Agrisoft Systems
NEWSLETTER
Forty-sixth edition, Jul.— Sep. 2023

Message from the Management

Surveying data in the field with OMP

Dear Customers and Friends,

Historically many oil palm plantation companies focus on meticulously recording the various tasks carried out in the field, such as harvesting, pruning, weeding, and fertilization. These records serve as essential markers for tracking progress and resource allocation, and are often used to determine payments to workers. While it may be tempting to assume that this kind of data is sufficient to provide management with a good idea of what is happening in the field, we would argue that it is invaluable to supplement it by independent surveying of agronomic data parameters by dedicated surveyor teams.

While task recording is very important for tracking labour and resource allocation, it has its limitations. It provides a narrow perspective, primarily centred on the activities performed within the plantation. This information, while vital, merely scratches the surface of what is truly happening in the field.

This is where independent field status measurement comes into play. Instead of merely documenting tasks, this approach involves impartially assessing the condition of the entire plantation. Trained surveyor teams, distinct from the plantation workers, conduct surveys to evaluate various agronomic aspects. Typical topics for surveying include palm nutrition status, field upkeep scoring, crop quality and harvest losses, pest and disease outbreaks, and management performance.

One of the key benefits of independent field status surveys is their ability to provide objective data. Since surveyor teams are not directly involved in plantation operations, their assessments are less prone to bias. This objectivity en-

Agrisoft Systems
NEWSLETTER
Jul.— Sep. 2023

Message from the Management

sures that the data collected accurately reflects the actual field conditions.

Consistency in data collection methods is another advantage. Trained surveyor teams employ standardized procedures, ensuring that data remains consistent over time and between different divisions of your plantation. This consistency is essential for meaningful analysis and benchmarking, allowing for the tracking of progress and performance over multiple seasons and comparisons between different divisions.

The OMP Field Survey module and app are a powerful solution to help you implement and streamline this kind of field data surveying. This user-friendly app simplifies data collection and management. Electronic data collection in the field has many inherent advantages, including avoiding transcription errors, automatic data validation against the OMP pick-up list definitions and providing built-in location recording. With automatic data aggregation and native links to the OMP-GIS mapper, OMP Field Survey helps ensure that data is readily available for analysis and decision-making.

In conclusion, while recording tasks is crucial for day-to-day management, independent field status measurement provides a more comprehensive and holistic view of an oil palm plantation's health and performance. It offers valuable insights, early problem detection, and the objectivity needed for effective decision-making. In this newsletter, we take a closer look at how the OMP Field Survey app can be used to collect data in the field and set up this kind of surveying routines.

Warm regards,

Max Kerstan

Agrisoft Systems
NEWSLETTER
Jul.— Sep. 2023

Feature

Collecting data with OMP Field Survey

In previous editions of our newsletter, we have discussed the crucial role of data collection in oil palm plantation management. In this edition, we take a closer look at OMP Field Survey, a comprehensive electronic data collection solution tailored specifically for oil palm plantations.

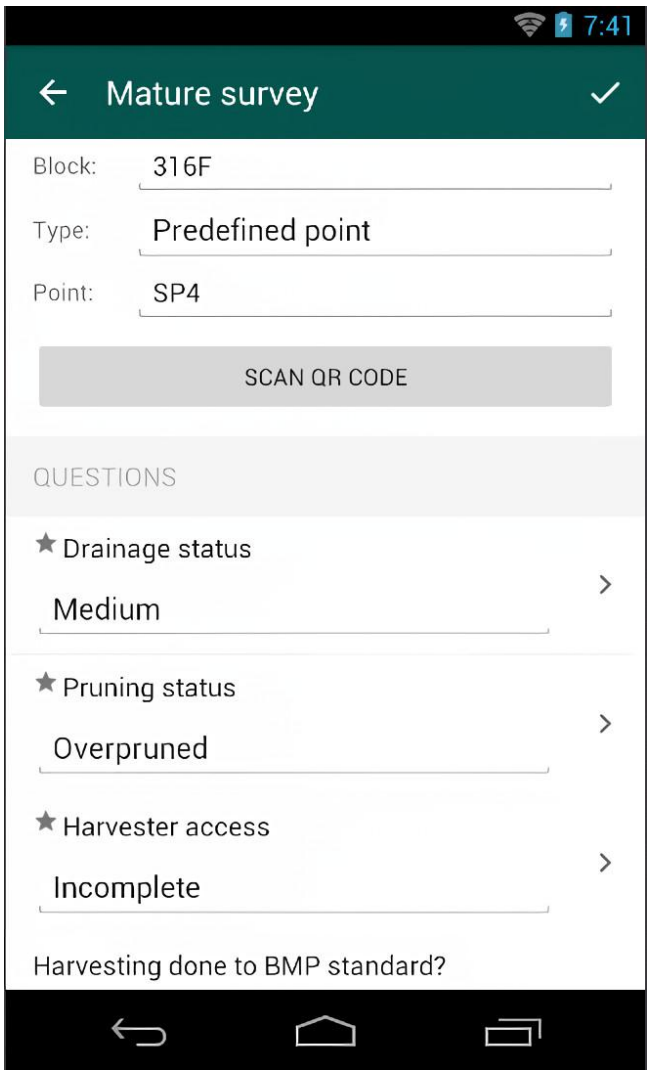

Figure 1: OMP Field Survey app data entry screen.

OMP Field Survey is a vital component of the OMP software suite, offering a structured approach to collecting and managing data in the field. This solution is comprised of two main elements:

Android App for Data Collection: This app serves as the primary tool for surveyors to record data in the field. It offers a user-friendly interface that simplifies the data collection process.

Desktop OMP Add-In: The desktop program complements the Android app by allowing plantation managers to define survey questions, manage survey definitions, and analyse collected data with precision.

OMP Field Survey's flexibility is a key advantage. Users have the autonomy to define their own survey questions and types, providing the ability to tailor data collection to specific needs. The range of question formats, including multiple-choice, sliders, steppers, and free-text entries, allows for comprehensive data capture.

This tool can be applied across various aspects of oil palm plantation management. Some potential applications include:

- Palm nutrition assessments
- Field upkeep evaluations
- Crop loss audits
- Crop grading analyses
- Pest and disease monitoring

Agrisoft Systems
NEWSLETTER
Jul.— Sep. 2023

Feature

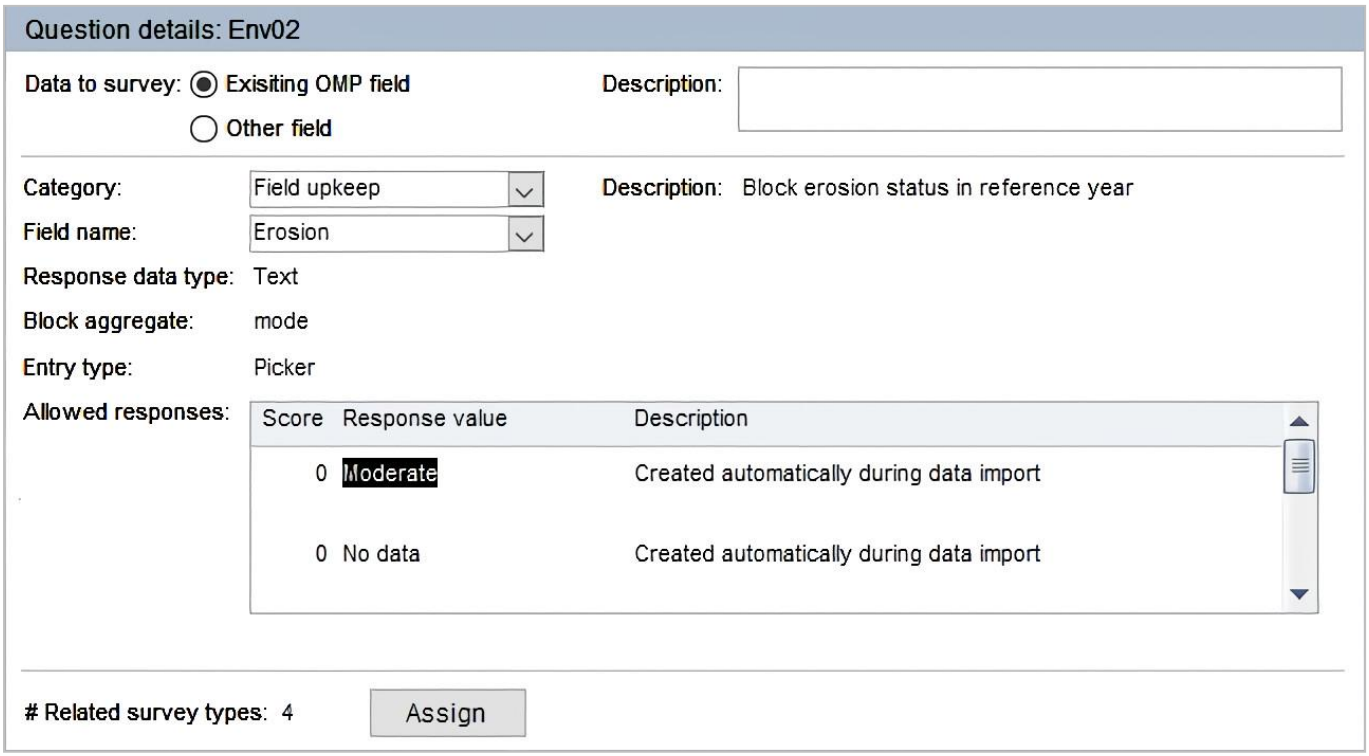

Figure 2: Control question definitions in the OMP Field Survey add-in.

- Black bunch counting
- Palm census
- Vegetative growth measurements

Just as important as deciding what to survey is where exactly the survey data points should be recorded. The appropriate location depends on the type of data you want to collect. Depending on the survey's nature, OMP Field Survey supports data collection at predefined points within the plantation blocks or at locations specified by surveyors themselves. These predefined points may include palm points, crop collection sites, harvest paths, or other designated locations. The free-entry locations can be specified by either a palm row & number or by typing in a point ID. It is also possible to record data directly at block level, which can be useful e.g. when you want to count a certain quantity over the whole block.

When entering a new data point, the surveyor can use the device's built-in GPS location service to detect and save the GPS location. For predefined points, it is furthermore possible to encode the point ID on suitable QR code cards that are affixed to the relevant palm. The surveyor can then scan the point ID from the QR card instead of selecting the point manually. Having the ability to reproduce exactly where the surveyor was, either from the GPS position or due to the fact that a certain QR card was scanned, contributes greatly to better data quality as you can verify that the surveyors really visited the correct locations.

Agrisoft Systems
NEWSLETTER
Jul.— Sep. 2023

Feature

Figure 3: Surveyor scanning the location from a QR card.

The following is a simplified workflow overview of how data collection with OMP Field Survey works:

- Define survey questions and types using the desktop program.
- Specify the surveyors' IDs and email addresses.
- Input or import predefined point definitions as needed.
- Transfer the definitions file to the mobile devices of the surveyors. This can be done by email, or by exporting the definitions file and then copying or sending it yourself.
- Conduct surveys in the field, even in areas with limited internet connectivity.
- Transfer the results to the main OMP computer once back in internet reach. Again this could be done by email or by exporting the results file and copying/sending it.
- Analyse survey results using the OMP Field Survey add-in.

One of the biggest advantages of using OMP Field Survey for data collection is that the raw point data is automatically aggregated up to block and higher spatial levels. Data can be grouped into “scheduled surveys”, whereby all data points that are assigned to a certain survey ID will be aggregated together. In this way, you can easily implement a regular surveying routine, for example a pest patrol carried out every month or a crop quality survey carried out quarterly. With such regular surveys, the reports and forms of the OMP Field Survey add-in make it easy to monitor how a certain parameter is developing over time from survey to survey.

The program is integrated with OMP-GIS, so that it is extremely easy to generate point maps for any geocoded data collected with the app. It also contains several powerful analysis tools including user-defined expressions and offender bounds. These will be discussed separately in a future edition of the newsletter. In conclusion, OMP Field Survey is a practical tool for efficient and accurate data collection in oil palm plantations. Its adaptability, versatility, and user-friendly design make it a valuable asset for managers seeking to make informed decisions based on factual, field-level data.

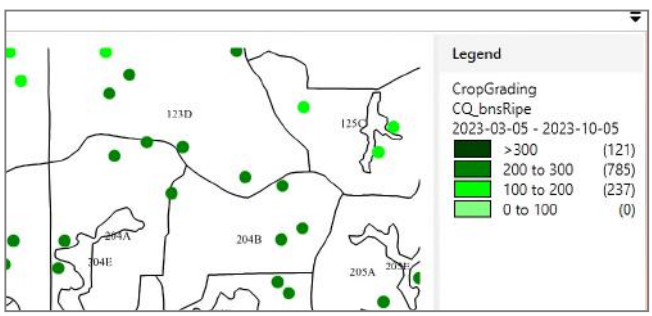

Figure 4: OMP-GIS map of point-level OMP Field Survey data.

Agrisoft Systems
NEWSLETTER
Jul.— Sep. 2023

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.

General improvements

- Handling for overlength picker definition values in special cases
- Option to exclude block details on block agronomic summary report
- Add totals lines for averages on DA form vegetative growth
- Additional option for second grouping parameter on DA form monthly/YTD production
- Add yield on report monthly production by division
- Add option to show rainfall chart totals over whole estate, not just one division
- Improved comparisons of mill residue application vs extraction

DA options for fertilizers and nutrients

- Extra grouping options for fertilizer DA forms and reports
- YTD fertilizer application values on monthly DA forms
- Option to display difference between applied and recommended fertilizers as %
- New data analysis form for nutrients applied vs recommended
- New 3 year nutrient application report
- Additional grouping options for 3 year fertilizer application report
- Adapted logic for fertilizer calculation setting “Exclude HCV area”

Field work and resource use module

- Budgeting for regular field work tasks like weeding, pruning, fertilizer application etc.
- Flexible definition of jobs with expected rates of usage of resources like fuel, equipment, material and labor
- Scheduling wizard to generate field work budget based on desired number of rounds and total area to cover in one cycle
- Recording of actual areas covered by job, block and date and comparison vs budget
- Recording of actual resource use and comparison vs budget
- Integration of fertilizer and pesticide application data
- Assignment of blocks with similar characteristics to “field work groups” which have similar field work plans