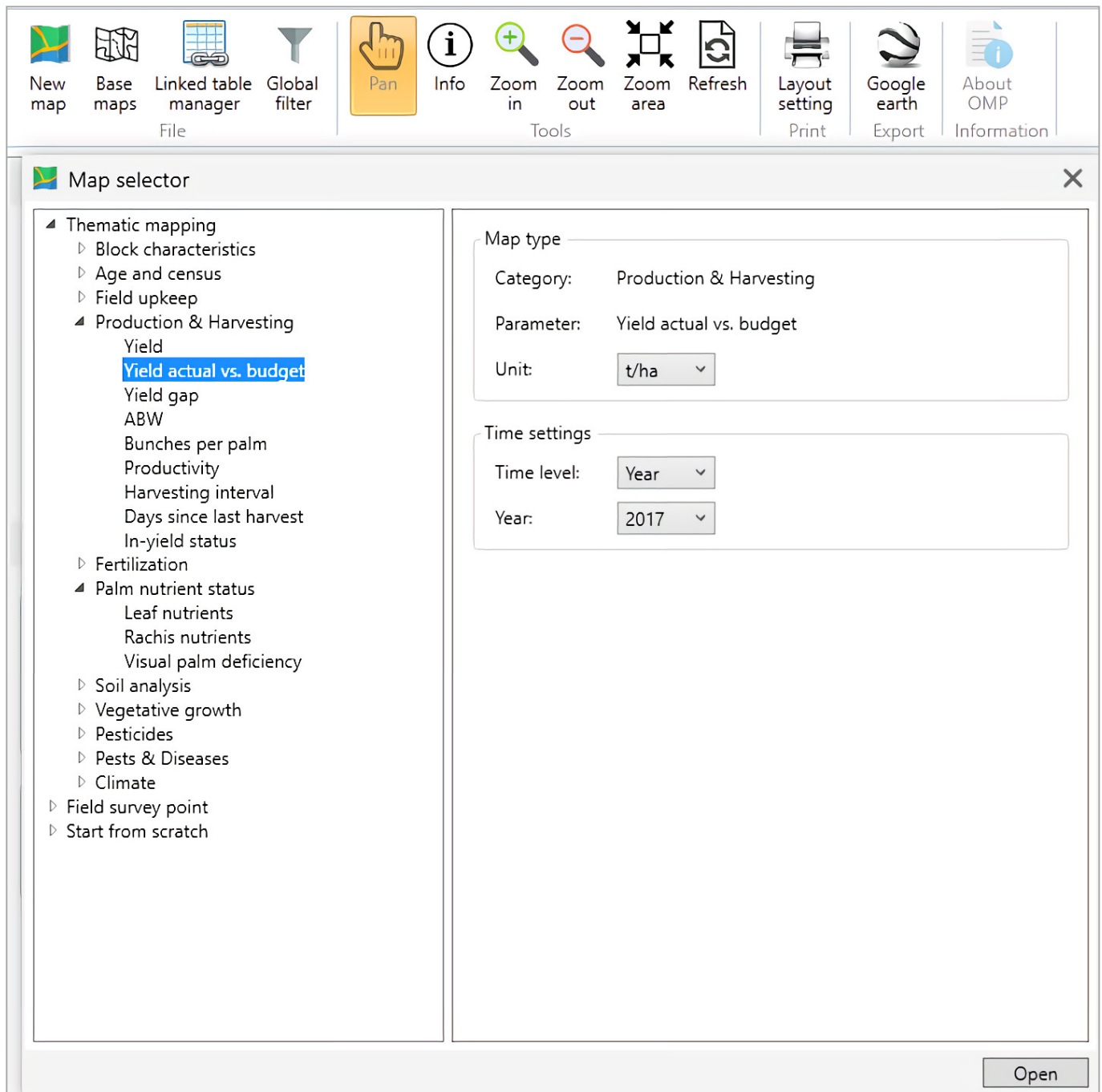


Figure 2: Map selector window.

The base map manager shows information about the imported base map for each data year in the OMP database, including the number of blocks and the total hectares covered (figure 1). An ad-

vantage of having the base maps stored in the back-end database is that in a multi-user setting all users connected to the same database automatically have access to the same base maps.



Agrisoft Systems NEWSLETTER

Apr.— Jun. 2021

Feature

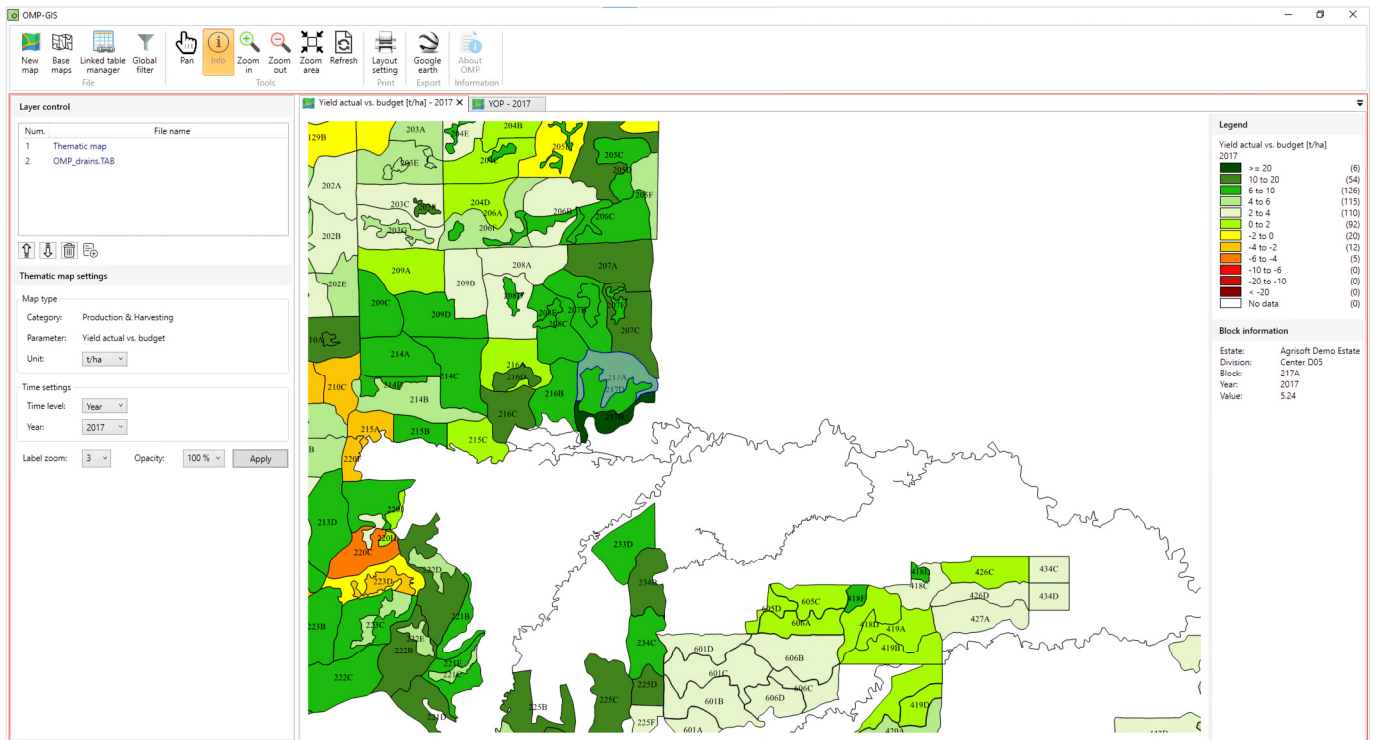


Figure 3: OMP-GIS window with two active maps.

After a suitable base map has been imported, a new thematic map can be opened by simply clicking the “New map” button in the ribbon menu. This opens up the map selector window shown in figure 2. All types of thematic maps that were available in the previous versions of OMP-GIS are of course supported, and several new map options have been added. For many types of maps, additional options such as the time grouping level or display unit can be specified in the right part of the map selector window.

The user interface of the new OMP-GIS application provides all the core functions of a thematic mapping application in an easy to use manner. The main program window is divided into three sections (see figure 3). On the left is a section displaying the parameters of the active map with the option of easily changing the map settings if desired. Next comes the actual map itself, while

the right part of the screen is devoted to the map legend and additional information. The legend and color assignment for all maps follows the range definitions or pick up settings that can be set in the main OMP application, so that all maps can be customized according to the partic-

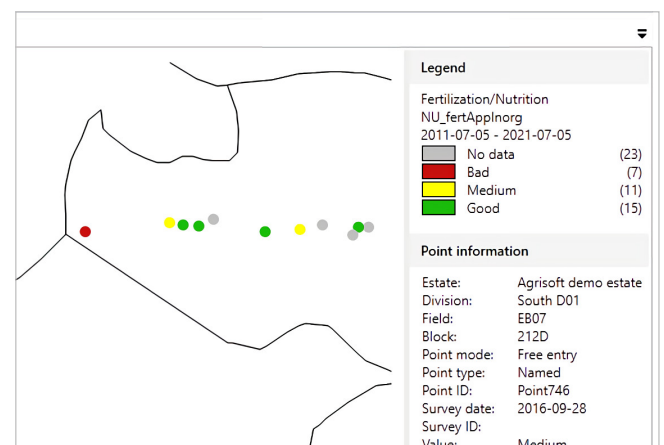


Figure 4: OMP Field Survey point data map.



Agrisoft Systems NEWSLETTER

Apr.— Jun. 2021

Feature

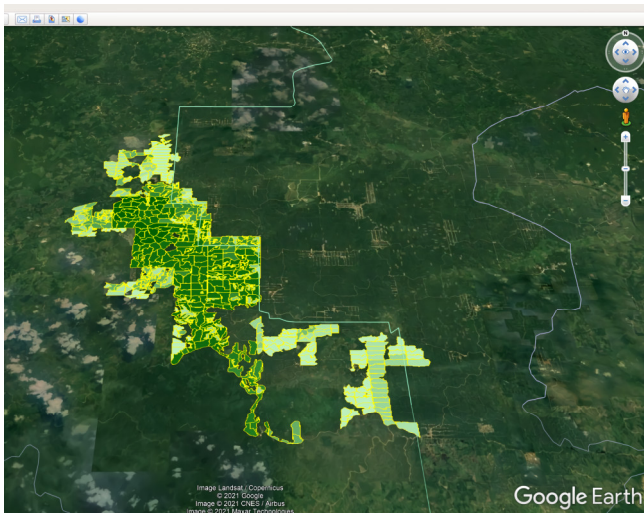


Figure 5: OMP-GIS map exported to Google Earth.

ularities of your site. The buttons at the top of the screen allow you to pan or zoom the map as required. When the information mode is active, you can click on a block (or a point when viewing a point map) and the associated basic information is displayed on the right of the screen. The global filter feature can be used to easily restrict the blocks displayed on the map by division, field or block.

Support for point maps is a major upgrade compared to previous versions of OMP-GIS. In addition to thematic mapping of block-level data, it is now possible to map point-level data from the OMP Field Survey (OMP-FS) app. In the map se-

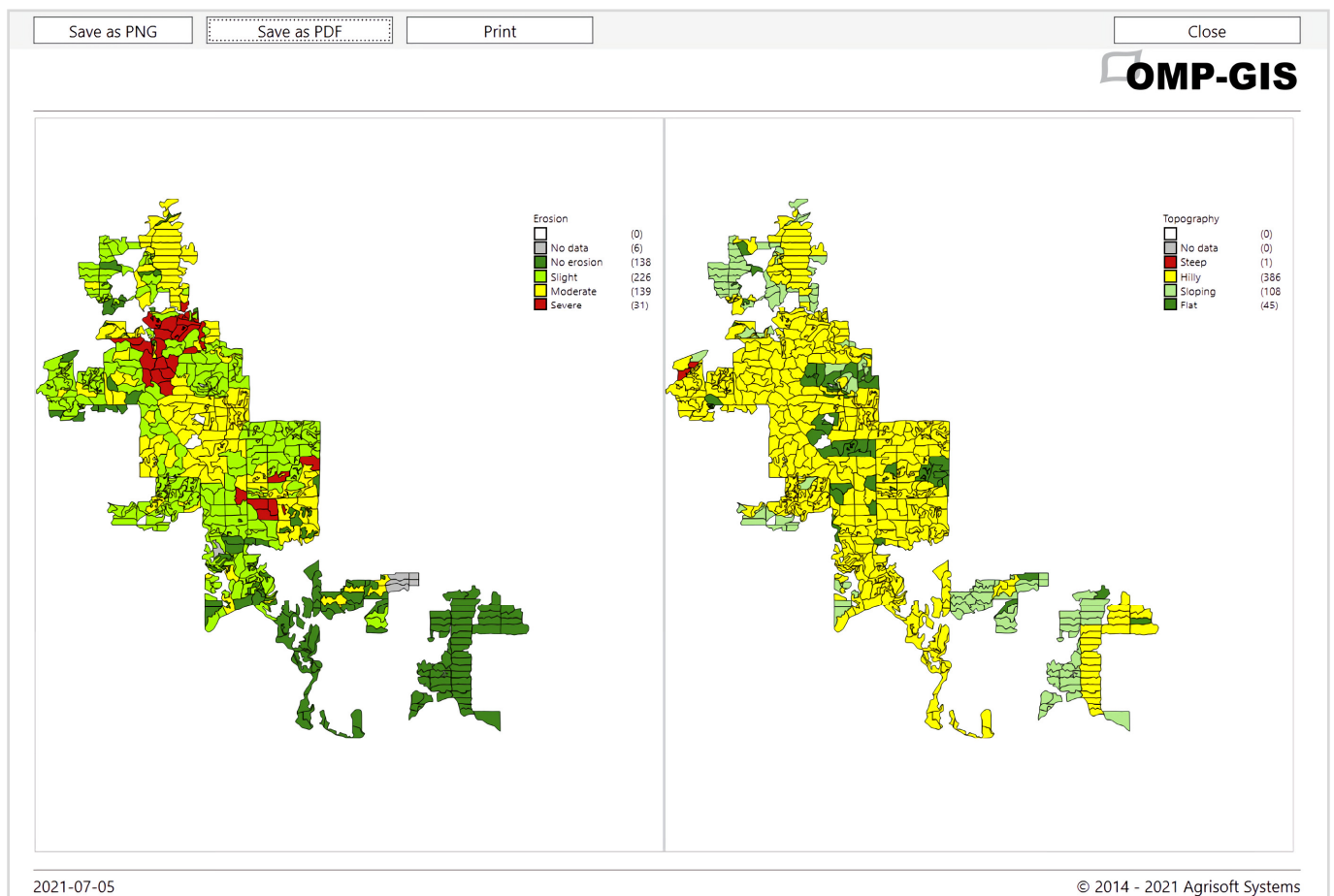


Figure 6: Multi-map print layout.



Agrisoft Systems NEWSLETTER

Apr.— Jun. 2021

Feature

lector menu, simply choose the OMP-FS survey type, question and date range. Similarly as for the block-level data, range definitions and colors for response values can be defined within OMP-FS. The addition of point data opens up a wide range of new exciting possibilities, for example to visualize in detail whether pest outbreaks or deficiency symptoms are distributed evenly throughout a block or concentrated in certain places. Another possible use case is to output a map showing the location of individual diseased palms, to help workers with the task of performing corrective actions at exactly the right places.

Using the layer control section on the left of the screen, it is extremely easy to add layers with additional information in shapefile, .tab or image formats. This can be very useful to overlay the thematic map with additional information such as a satellite image or maps of infrastructure, roads or rivers as in figure 4. When you open multiple thematic maps, the individual maps are opened in separate tabs by default (as shown in figure 3). If you prefer, the map windows can be

detached and individually resized or moved around as desired. In particular, this makes it easy to view multiple maps side by side to visualize spatial correlations.

The new OMP-GIS module supports different options for exporting thematic maps in various formats. One option is an export in .kml format that can be viewed in Google Earth (see figure 5), which is particularly useful on mobile devices such as tablets. It is also possible to print maps or to export them as .png images or in the form of .pdf documents. Just as in the old GIS application, it is possible to export or print multi-map layouts combining up to 4 maps in portrait or landscape format (see figure 6).

Overall, we are very excited by the additional possibilities that are available in our new standalone OMP-GIS module, and are looking forward to making this very powerful analytical tool available to a far larger range of OMP users by eliminating the dependence on any GIS host software.





Agrisoft Systems NEWSLETTER

Apr.— Jun. 2021

From the developers desk

A selection of the on-going developments and plans which are part of our constant efforts to continue to improve Agrisoft products.

Data analysis changes and new fields

- Block-level field for general harvest method used in this block
- Data analysis of productivity by harvest method
- Additional grouping level on monthly round lengths form
- Flexible filtering system with option to choose fields to include in filter
- Improved and more finely-grained data recalculation system
- Rule-based system for block-specific maturity ages
- New data analysis form for monthly block growth status and areas
- Additional grouping options on monthly fertilizer recommendation vs actual
- New and improved layout of block details form

Monthly areas and area in yield

- Dedicated field for “area in yield” for yield calculations
- Recording of block areas and palm census changes on a monthly basis
- Separate recording of high conservation value (HCV) areas
- Increased accuracy in all yield calculations on a monthly basis
- Better reporting of estate areas and areas in yield on a month-by-month basis
- Easier and more accurate handling of situations where blocks come into production or are replanted
- Improved calculation of YTD and 12MRT yields in cases with non-constant area in yield

OMP HRR

- Streamlined data analysis queries for better speed
- Handling for correct week-based calculations in fiscal year setting
- Yield calculation using monthly areas in yield from daily production data
- Corrected assignment of harvested area

