



Agrisoft Systems NEWSLETTER

Twenty-eighth edition, Jan. — Mar. 2019

Message from the Management

News from Agrisoft Systems

Dear Customers and Friends,

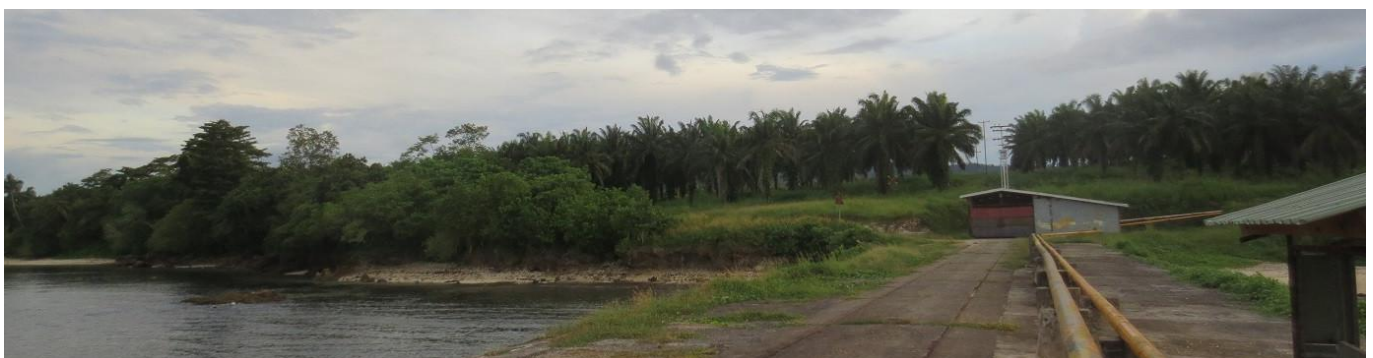
in the past few months the main focus of the Agrisoft Systems development team has been to continue working on the OMP 10 release, which will be the first OMP version with an SQL Server back-end database. As has been outlined in the previous editions of this newsletter, this migration to a different back-end is quite a large project that will open up new possibilities but also requires significant changes to the existing code base to keep the program running smoothly. Over the past months we have made good progress in this direction, so that the latest internal dev version is already running quite smoothly in the new configuration. This means that besides the pure migration of existing program functionality, we have also been able to start working on new features to add in the new version. A more detailed preview of some of the features to look forward to in OMP 10 is given in the dedicated article in this newsletter.

Alongside the main development work on OMP 10, we have been exploring some exciting new possible topics for future work. One such topic concerns making better use of constantly evol-

ing remote sensing technologies, in particular spectral imaging techniques. The basic idea here is that the reflectance of the earth's surface differs in characteristic ways for different parts of the electromagnetic spectrum depending



on the vegetative coverage. This means we can get an idea about the plant coverage on the ground by performing a spectral analysis of images of the earth's surface taken by satellites or drones. As a rough example, vegetation typically has a high reflectance in the green part of the visible spectrum – the reason why leaves appear green to our eyes. Rather than looking only at the green visible light, various spectral indices such as NDVI and MSAVI2 have been developed which contain information from a larger part of the spectrum including infrared and ultraviolet sectors. These indices have been well established to correlate strongly with vegetative cover on the surface and may even provide information on topics like plant health or nutrient deficiencies. In the past months, we have started exploring a





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possible partnership with Swedish company Vultus (www.vultus.se), who specialize in providing this type of spectral satellite imagery for any area in the world. While we are very much at the start of this process, there are many exciting possibilities to integrate this kind of imagery and the information encoded therein into the OMP GIS application.

In other news, we have recently received the information from our close partners at Tropical Crop Consultants Ltd (TCCL) that they are soon due to release a new edition of the well-known Oil Palm Field Handbook series. The original Oil Palm Handbooks, written by Thomas Fairhurst and Ian Rankine and first published in 1998, proved to be extremely popular and have been widely used throughout the oil palm growing world. The upcoming new edition, written by Thomas Fairhurst, Ian Rankine and William Griffiths, brings the handbooks up to date with

all the newest research and field management techniques. It also significantly expands on the material of the original handbooks with two new volumes, while keeping the easy-to-use format of the original series. I am certain that, just like the originals, the new Oil Palm Field Handbooks will prove to be invaluable tools for any practical oil palm grower and I very much look forward to being able to order our copy soon. For more information, please visit the Tropical Crop Consultants Ltd website at www.tropcropconsult.com.

The main feature article of this newsletter contains a closer look at some of the features we are planning to add in the next OMP release. As usual, the newsletter concludes with a “What’s new” section that briefly lists some of the different things we are working on.

Yours sincerely,
Max Kerstan





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Feature

New features in OMP 10

The next version of OMP, version 10, will be the largest update that OMP has ever had, certainly in terms of the volume of changes to the fundamental program code. As has already been discussed previously in this newsletter, the headline change is the move to a new back-end technology in the shape of SQL Server. However, this is by far from the only thing that will be included in this upgrade, and in this article we are going to take a look at some of the other planned feature changes. Please note that this is only a selection and is not at all intended to represent a complete list of all the changes in the new version.

One key addition that was requested by our customers is to add support for Chlorine, Silicon, Zinc and Iron in all parts of OMP related to fertilization, in particular to the OMP Fertilizer Planner. In this context we have also added Fe and Si

as leaf analysis nutrients. Furthermore, it is now possible to define critical levels for all leaf and rachis nutrient parameters within flexible, user-defined age bands (figure 1). These changes further improve the OMP features for nutrient monitoring and management, in particular allowing to tailor the fertilization programme to take into account possible site-specific special requirements for micro-nutrients like Si, Fe or Zn.

Staying with the OMP Fertilizer Planner, it is now possible to save and load templates for immature and replant programs. This is particularly helpful to be able to share these settings between different OMP installations, for example in a group with multiple plantations where you might want to ensure that all plantations use the same immature program. When loading the templates, the program checks whether the list of fertilizers used in the

Critical palm nutrient levels															
Age [yr]		Leaf										Rachis			
Start	End	% DM		% DM		mg/kg		mg/kg	%TLC	cmol/kg		% DM			
0	8	N	2.65	Ca	0.50	Mn	12	Fe		K	30	TLC	75	N	0.55
		P	0.180	Cl	0.50	B	15			Mg	30			P	0.090
		K	1.10	S	0.25	Cu	5							K	1.40
		Mg	0.27	Si		Zn	15							Mg	0.070
9	14	N	2.55	Ca	0.50	Mn	12	Fe		K	30	TLC	68	N	0.55
		P	0.155	Cl	0.50	B	15			Mg	30			P	0.090
		K	0.95	S	0.25	Cu	5							K	1.40
		Mg	0.25	Si		Zn	12							Mg	0.070

Figure 1: New settings form for critical palm nutrient levels.



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template is compatible with the fertilizers available in the target database, and allows the user to specify the mapping of fertilizer names if required. We have also streamlined the way manual edits are stored and handled during the fertilizer optimization. This is now controlled by a „permanent“ scenario setting rather than being determined by the user at every optimization run. Furthermore, it is now possible to import manual edits from Excel. We are also aiming to implement the Spanish and Indonesian translation for the OMP Fertilizer Planner in OMP 10.

with or comparing data between different forms, as you no longer have to wait for the data to be reloaded every time you switch back and forth between two forms. We have also taken the opportunity with the SQL Server migration to rewrite some of the underlying data queries, aiming to improve speed or ensure consistent and standardized calculation methods between the different parts of the program. Furthermore, it is now possible to export data to Excel directly from all continuous DA forms, taking into account all local sorting and filtering settings. We are also planning to add or extend a number of

The screenshot shows a 'Load template' dialog box with a table of templates and a fertilizer mapping section. The 'ImmASD' template is selected, and its description is 'Special immature program for progeny ASD.' The fertilizer mapping section shows a list of fertilizers (DAP, EFB, KCL, Kieserite, Urea) with corresponding dropdown menus for the scenario.

Template ID	Description
ImmASD	Special immature program for progeny ASD.

Fertilizer mapping	
Template	Scenario
DAP	DAP
EFB	EFB
KCL	KCL
Kieserite	Kieserite
Urea	Urea

Figure 2: Fertilizer mapping for immature program templates.

In the main OMP-DBMS application, we have put in a lot of work streamlining and standardizing the code behind all the data analysis forms, charts and reports. This has allowed us to add or improve a number of general program features. One important improvement in terms of general usability is that the program now uses „active“ reloading to refresh form data when a filter setting is changed, instead of relying on every form to reload its data every time it was activated. This is particularly nice when working

data analysis forms and reports, such as a dedicated DA form to analyze the monthly yield distribution.

We are adding an additional category „Vacant“ for the palm census. This means that any planting point in the block can be categorized at census time in one of seven categories: unplantable, new/supply, immature, mature, abnormal, dead or vacant. In previous versions of OMP, the dead and vacant categories were



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combined into a single category called „dead/removed“. However, it can be useful to differentiate explicitly. For example, having many dead palms standing in the field may provide a breeding ground for pests which may make it advantageous to remove them.

Besides the main OMP Plantation suite, we have also been working on the OMP extension programs. On a technical level of course some changes are necessary for those extension programs which connect to the main OMP database (OMP Nursery and OMP Ten Year Crop Budget), because the main OMP database is now in SQL Server format. At the same time we are adding more features to OMP Nursery, in particular adding recording and reporting of

pesticide / agrochemical use. This is an important addition to ensure that the OMP suite can provide closure on all pesticides used in the oilpalm plantation. We are also adding the option to import data from Excel into OMP Nursery. This can be a big help for operators particularly for regular monthly data entry of culling or fertilization data. We are also adding a couple of new reports as requested by our users that focus in more detail on the age spread of existing seedlings and a projection of the plantable hectares in the coming months.

While this article covers just a small selection of the things we are planning to add in OMP 10, we hope it gives you an idea of the things to come and to look forward to.





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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.

OMP Fertilizer Planner

- Critical leaf and rachis nutrient levels per age group integrated in reference data for easier formulation of rules
- Support for relative agronomic effectiveness (RAE) field for Nitrogen
- Support for additional nutrients Cl, Si, Zn and Fe
- Saving and loading templates for immature and replant programs
- Conditional formatting for zeros on DA forms and reports
- Spanish and Indonesian language versions

OMP data analysis features

- Active filtering instead of reloading on activate for more responsive program
- Data analysis form for monthly yield distribution by parameter
- Export form data to Excel for OMP-DBMS forms
- Include 12MRT yield and thinning data on block agronomic summary reports
- Additional category „vacant“ for palm census
- Additional grouping options for yield charts

OMP Nursery

- Support for SQL Server back-end of main OMP
- Improved data consistency safeguards
- Recording of nursery pesticide application and recommendations
- Importing data from Excel for most regular data
- New report on seedling projection and age status
- New report on overage seedlings

