



Agrisoft Systems NEWSLETTER

Thirty-eighth edition, Jul.— Sep. 2021

Message from the Management

Running OMP in the cloud

Dear Customers and Friends,

As an agronomic management information system, it is clear that OMP is at its most useful when the program can be accessed by as many relevant users as possible from the agronomy and field management department. A core challenge for any successful OMP installation is therefore to set up efficient and robust procedures for sharing data that was entered by the OMP operator to the end users, who may be distributed in various field offices. This problem is even more significant in large groups that manage multiple plantations in different sites.

Over the past years, communication infrastructure options have improved significantly even in the remote areas where oil palm plantations are often located. Most plantations can now rely on a relatively stable and speedy internet connection, at least in their head office and perhaps the main field offices. This opens up a new possibility for tackling the data sharing problem mentioned above: moving the OMP Plantation database into the “cloud” and allowing client users to access the program remotely over the internet. In this way there is just one single database that is concurrently accessed by both data entry and data analysis users, so no extra data sharing is required at all.

The key IT technology (apart from the internet connection itself) that makes this kind of cloud OMP setup possible is generically known as a

“remote desktop protocol”. Although the fundamentals of this remote desktop technology have existed for years, the technology has rapidly matured in recent years. This development has been driven not least



by the coronavirus pandemic that has forced many companies around the world to set up “virtual offices” where the users access their company computers from the home office.

The defining feature of this kind of remote desktop technology is that the applications themselves run on the central server, and only the visual interface is transmitted to the client. A huge advantage from the point of view of IT admin is that the programs used by the end users (e.g. MS Office or OMP) only need to be installed and maintained on the central server and not on all the individual client machines. This is in contrast to “classical” client-server situations where the client software is installed on each user’s computer and pulls data from a central database on the server. For a data-heavy application like OMP the remote desktop solution, which only transfers the information needed to display the virtual screen on the client machine but not the actual data, runs significantly faster and requires far less bandwidth than the classical client-server network installation.



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Today there are a large number of companies offering cloud hosting solutions and application servers of the type described here. The most well-known include Azure, Citrix and AWS amongst many others. Given suitable broadband infrastructure, it is of course also very much possible to host your own data center and server as a remote desktop host, and many larger oil palm plantation groups use their own data centers for this purpose.

Since the release of OMP 10, we have helped several of our clients successfully deploy OMP in

this kind of cloud-based schema. Of course there are always individual challenges to overcome during the setup specific to the precise server setup, but once set up the cloud-based installation of OMP provides a very good user experience for both the end users and the IT team. Provided that a suitably stable and fast internet connection is available in the relevant plantation offices, it is now our recommended way of setting up OMP especially for larger companies.

Yours sincerely,
Max Kerstan





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Feature

OMP Plantation 10.1 preview

The next version of the OMP Plantation suite, OMP Plantation (OMP-PLT) 10.1, has entered the release testing stage and will be ready for release soon. In this article, we provide a preview of some of the changes and improvements that you can look forward to. As usual, our customers with active maintenance and upgrade agreements (MUAs) will receive this version upgrade at no additional cost.

One of the biggest improvements in OMP Plantation 10.1 is the completely new standalone GIS mapper application. This module has already been covered in detail in the previous edition of the Agrisoft newsletter and will therefore not be discussed further here. Apart from OMP-GIS, the biggest change with the widest-reaching impact concerns the way the block area and palm census data is recorded. Previously, the block area and palm census data was recorded on a yearly basis in OMP. While the overall block area rarely changes within a year, it is relatively common

that the area in yield and/or the palm stand changes during the year e.g. due to a block being replanted or due to thinning. With the previous year-based recording, it was not possible to record such a change accurately, which led to problems with month-based yield reports.

OMP-PLT 10.1 introduces a new method of recording area and palm census data, whereby any change of status can be recorded based on the month in which this change occurred (see figure 1). OMP then uses this to work out the effective areas and palm stands for every month, which are used in all data analysis forms and reports. Note that it is only necessary to record any data if there was a “status change”, so that this system allows for far higher accuracy and flexibility but without requiring more data entry effort.

As you can see in figure 1, it is now possible to explicitly enter the area in yield, which is used for all calculations of actual, potential and budg-

Block areas 2017			
Area:	7.95 ha		
Area in yield:	5.30 ha		
HCV area:	0.00 ha		

Palm stands 2017			
Pot. planting points:	1,137		
Total palms:	1,128 p	142 p/ha	100.0 %
Palms in yield:	0 p	0 p/ha	0.0 %
Mature palms:	0 p	0 p/ha	0.0 %
Unplantable or vacant:	5		
Abnormal or dead:	4 p	0.4 %	
<input type="checkbox"/> Abnormal palms poisoned?			
Mature area:	0.00 ha		

Block area history					
Valid from		Area			
Year	Month	Total	In yield	HCV	
2017	May	7.95	7.95	0.00	
2015	May	7.95	0.00	0.00	
*	Oct				

Palm census history										
Valid from		Census date	Mature	Immature	New	Abnorm.	Dead	Vacant	Unplant.	
Year	Month		p	p	p	p	p	p		
2017	Jan	06/01/2017	0	1,125	3	3	1	0	5	
2016	Jan	18/01/2016	0	1,124	2	2	4	0	5	
2015	May	09/01/2015	0	1,119	6	2	5	0	5	
*	Oct									

Figure 1: New data entry for area and palm census status changes.



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Feature

System settings

General

Localization

Data entry

Data analysis

Global filter

Palm age and maturity

Growth periods

Production & harvesting

Fertilization

Palm nutrients

Effective area / palm stand for fertilization

Fertilizer calculation setting: Exclude HCV area

Use full block area

Exclude HCV area

Nutrient balance parameters

		N	P	K	Mg	Ca
Nutrient content FFB	kg/t	4.6	0.41	5.33	0.88	0.81
Immobilization rate	kg/p·yr	0.37	0.2	0.7	0.07	0.09

Nutrient display order

Rank Nutrient

Figure 2: System setting for area used for fertilizer calculations.

et yields. Previously, the area for yield calculations was either the overall block area, or the effective “mature area” based on the number of mature palms counted during the latest palm census. In comparison, the new system allows for far greater flexibility to accurately record how the area in yield changes over time, even if no new palm census was carried out at the same time. For example, it is straightforward to record when a block comes into production after its immature period or when a block is replanted. Even temporary changes such as a block that is temporarily out of production due to flooding or an area in yield that is a fraction of the overall block area (e.g. after partial replanting) can be recorded accurately and easily. This correspondingly allows for more accurate reporting in monthly area statements and yield reports.

Besides the overall block area and the area in yield, it is possible to specify whether the block contains area of high conservation value (HCV area). This information is significant because in many cases it is not permitted to apply fertilizer

on HCV areas. In OMP-PLT 10.1 it is possible to specify whether all fertilizer calculations should be based on the overall block area as in the past, or whether HCV areas should be included whenever converting between fertilizer rates (kg/ha or kg/p) and total amounts applied in a block (see figure 2).

Blocks considered as “mature” are typically handled differently than “immature” blocks in terms of field work and upkeep, fertilizer application and of course harvesting. For this reason, it is important for managers to have a clear overview of which areas of their plantation are mature or immature in any specific months. Typically, blocks are assigned as mature once they have reached a certain age in months after planting. In OMP 10.0 it was already possible to specify the maturity age as an overall parameter valid for the entire plantation. In OMP 10.1, the system is much more flexible and it is now possible to define multiple “maturity age groups” with different maturity ages and rules when each group should apply. Examples might be to use a differ-



Feature

Figure 3: System settings related to block maturity age.

As different companies use different conventions for counting the palm age, it is now also possible to specify whether the palm age in the year or month of planting should be counted as 0 or 1. The new version includes a new data analysis form and reports called “Monthly block growth status” that provides an overview of the situa-

A major general data analysis improvement in OMP 10.1 concerns the global filter as used in the main OMP-DBMS application as well as the OMP-FP, OMP-FS and OMP-BBC add-ins. This global filter is one of the most useful and flexible data analysis tools in OMP, as it allows users to restrict their analysis to a subset of data with



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Monthly block growth status

Year: 2017 Key: NYP: Not yet planted I: Immature
M: Mature UR: Under replanting

Division	Field	Block	MOP		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	Mature months
Center D01		322A	May 2015	Growth status		I	I	I	M	M	M	M	M	M	M	M	7.95	9
				Area	ha	7.95	7.95	7.95	7.95	7.95	7.95	7.95	7.95	7.95	7.95	7.95	7.95	
				Area in yield	ha	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Center D01		345A	Jun 2015	Growth status		I	I	I	I	M	M	M	M	M	M	M	18.40	8
				Area	ha	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	
				Area in yield	ha	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	
Center D01		346A	Apr 2015	Growth status		I	I	M	M	M	M	M	M	M	M	M	26.63	10
				Area	ha	26.63	26.63	26.63	26.63	26.63	26.63	26.63	26.63	26.63	26.63	26.63	26.63	
				Area in yield	ha	26.63	26.63	26.63	26.63	26.63	26.63	26.63	26.63	26.63	26.63	26.63	26.63	
Center D01	MT05	316D	Aug 2012	Growth status		M	M	M	M	M	M	M	M	M	M	M	46.19	12
				Area	ha	46.19	46.19	46.19	46.19	46.19	46.19	46.19	46.19	46.19	46.19	46.19	46.19	
				Area in yield	ha	46.19	46.19	46.19	46.19	46.19	46.19	46.19	46.19	46.19	46.19	46.19	46.19	
Center D01	MT08	323B	Jan 2015	Growth status		M	M	M	M	M	M	M	M	M	M	M	12.50	12
				Area	ha	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	
				Area in yield	ha	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	
Center D01	MT10	323C	Nov 2014	Growth status		M	M	M	M	M	M	M	M	M	M	M	7.00	12
				Area	ha	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	
				Area in yield	ha	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	

Set filter

Figure 4: New data analysis form for block growth status.

suitable characteristics. An example might be to restrict to only blocks with a certain age group and land class as a starting point for yield gap analysis. For reasons of space and responsiveness, only a limited number of fields can be included as global filter fields. Figure 5 shows the

Global filter

Field marker AND	LSU group AND	Soil type AND	Land class AND
BMP02 BMP04 BMP05 BMP06	1 10 12 13 13+EFB#1	Acrisol Andosol Gleysol	LC1_Marihat_135 LC1_Marihat_143 LC1_Other_135 LC1_Other_143 LC2_Marihat_135 LC2_Marihat_143
Growth marker AND	Prev. land use AND	Planting material AND	WS ID AND
No data	2nd forest Cocoa No data Prim forest Scrub/beluka	ASD Marihat Mixed Socfindo	C01 N01 S01 S02

Figure 5: Choosable filter fields.

general block characteristic fields that exist in the global filter in OMP 10.0. While this already

covers a wide range of possibilities, different plantations may prefer to use different filter parameters. For example, a plantation that has used just a single planting material in all their blocks does not need to have the planting material as a filterable field, and they may prefer to replace this with a different block characteristic field instead. In OMP 10.1, it is now possible to customize the global filter by selecting 8 fields from a longer list including options such as soil texture, topography, harvest method and much more.

In addition to the points discussed so far, the OMP 10.1 release includes a number of other smaller and larger improvements ranging from additional block data fields to further columns or grouping options on data analysis forms and reports. Including all these features would go beyond the scope of this newsletter article, however as part of the upgrade users will receive a “What’s new” document that provides a more complete list of changes.



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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
- New field for water conservation measures
- 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

OMP-GIS

- Completely new standalone thematic mapping application
- Independent of GIS host programs like ArcGIS and MapInfo
- C# application compatible with any normal Windows host
- .Net 5 support
- Improved handling and management of yearly base maps
- Mapping using user-defined thematic ranges for all numeric parameters
- Point maps for geo-referenced OMP Field Survey results
- Continued support for custom background layers and exporting to PDF or Google Earth
- Cover all features of previous OMP-GIS, including multi-map layouts
- Mapping of predefined survey points

HCV area not for fertilization

- Dedicated field to record HCV areas in each block
- Automatic calculation of number of non-HCV palms from area and palm census data
- Option of excluding HCV areas and palms from all fertilizer calculations
- Correct display of fertilizer rates in kg/p and kg/block, even when fertilizer is applied to only part of the block