

AGVITA NU-test REPORTING TEMPLATE INSTRUCTIONS:

AgVita are implementing a new LIMS at our Laboratory from May 2014. This is due to the increasing strain on our old system which has simply been unable to handle the quantity and variety of work we have been processing and planned for the future. The flexibility of the old system was also very limited, hence a simple decision was made to upgrade. As part of this process, we have spent considerable resources to enable 'automated' reporting – the old system of receiving raw data and having to then import the data into your templates (which required updating every time NU-test Desirable Levels were modified) was frustrating and time consuming.

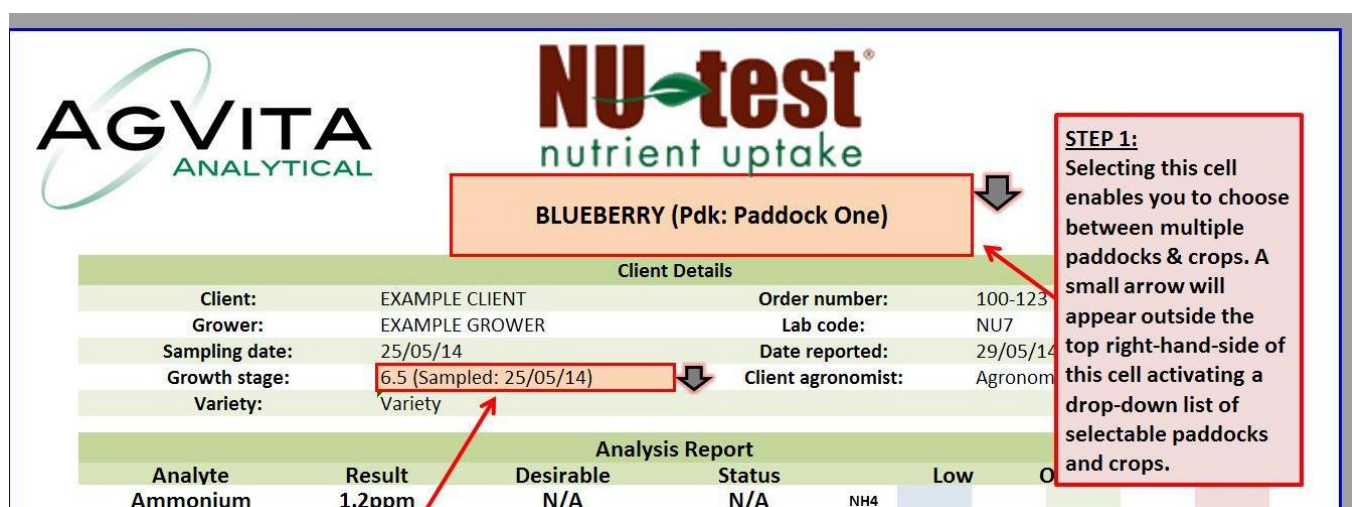
This new reporting system is now active across all AgVita soil, plant and water tests – all data will now be reported in an excel based template with your sample results already loaded. The database will generate a report with multiple sample results (paddocks) for the same grower, and when multiple samples from multiple growers are submitted by the one client, a series of reports will be emailed with data separated by grower as mentioned above.

Due to the complexity of this reporting system, there are 2 simple steps that are required to activate a NU-test report with 2 or more results (a single sample will automatically be completely loaded and ready to use with the appropriate desirable levels for that crop at that growth stage).

Instructions for the Client Report are shown here:

STEP 1:

At the top of the **Client Report** sheet, there is a large cell that contains the crop type and paddock name:



Client Details			
Client:	EXAMPLE CLIENT	Order number:	100-123
Grower:	EXAMPLE GROWER	Lab code:	NU7
Sampling date:	25/05/14	Date reported:	29/05/14
Growth stage:	6.5 (Sampled: 25/05/14)	Client agronomist:	Agronom
Variety:	Variety		

Analysis Report			
Analyte	Result	Desirable	Status
Ammonium	1.2ppm	N/A	N/A

Please choose the paddock that you wish to view the analytical results for from the drop-down list as described above – use the drop-down arrow that appears once the cell is highlighted. If no arrow appears,

move your mouse cursor to the position shown in the above image and left click (depending on the version of Excel in use, and macro/security settings, the arrow may not actually be visible, but can be selected). Do not type anything in the cell with the paddock name, as it will over-write the formula that controls other functions in the report.

STEP 2:

Once you have completed step 1, select the cell containing the growth stage information for that sample:

The screenshot displays an analytical report for 'BLUEBERRY (Pdk: Paddock One)'. It includes a 'Client Details' section with fields for Client, Grower, Sampling date, Growth stage, Variety, Order number, Lab code, Date reported, and Client agronomist. The 'Growth stage' field is highlighted with a red box and a small downward arrow, indicating it is a drop-down menu. A red box with a white arrow points to this field, and another red box with a white arrow points to the top right corner of the report, indicating where a drop-down list of selectable paddocks and crops appears. A red box with a white arrow points to the 'Growth stage' field, and a red box with a white arrow points to the 'Desirable' column of the 'Analysis Report' table.

STEP 2:
Select the growth stage for the sample you would like to view, using the drop-down menu on the small arrow seen on the right of this cell.
If "unknown" is listed here and on the 'Raw Data' sheet as a growth stage, then the desirable levels will not populate the status & charting features - you need to specify a growth stage on your sample information label, or (post reporting) select an option from the 'Desirable Levels' sheet and type this number into the growth stage column of the 'Raw Data' sheet and repeat the steps above.

Analyte	Result	Desirable	Status
Ammonium	1.2ppm	N/A	N/A
Nitrate	152ppm	80 - 160ppm	Optimum
		250 - 500ppm	Satisfactory
		200 - 300ppm	Satisfactory
		3000 - 4500ppm	Low
		650 - 1000ppm	Satisfactory
		350 - 750ppm	Very Low
		4.00 - 10.00ppm	Very Low
		0.03 - 0.08ppm	Very High
		1.00 - 3.00ppm	Satisfactory
		2.00 - 4.00ppm	Very High
		20.00 - 50.00ppm	Satisfactory
		10.00 - 20.00ppm	Very Low
		1 - 150ppm	Satisfactory
		1 - 1500ppm	Satisfactory

Analysis Report

NO₃:K Ratio (Desirable)

NO₃

K

If your report contains multiple paddocks of the same crop, the growth stage cell will automatically select the correct growth stage of that sample. If you have a report from a grower with results from different crops on different paddocks, each time you change between different crop/paddocks, you will need to follow steps 1 and 2 above.

If you are having difficulties with either step, please refer to the troubleshooting guide at the end of this document.

USING OTHER SHEETS IN THE NU-test REPORT:

1. Raw Data sheet

The most common reason why your results will not populate the **Client Report** with data, graphs and statuses is because the raw data does not contain a valid growth stage for that sample. The reports are designed to produce a graphical aid that compares your results to AgVita's NU-test desirable levels – each desirable level is based on a unique growth stage so this information is necessary for these functions to work.

If you have not specified a growth stage on your Sample Information Sheet that accompanied your sample, we will not guess the growth stage – **unknown** will be entered. Therefore to activate all of the functions of the **Client Report** page, you will need to enter a valid growth stage on the **Raw Data** sheet as described below:

A1	Sampling Date																
	Sampling Date	Lab Number	Sample Number	Grower	Click to Sort By Paddock	Crop	Growth Stage	NO3	P	K	Ca	Mg	Zn	B	S		
2	29/09/14	14000255	1	EXAMPLE GROWER	Paddock One	Blueberry	6.5	152	254	2514	758	226	2.2	0.56	24		
3	26/09/14	14000256	2	EXAMPLE GROWER	Paddock One	Blueberry	6.9	165	265	2650	700	250	2	0.75	25		
4	27/09/14	14000257	3	EXAMPLE GROWER	Paddock One	Blueberry	7.2	250	270	2700	860	235	1.55	0.6	27		
5	28/09/14	14000258	4	EXAMPLE GROWER	Paddock One	Blueberry	7.5	225	288	2950	880	300	2.78	0.35	24		
6	29/09/14	14000259	5	EXAMPLE GROWER	Paddock One	Blueberry	UNKNOWN	300	300	3000	900	322	2.55	0.55	23		

If you have not specified a growth stage on your sample information label, 'UNKNOWN' will appear in this column. The reporting template requires a specific growth stage to be entered in these cells to function. To add a growth stage, you can view the available options on the 'Desirable Levels' sheet (see below) once the crop/paddock selection has been made (step 1) on the 'Client Report' sheet.

By following step 1 described previously, the **Desirable Levels** sheet will be displaying the growth stages available for that crop/paddock. Once you have determined the closest growth stage, go back to the **Raw Data** sheet and enter this information in the column as shown in the image above. Once step 2 (described previously) is then completed, the report should display all features.

There is an additional step for reports with historical data – that is, previous sample analyses for that paddock during the current season. As shown in the screenshot below, please click on the yellow cell marked “click to sort by paddock”. You can perform this function at any stage. This automatically sorts any historic data into the necessary order so other sheets function correctly. You do not need to do this if your report contains a single analytical result, or if there is no previous analysis for that paddock.

W38								
	A	B	C	D	E	F	G	H
1	Sampling Date	Lab Number	Sample Number	Grower	Click to Sort By Paddock	Crop	Growth Stage	N03
2	25/05/14	14000255	1	EXAMPLE GROWER	Paddock One	Blueberry	6.5	152
3	26/05/14	14000256	2	EXAMPLE GROWER	Paddock One	Blueberry	6.9	165
4	27/05/14	14000257	3	EXAMPLE GROWER	Paddock One	Blueberry	7.2	250
5	28/05/14	14000258	4	EXAMPLE GROWER	Paddock One	Blueberry	7.5	225
6	29/05/14	14000259	5	EXAMPLE GROWER	Paddock One	Blueberry	UNKNOWN	300
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If your paddock history includes previous sample analyses from this season, the data will be listed on this sheet as shown here. To ensure the data is in the correct order, please simply click on the yellow cell marked "Click to sort by Paddock", and the data will be automatically sorted into the correct order to enable display on the Client Report and Client Graph sheets.

If you have no information la The reporting entered in the can view the a (see below) or (step 1) on the

2. Client Graphs sheet

There is little change to this sheet for users of past versions of our NU-test template. Any selections made on the **Client Report** sheet are automatically carried over to this sheet. If more than one analysis has been reported for that crop/paddock, then the table of results will contain these historic sample results.

The editable text box on this page (and on the **Rec Sheet**) is designed to save any comments made about each sample – for example, if you are entering individual comments for a report with two or more results, as you select another sample for comment the previous comments will be automatically re-loaded into the comments box whenever the previous sample is re-selected on the **Client Report** page.


Any issues like data not displaying correctly will be due to incorrect operation of the previous sheets – please see comments above if you have difficulty viewing data on this sheet.

3. Rec sheet

We have revised the layout of the NU-test report so there is now only one **Rec Sheet**. There are several features available on this sheet to help consultants and agronomists present their interpretations and recommendations to their growers.

The fertiliser product selection has been updated to reflect current best practise by adopting the PRAFT principles (Product, Rate, Application method, Frequency and Timing). Note that if you have a product that is not in the list provided, the last 2 rows of this section of the **Rec Sheet** are not formatted – simply type your product name and continue through the columns with custom entries (note that you will have to calculate the elemental figures yourself).

BLUEBERRY (Pdk: Paddock One)




Client Details	
Client:	EXAMPLE CLIENT
Order number:	100-123
Grower:	EXAMPLE GROWER
Lab code:	NJ7
Sampling date:	25/05/2014
Date reported:	29/05/14
Growth stage:	6.5 (Sampled: 25/05/14)
Client agronomist:	Agronomist

Analyte	Result	Desirable	Status	Comments
Ammonium	1.2ppm	N/A	N/A	
Nitrate	152ppm	80 - 160ppm	Optimum	
Phosphorus	254ppm	250 - 500ppm	Satisfactory	
Sulphur	248ppm	200 - 300ppm	Satisfactory	
Potassium	2514ppm	3000 - 4500ppm	Low	
Calcium	758ppm	650 - 1000ppm	Satisfactory	
Magnesium	226ppm	350 - 750ppm	Very Low	
Boron	0.56ppm	4.00 - 10.00ppm	Very Low	
Molybdenum	0.56ppm	0.03 - 0.08ppm	Very High	
Copper	1.12ppm	1.00 - 3.00ppm	Sa	


Recommended Fertiliser Applications																
Product	Rate (kg/ha)	Application	Timing	Frequency	N	P	K	S	La	Mg	B	Mo	Lu	Fe	Zn	Mn
Calcium Nitrate	225.00	Fertigation	ASAP		34.9				42.8							
Total nutrient application (kg/ha):					34.9	42.8										

Comments and Recommended Actions	
<div style="border: 1px solid red; padding: 5px; margin-bottom: 10px;"> This table allows for the selection of input products from a pre-loaded drop-down menu. Click on this cell, and a small arrow appear on the RHS, then select the product </div> <div style="border: 1px solid red; padding: 5px; margin-bottom: 10px;"> Fertiliser selection and entry of an application rate (in kg/ha) produces a calculated application value (in kg/ha) for each nutrient present in the selected fertilisers. </div> <div style="border: 1px solid red; padding: 5px; margin-bottom: 10px;"> This recommendation sheet allows for growers, consultants and agronomists to enter more detailed comments about the current analytical results. </div> <div style="border: 1px solid red; padding: 5px; margin-bottom: 10px;"> If you require a blank cell for a custom product recommendation, the last two rows here are 'blank' with no pre-loaded drop-down menu </div> <div style="border: 1px solid red; padding: 5px;"> This editable text box for entering comments or recommendations from growers or agronomists has the same features as the text box on the 'Client Graph' sheet </div>	



Analyse by AgVita Analytical

The information within this report should be used as part of a crop-monitoring program and under consideration of particular production conditions. Desirable levels are derived from ongoing research carried out by AgVita Analytical Pty Ltd. The interpretation of analytical results presumes specific sampling, sample handling, extraction and analytical procedures. Results may be incompatible with interpretation advice developed by other professionals. Graphic presentation of data in this report does not constitute a recommendation or interpretation by AgVita. All graphics data is displayed as a statistical representation only of analytical results against 10-year desirable levels developed by AgVita. AgVita Analytical Pty Ltd and its employees or agents will not be liable for any loss or damage arising from application or interpretation of the data supplied. Please seek guidance on data interpretation and recommendations from your agronomist or consultant.



Raw Data
Client Report
Client Graphs
Rec Sheet
Desirable Levels

As mentioned previously, the comments box is designed to retain comments linked to each individual sample. Note that any text entered in the *Analysis Report – Comments* cells (see blue square above) or any of the drop-downs will not be saved or carry over to additional paddocks if selected on the **Client Report** sheet – we suggest once the **Rec Sheet** is completed for a sample, you save the file as a report for that sample/paddock and then go back to the original file for further interpretation of any additional paddocks/samples.

NU-test REPORT FAQ's:

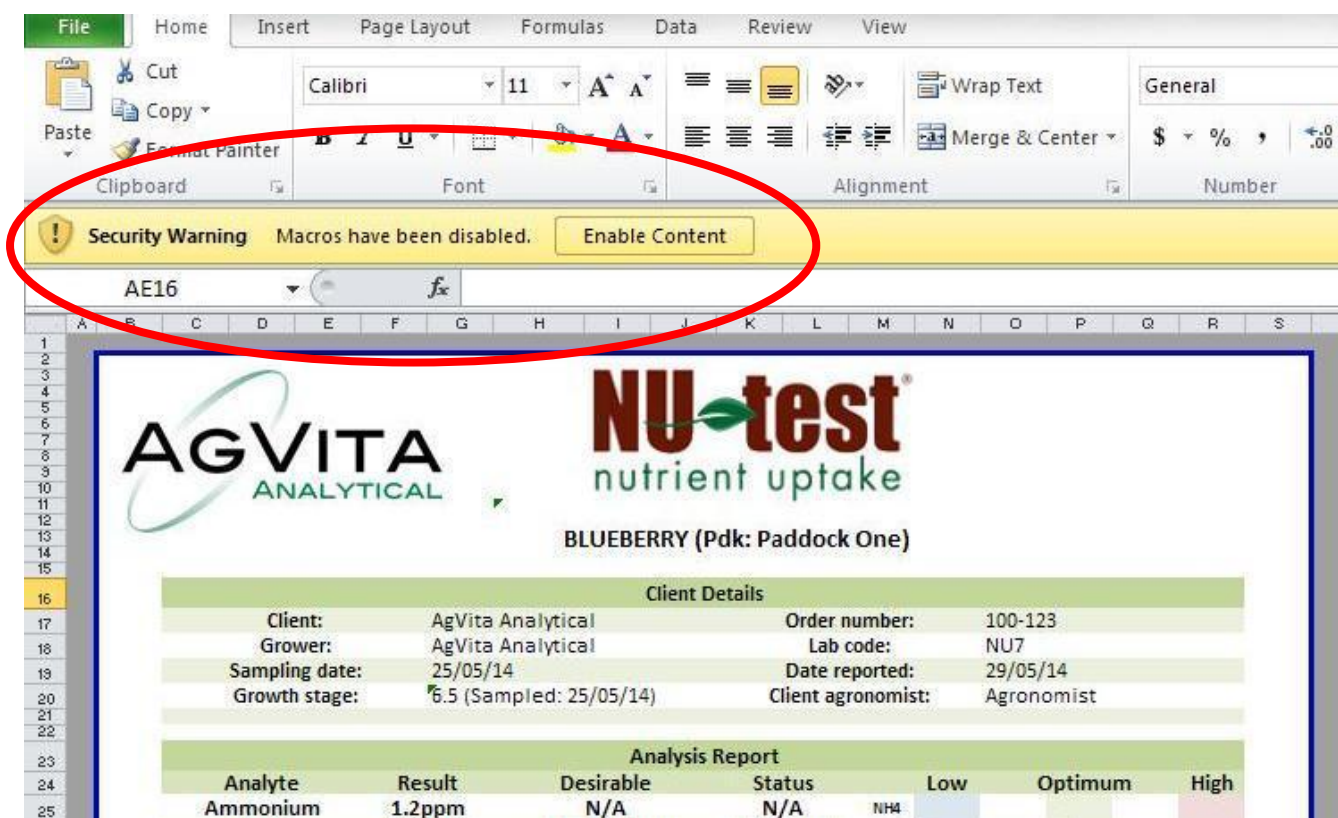
Below are some of the frequent comments, questions and concerns we have come across with regard to the NU-test reporting template:

1. I submitted 5 samples but the report only shows one sample – where are the rest?

If your 5 samples are visible on the **Raw Data** sheet, go to the **Client Report** sheet and follow steps 1 and 2 of this instruction list to activate the drop-down menu that contains all of your samples. If the **Raw Data** sheet only contains some of your samples, check your emails as results are sent grouped by grower – ie, if you have submitted 2 samples from one grower and 3 samples from a second grower, you will receive two emails, each with a single report containing all samples from that grower only.

2. I can't see the drop-down arrow on the Client Report page:

This is an issue caused by security settings in your Excel program. When the attachment is first opened, check to see if a message appears at the top of your screen asking you to 'enable macros' as shown in the example below:



If you see this message, click on the box marked 'enable content' and save the file. The small arrow should then be visible/selectable. There may be additional changes needed in Excel under the main menu:

[file – options – Trust Centre – Trust Centre Settings](#)

to enable macros on templates such as the NU-test reporting template. Depending on the version of Excel in use, this message and the steps needed may vary slightly – if you are having trouble please contact AgVita on (03) 64 209 600 for further support.

3. I can't see any desirable levels status or graphs on the Client Report page:

This problem can have two causes: Firstly it can be linked to the previous FAQ in that the security warning has to be addressed for the template to automatically report correctly. If you are experiencing this problem, close the file and re-open – if no security warning appears, make sure steps 1 & 2 (page 1-2) have been followed fully.

The second likely cause is that there is an 'unknown' growth stage in the raw data - check in the **Raw Data** sheet that there are correct growth stages for all sample results, and if not please amend by following instructions on page 2-3.

4. I wish to enter new results into my old template:

The new database AgVita has implemented has a much more advanced capability, which has led to a more advanced reporting template for all tests. To help clients become familiar with this new reporting template scheme, we have managed to export results from the new database in an identical format or order to the old database. Consequently results on the **raw data** page of new reports are now directly compatible with any existing AgVita NU-test or expressSoil templates. Therefore if you experience any difficulties using the new template reports due to computer incompatibilities, there is the simple option of copying data from the **raw data** sheet and pasting back in to your existing template.

Please note that the NU-test and expressSoil methods of preparation and analysis have not changed - only the data handling and reporting is different.

5. My report contains historical data for this paddock, but it doesn't display correctly:

The new data format may occasionally display raw data in the wrong order which conflicts with other functions on other sheets. To overcome this, we have built a simple and effective button that sorts data into the correct order – please first click on this cell named “click to sort by paddock” as described on page 3, and all other sheets on the report will then function correctly.

6. The paddocks can be selected in the drop-down lists, but the analytical results don't change:

There is a frustrating irregular problem occurring in reports that changes a setting from what our master templates have been set to which causes this issue. We are working on solving this issue, and once sorted, all reports will be free of this issue.

Fortunately it is easy to fix as follows – please select the **Formulas** menu from the top menu of Excel. Then look along to the right of the page and find the icon labelled *Calculation Options* with a small calculator picture. Click on this icon, and a choice of 3 settings is revealed as shown below.

AGVITA ANALYTICAL

NU-test nutrient uptake

BLUEBERRY (Pdk: Paddock One)

Client Details

Client:	AgVita Analytical	Order number:	100-123
Grower:	AgVita Analytical	Lab code:	NU7
Sampling date:	25/05/14	Date reported:	29/05/14
Growth stage:	6.5 (Sampled: 25/05/14)	Client agronomist:	Agronomist

Analysis Report

Analyte	Result	Desirable	Status	Low	Optimum	High
Ammonium	1.2ppm	N/A	N/A			
Nitrate	152ppm	40 - 300ppm	Optimum			
		100 - 1200ppm	Satisfactory			
		40 - 240ppm	High			
		800 - 7800ppm	Satisfactory			
		200 - 1800ppm	Satisfactory			
		160 - 1200ppm	Satisfactory			
		0.80 - 18.00ppm	Very Low			
		0.01 - 0.12ppm	Very High			
		0.40 - 6.00ppm	Satisfactory			
		0.40 - 6.00ppm	Very High			
		4.00 - 120.00ppm	Satisfactory			
		4.00 - 60.00ppm	Very Low			
		1 - 300ppm	Satisfactory			
		1 - 3600ppm	Satisfactory			

STEP 1:
Selecting this cell enables you to choose between multiple paddocks & crops. A small arrow will appear outside the top right-hand-side of this cell activating a drop-down list of selectable paddocks and crops.

STEP 2:
Select the growth stage for the sample you would like to view, using the drop-down menu on the small arrow seen on the right of this cell. If "unknown" is listed here and on the 'Raw Data' sheet as a growth stage, then the desirable levels will not populate the status & charting features - you need to specify a growth stage on your sample information label, or (post reporting) select an option from the 'Desirable Levels' sheet and type this number into the growth stage

NO₃:K Ratio (Desirable)

The report should be set to **Automatic** – if it has reverted to *manual*, simply re-select **Automatic**, and save the report. All functionality will now be working correctly.

As always, we are available by phone or email to help clients with any issues.

Thank you.