PLANET

N U T R I E N T   M A N A G E M E N T

<u>P</u>lanning <u>L</u>and <u>A</u>pplication of <u>N</u>utrients for <u>E</u>fficiency and the <u>E</u>nvironmen<u>T</u>

Field-level Nutrient Planning and Record Keeping Help file

PLANET version 3.3
(Scotland)

Contents

Field-level Nutrient Planning and Record Keeping

The PLANET Field-level Nutrient Planning and Record Keeping module calculates nutrient recommendations based on the Technical Notes produced by SRUC. It provides farmers and advisers with a quick and easy way of obtaining nutrient recommendations for each field, each year, taking account of the crop nutrient requirement as well as the nutrients supplied from the soil, and applications of organic manures and manufactured fertilisers. It allows the user to develop a nutrient application plan for a group of fields covering the use of nitrogen (N), phosphate (P_2O_5), potash (K_2O), magnesium (as MgO), sulphur (as SO_3), sodium (as Na_2O) and lime. The plan can be modified during the season and actual applications recorded.

At the end of the season, details of actual cropping, soil analysis, organic manure and nutrient/lime applications to each crop are recorded. These records together with other information will be used to generate next years recommendations which can be used as the basis for developing a nutrient application plan for each field. PLANET reports can be viewed and printed off.
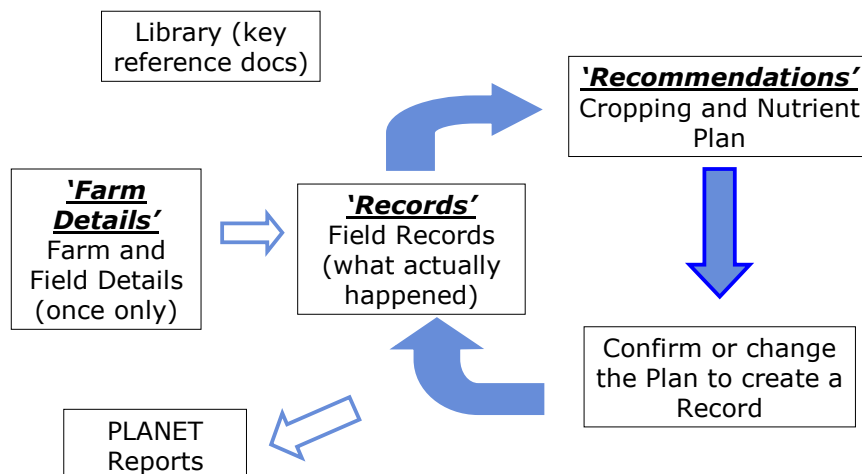
The Field-level Nutrient Planning and Record Keeping section may also be used to help comply with some of the rules established by the Nitrate Vulnerable Zone (NVZ) Regulations that apply to land in Scotland that is located in an NVZ. These rules require farmers to plan all applications of nitrogen to a crop (whether the nitrogen be present within manufactured fertiliser, organic manure, or any other nitrogen-containing material) and to keep a record of all applications. For each crop type grown on land in an NZV, farmers must ensure that the total nitrogen applied as manufactured fertiliser, plus the crop available nitrogen from organic manure applications, does not exceed the N max limit for that crop type. For details of these rules, see the relevant NVZ Guidance booklet.

The N max function ![Nmax] carries out a calculation to check compliance with the NVZ N max rule.

In addition, data can be exported from PLANET by either right clicking in any tab cell or by using the Data Import and Export wizard ![icon]. Either function will export field-level records into a spreadsheet such as Microsoft Excel for further manipulation.

Important

The information supplied in the PLANET software is for guidance purposes only and is not intended to fully substitute for professional agricultural advice. The specific statutory elements concerning water and nitrates are set out in the relevant national legislation and you should refer to this legislation to find out exactly what you must do. The nutrient recommendations provided by PLANET are in line with national industry standard guidance. If in doubt, farmers should seek help from a qualified adviser.

The user is responsible for ensuring the accuracy and completeness of all data entered and used by PLANET, and for any commercial decisions taken based on any of the PLANET recommendations or other outputs of this software. Use of the PLANET software is subject to the terms and conditions of the PLANET User Licence.

PLANET v3 has been developed by ADAS and SRUC with funding and support from Defra and the Scottish Government. The software is maintained by ADAS. Support is provided by ADAS (in England and Wales) and SRUC (in Scotland). For further information, visit www.planet4farmers.co.uk or ring the PLANET Helpline on 08456 023864.

Quick start guide

Version compatibility and file management

Existing PLANET farm files can be upgraded to v3.3. Before installing the new PLANET v3.3 you must first uninstall any old versions of PLANET from your computer. Your farm files are stored separately to the PLANET programme and will not be affected by uninstalling the PLANET programme from your computer.

PLANET can store and process data for many different farms or *Farm files*. Information for each *Farm file* will be saved as an individual PLANET (.mdb) file. Files are stored in the Documents\ PLANET\DATA directory. Backup files are stored in the Documents\PLANET\DATA\BACKUP directory.

PLANET files can be transferred between computers by email, disc, memory stick, etc. This can allow the same file to be used by different PLANET users (e.g. farmer and adviser). To do this, identify the correct file (.mdb file) in the Documents\PLANET\DATA directory and copy this to another computer. You can email the file as an attachment, sometimes best done as a zipped file. Provided the other computer has the PLANET software loaded, it can read, edit and add to the file. If you are sharing files in this way, always make sure you know where the master version is.

To follow the Field-level Nutrient Planning and Record Keeping cycle, you will need to use the 4 sections described below:-

Farm and Field Details – this section requires entry of some simple farm and field information during the initial set-up of a farm. Fields can be split or merged. See page 11 for further details.

Records – this section requires entry of *past* cropping, soil analysis results, organic manure and nutrient/lime use for each crop in each field. They are records of what actually happened. These records are used to generate recommendations for the current or next crop, including allowance for the rolling balance of phosphate (P_2O_5) and potash (K_2O). See page 18 for further details.

Nutrient Planning - this section allows entry of cropping, soil analysis and organic manure application details for the *current or next crop* in individual fields. Using this information and past records, SRUC recommendations for each field can be generated for selected nutrients or lime. The user can then set up an actual nutrient application plan for each field including the rate and timing of split applications. This plan can be modified during the season. At the end of the season, the details of actual manure and fertiliser applications can be confirmed and stored as a record. See page 35 for further details.

Reports - field recommendations or records can be printed, or exported as files in PDF format. See page 51 for further details.

1. On the desktop, click on the PLANET icon. Select **Create a New Farm File** or **Open an Existing Farm File**. If you starting a new file, then select *Scotland* as the location.

2. The Farm and Field Details module will now open. Enter the required **Farm Details** information (unless previously entered). You must enter the **Farm name**, **STD code** and **Postcode** (used to identify the **Average Annual Rainfall**). Enter the required **Field Details** information for those fields on the farm you wish to consider. You do not need to enter field details if you only want to use the farm-level PLANET modules. **Note:** Some Farm and Field details held by Scottish

Government can be downloaded from the Rural Payments on-line website and imported into PLANET. See page 12 for further details.

3. If you are starting a new file you must **Save** the file before leaving the Farm and Field Details tab. Do this by clicking on the **Save** icon 💾 or selecting *Save* from the *File* menu. Enter the filename and click *Save*.

4. To leave Farm Details, click on the **Records** or **Nutrient Planning** icon on the toolbar or select an option from the *View* menu. When setting up a new farm file, it is usually best to enter Records as the first step.

5. In Records, enter information for the current or past Harvest years into the ***Cropping, Soil Analysis, Organic Manures*** and ***Nutrients and Lime*** tabs. This is information about what has actually happened in the past and will thus be saved as Confirmed information. All Confirmed information is shown on a white background. Information must be entered by Harvest Year, using the drop-down menus where available. Information about the previous ***Crop type*** must be entered here if you want to obtain an SRUC recommendation for the current or planned crop.

6. Information can be entered in any field or chronological order and is always entered into the top row of a grid or for the field. Press return on the keyboard to enter a row of information.

7. When you have completed entry of information into the Records module, click on the ***Nutrient Planning*** icon or select *Nutrient Planning* from the *View* menu.

8. Use the ***Nutrient Planning Wizard*** to select the Field names and nutrients/lime that you wish to work with. These selections will be transferred to the Nutrient Planning/Cropping tab. They can be altered at any time.

9. Enter information into the ***Cropping, Soil Analysis*** and ***Organic Manures*** tabs for the current Harvest Year using the same procedure as in Records. This information will be saved as Planned information indicating that it is planned but not certain. All Planned information is shown on a yellow background. At the end of the season, Planned information needs to be edited (if necessary) and Confirmed as a record of what actually happened.

10. You can also enter information into the **Nutrient and Crop Prices (BER)** section 💷. This information will be used to calculate adjustments to the recommended N rate due to the Breakeven Ratio for cereal and oilseed rape crops. It will also be used to calculate the value of manure nutrients.

11. When all available information has been entered, select the ***Recommendations*** tab. Provided certain essential information has been entered, the SRUC recommendations and advice for each of the selected fields will be shown. Make sure you read the advice shown at the bottom left of the tab.

12. You can then use these recommendations to decide on a nutrient application plan for each field by allocating split applications of each nutrient to one of 8 time periods. You can add a comment for each field. If the field is located in an NVZ, and a planned application might breach one of the NVZ Action Programme rules, a message will show warning you of this possible breach. You should then reconsider the planned application.

13. Nutrient application plans for selected fields can be reviewed and revised at later PLANET sessions. To do this, select ***Review Recommendations*** in the Nutrient Planning wizard, then select the relevant fields.

14. At the end of the Harvest Year, you should go into Records and check that the Planned information is a true record of what actually happened in each field. When any necessary corrections have been made, select a row of information and press the ***Confirm Record*** button to change the status of the information from 'Planned' to 'Confirmed'. Only Confirmed information will be shown in some reports. The N max report for compliance purposes will only be generated if all relevant information is confirmed.

15. You can use the **N max** function to calculate whether the crop types grown on fields that are in an NVZ are compliant with the N max limit for the crop type.

16. You can obtain various printed reports by clicking on the **Reports** icon on the toolbar. The **Reports Wizard** allows easy selection of the fields, Harvest years, crops, nutrients/lime and the report format required. Reports can be printed or saved as a pdf file.

17. In any tab, you can export field-level data (e.g. SRUC recommendations, your nutrient application plan) into a spreadsheet for further manipulation. Do this by right clicking and selecting *Export tab*.

18. In any tab, you can sort the data in the tab by clicking in any column header and using the up or down arrows. Sorting by selected multiple columns can be done by holding down the Shift key.

Harvest years

All information for a field must be entered according to the Harvest year of the crop (i.e. the year when the crop was harvested). All information entered for a specific Harvest year will be used when calculating the recommendations for the crop grown in that Harvest year. Information entered for a different Harvest year will be regarded as applying to the crop grown in the specified year.

A new Harvest year will usually start immediately following harvest of the previous crop. This is because any actions that take place after harvest (e.g. organic manure applications, new soil analysis) will usually be relevant to the next crop grown even if it has not yet been established.

> _Example._ *Winter wheat has just been harvested in 2010 and potatoes are planned for Harvest year 2011. A new soil analysis is taken in September 2010 and an application of organic manures is planned for December 2010.*
>
> Details of the potato crop, the new soil analysis results and the organic manure application should be entered against Harvest year 2011.

Essential information and defaults

All information must be entered accurately in order for PLANET to function properly. You will be prompted by a red **!** if information is entered incorrectly or if essential information is missing. You must enter the missing information before you will be allowed to leave the tab. If you cannot enter the information you must delete the row before you can leave the tab. Essential items of information are listed below.

- Farm name
- STD code
- Postcode (this is used to identify the Annual Average Rainfall for the farm)
- Field name
- Field area
- Soil type
- NVZ designation
- Previous crop type
- Current or planned crop type (including Crop info 1)
- Previous grass history
- Organic manures – manure type and date of application (where a manure application is entered)

Other items of information should be entered if available. Where information is not entered, a default value will be used in the PLANET calculations.

Default values may be shown on-tab and can be edited if more specific information is available. For instance, in the Organic Manures tab, typical values for the nutrient content of organic manures will be shown as soon as the manure type has been selected. If more specific information is available (e.g. laboratory analyses), then the displayed values can be overwritten and the new information will be saved.

The following default values are used if there is no information entered:-

Soil pH	6.2 (Arable and Horticulture)
	5.8 (Grassland)
Soil P Status	M (L for biomass crops)
Soil K Status	M (L for biomass crops)
Soil Mg Status	M
S deficient	Yes
Organic manures – rate of application	Depending on the manure type
Organic manures – application method and incorporation	Depending on the manure type
Organic manures – nutrient content	As in SRUC TN650
Straw baled	Yes for cereals

Section Wizards

Wizards are available for use in some sections of PLANET. The aim of a Wizard is to allow PLANET to be used quickly and effectively.

- The Records Wizard allows selection of Harvest years and Field names for retrieval of stored information. These records can be shown in Harvest year order, Field name order, Crop type order, Order as first entered or Field Reference order.

- The Nutrient Planning Wizard allows selection of Harvest year, Field names and specific nutrients or lime for entry of new information or reviewing a nutrient application plan that has already been devised.

- The Reports Wizard allows selection of Field names or Crop type and Harvest year(s) and one of 5 report formats. These reports can be shown in Field name order, Crop type order, Order as first entered or Field Reference order.

- The Data Export Wizard allows selected field-level data to be exported into a spreadsheet for further manipulation (e.g. calculation of fertiliser purchase requirement need and cost).

- The N max Wizard calculates the average nitrogen application across the farm, including manure available N, for major crops and compares both the planned and the recorded (actual) nitrogen applications with the NVZ crop requirement limitation.

Data Entry Wizard

The data entry wizard allows quick and easy copying of Cropping, Organic manure, Nutrients and Lime and/or Nutrient application plan information between fields, either:

- o Copying from one source field to other fields in any Harvest year

- o Copying from selected source fields in one Harvest year to the same fields in another Harvest year

See 21 (Records) or 40 (Planning) for more details of using this wizard.

The fertiliser application wizard allows quick and easy entry of a fertiliser application made to multiple fields. See page 22 for further details.

Table splitter

On some tabs, there are 2 tables (e.g. Arable and Horticulture, Grassland). You can change the size of either of these tables by using the splitter bar. Move the mouse over the splitter bar line (it will become a double headed arrow), then left click and hold down the mouse button, then drag the mouse to move the splitter bar.
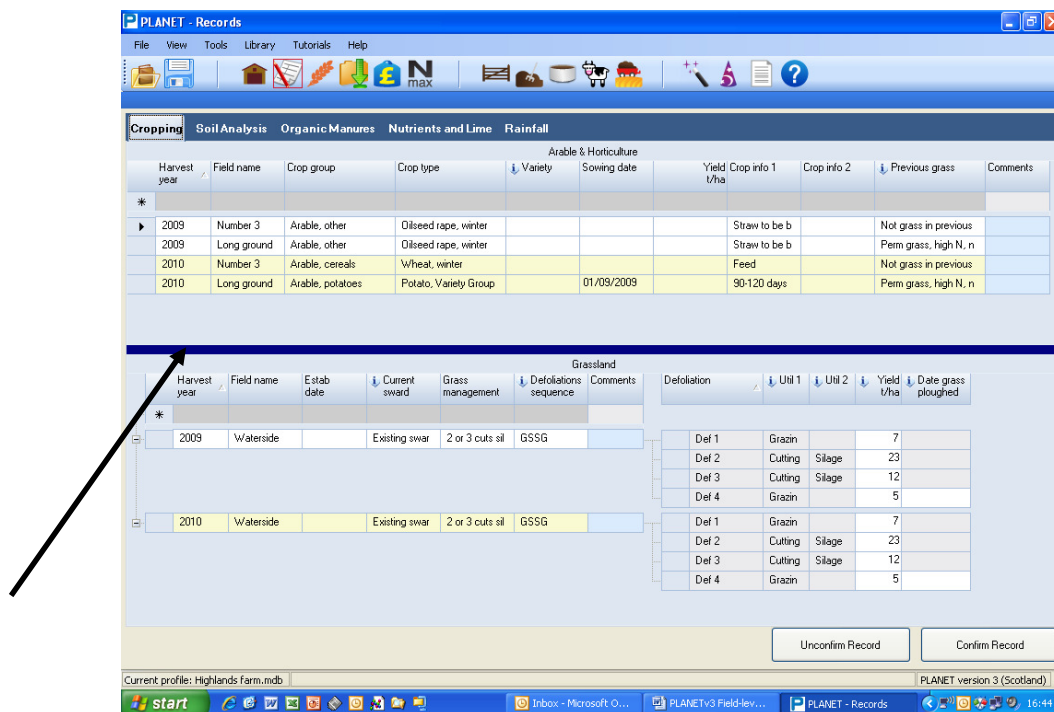
Sources of Help

Help files

Each of the PLANET sections has a help file which can be viewed and printed. To do this, select the relevant help file from the *Help* menu at the top of the page. The help files are also available at www.planet4farmers.co.uk.

On-tab Help

On-tab *Help* can be accessed in several different ways:-

- by clicking on the Help icon on the taskbar. This will take you to the start of the Help document.
- by selecting *Help* from the menu at the top of the tab.
- by clicking in any data entry cell and then pressing the F1 key.

- by clicking on the icon which occurs alongside some column headers.

Tutorials

A range of audio-visual tutorials can be found in *Tutorials* menu. These will help you use PLANET correctly and with confidence.

Library

The library can be accessed from the *Library* menu at the top of the tab. It includes the full text of various relevant documents that can be viewed on screen or printed off.

Weblinks

Links to useful websites can be found in the *Help* menu.

Website

The PLANET website (www.planet4farmers.co.uk) contains a range of information including News and software downloads. You can email questions to the PLANET Helpline via the website. New users can register for PLANET here.

Helpline

Further Help is available by contacting the PLANET Helpline on 08456 023864, but this Helpline will NOT give specific technical advice on manure or fertiliser use for a specific farm or field crop.

Other functions

Moving between cells

You can use the mouse, tab key or cursor keys.

Selecting from drop-down menus

You can use the mouse, or you can use the keyboard and press the first letter of the required option. If there are several options with the same first letter, press the key repeatedly.

Copying and pasting

You can use Control+C (copy) and Control+V (paste) to copy and paste any cell where the information is directly entered (e.g. date, yield, variety). Double click to highlight the source cell and press Control+C, then go to the destination cell and press Control+V. You can copy information selected from any drop-down menu.

Deleting rows and cells

Deleting information from rows or cells can be done as follows but must be done with great care.

- Deleting rows – highlight the row by clicking in the cell at far left hand end of the row. Press the *Delete* key. Confirm if you want to delete the row of information.

- Deleting cells – information can be deleted from some, but not all, individual cells by selecting the information and then pressing the *Delete* key. You can change but not delete information from cells with drop-down menus.

Warning. Once information in rows or individual cells has been deleted, it cannot be retrieved. There is no Undo function in PLANET. Information deleted in error must be re-entered.

Sorting columns

Each column can be sorted in ascending or descending order by clicking in the box with the column header. To sort by multiple columns, hold Shift and then select the columns to sort by.

Farm and Field Details

This section asks for some simple information about the farm and the fields on the farm. Once this information has been entered for a New Farm File, there should be no need to change it unless fields are split or merged, or new fields are added.

Farm Details

Note: Some Farm and Field details held by Scottish Government can be downloaded from the Rural Payments Online website and imported into PLANET. See page 12 for further details.

You must enter the *Farm name*, *Farm STD code* and *Postcode*. If you do not know the Farm STD code, press the *Find STD code* button; the dialogue box will allow STD codes to be sorted by number or location, and then the correct code can be selected. Entry of other Farm Details information is optional.

The postcode is used to obtain the long term (30 year) *Average Annual Rainfall* for the farm which is used when calculating SRUC nitrogen recommendations. This rainfall figure can be overwritten if more specific average rainfall information is available for the farm. However, do not overwrite the default Annual Average Rainfall figure unless you have reliable rainfall information for at least 10 years.

In arable cropping situations, the Excess Winter Rainfall (EWR) for each winter period is more relevant than the Average Annual Rainfall when calculating nitrogen recommendations. If the EWR is known, this can be entered in the Records/Rainfall tab for each harvest year; the EWR will be used in preference to the Average Annual Rainfall when calculating the SNS Index and nitrogen recommendations for arable and horticultural crops.

Field Details

> **Note:** Some Farm and Field details held by Scottish Government can be downloaded from the Rural Payments Online website and imported into PLANET. See page 12 for further details.

Enter the *Field name*; this can be a mix of alpha and numeric characters but you cannot use a number only. The field name can be corrected or changed later if necessary.

Enter the *LPID* (Land Parcel Identification) number. If useful, you can then enter an *Other ref* (e.g. Block 1, Grass block, West section, Heavy land) but this is optional.

Enter the *Field area,* altering the *Cropped area* if necessary, and the *Manure non-spreading area*.

Enter the *Soil type*; if you need help to identify the soil type of the field, press the 🔱 icon. This will show a detailed description of each soil type. Guidance on how to determine soil textures can also be found here.

Select the *NVZ designation* of the field.

Press the Return key to enter a new row of information. You can press the tab key to move along a row. Use the scroll bar on the right to move the grid into view on the screen.

Information for each field must be entered before leaving Farm Details. Any missing essential

information will be shown by a red **!** and must be entered before leaving the tab. Information for additional fields can be entered on a separate occasion.

Importing Farm and Field details held by Rural Payments Online (RPO)

Provided by the Scottish Government, RPO is an online service for claims and application forms relevant to a variety of rural support and development schemes. The following details can be imported by first downloading the information from RPO as a .csv file to your computer, and then importing this file into PLANET.

Farm details – Farm name, Address, Contact Details, BRN and MLC
Field details – LPID number, Field Name and Total Field area (ha)

Note: *Importing information into PLANET from RP online is best done when a farm is first set up in PLANET.*

To download a PLANET .csv file for your farm from RPO, you must be registered to use the RPO service. If you are a registered user, visit www.ruralpaymentsonline.com, then select 'Go to Rural Payments Online'. You should then login using your User ID and Password. Once logged in, the csv file can be downloaded to a convenient location on your computer by selecting 'Produce PLANET csv file' under 'Other useful Links' (on left hand side of screen).

Other Useful Links

Entitlements Details

Agent Mandate Form (PDF)

Agent Mandate Form Q&A (PDF)

Download Field Data for PLANET

Previous Schemes

Edit Client Contact Details

If you are an Agent user, you must first select a client from the 'My Clients' tab. Please note that in order to download the PLANET csv file for a particular client, you must have authority to submit a Single Application Form (SAF) on their behalf. If you do not have this authority, you will need to submit an AA1 Form. This form is available at http://www.scotland.gov.uk/Resource/Doc/971/0056538.pdf and, once completed, should be returned to you local Scottish Government Rural Payments and Inspections Directorate (SGRPID) office.

If you wish to register to use RPO, detailed instructions can be downloaded or viewed on the rural payments online website.

You can also use Rural Payments Online to update your business contact details and view important business information such as your Single Farm Payment Scheme (SFPS) Entitlements and Entitlements History.

If you encounter any problems using Rural Payments Online, you can contact the RPO helpdesk on 0845 601 7597.

Once the .csv file has been downloaded to your computer, open PLANET and either **Create a new farm file** or **Open an existing farm file**.

Important. Do not make any changes to the .csv file before you import the file into PLANET. If you make any changes, the import process may not work.
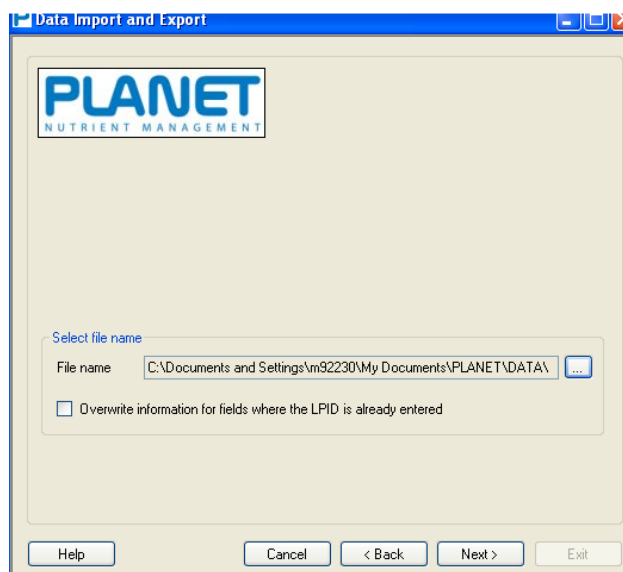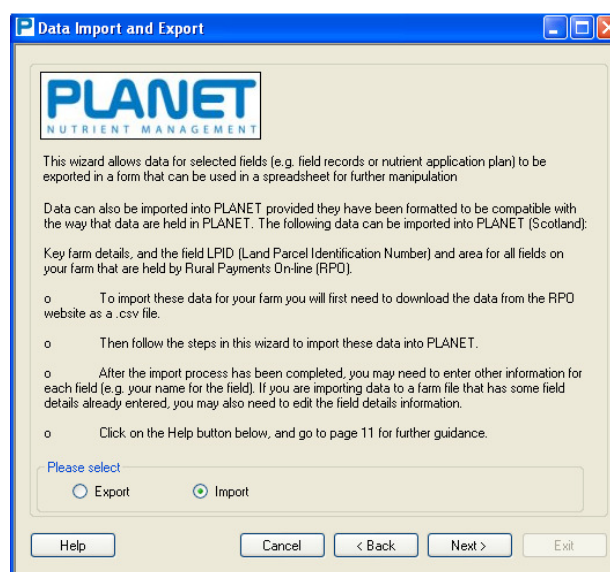
1. For a new farm file, enter a Farm name and STD code and save the file. Then select the Data Import and Export wizard by clicking on the icon.
2. Select *Import* and click next.
3. Navigate to the appropriate location on your computer where you previously saved the .csv file that you downloaded from the RPO website. Select the correct file.
4. If you have previously entered the LPID number and Field area of any field, in the next screen you can select if you want to *Overwrite* these entries. **Warning.** If *Overwrite* is selected and there are any fields (e.g. split fields) with the same LPID number, the RPO gross field area for each of these PLANET fields will be imported. These entries will then need editing according the area in each part of the split field so that the total of all split fields is the same as the gross field area imported from Rural Payments On-line.
5. Click next and the import process will be completed.

6. For each field, you must now enter other essential information (e.g. soil type) where indicated by a ❗. You must enter this information for each field before leaving this tab.

7. If there are 2 fields with the same LPID number that have already been entered in PLANET before the import process (e.g. where a field has been split), the full field area for each 'split' will be shown following the import process. You should now edit the field area of each 'split' so that the total of all splits is the same as the field area imported from Rural Payments On-line.

Splitting and Merging fields

PLANET allows splitting and merging of fields that already have records set up. You can view the history of split/merged fields, allowing you to see which fields have been split or merged in which harvest year by selecting **View history** from either the split or merge field screens.

Splitting existing fields

Any existing 'parent' field can be split into two or more parts or 'units' that are to be managed separately in a specific Harvest year and thereafter. PLANET will regard each of these new units as new fields when generating recommendations and recording information.

Each new field must be given an individual name and will adopt the history of its parent field (e.g. previous cropping, soil analyses, etc). You cannot use the same name as the parent field. A field that has been split can be 'merged' back together, or merged with other fields, but if this is done, the original parent field name cannot be used again. To preserve historic information a different field name must be used (e.g. if Barn field is split then the component parts merged back together, the field could be renamed Barn field 2010).

A field cannot be split in a Harvest year if a planned crop has already been entered for the field and Harvest year. To split this field, the planned cropping in the relevant Harvest year must first be deleted by going to either the Records or Nutrient Planning sections. To delete, highlight the row by clicking on the cell at far left hand end of the row and pressing the *Delete* key.

Step 1. Select field.

Select the **Split Fields** icon on the toolbar. In the Split Field window that appears, **Select Harvest year** in which the field(s) will be split.

Step 2

Select Field to be split (the parent field) using the drop-down box. Details about this field will be shown.
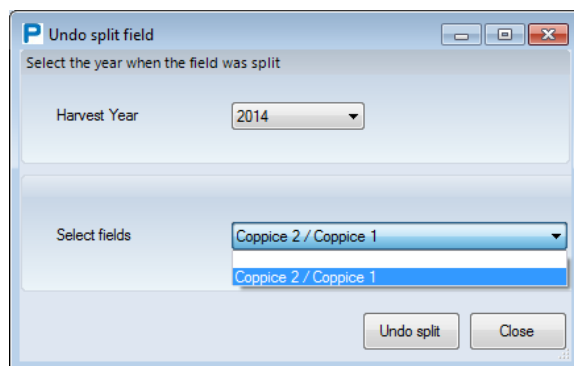
Step 3

Enter the **Field name** of each new field. Then select the area of each new field as either the **% of original field** area or by entering the actual **Field area**. The **Cropped area** may be edited. Enter the **Soil type** of each new field which may be different from the original field. Enter the **NVZ designation**.

Step 4

Select **Split Field**. Then select **Close** or proceed to split another field following steps 1 to 3. The new fields will display in Farm Details/Field Details and will be available for entering cropping and other information in the Nutrient Planning section for the current Harvest year.

The new fields will not appear in the Records section until a planned crop has been entered. When viewing Records or generating Reports, information about the parent field prior to splitting can be found against the original field name.

You can 'undo' a split provided that no cropping details exist against the 'new' field. To undo a split field, select **Undo split** from the split field menu. Select the harvest year when the field was split, then select the split fields and select **Undo split.**


Merging existing fields

Two or more existing fields can be merged where it is intended to manage them as one unit in a specific Harvest year and thereafter. PLANET will regard the new unit as a new 'field' when generating recommendations and recording information.

The new merged field must be given an individual name. The new field may be split back into its original or into different, component parts in a later Harvest year if required but if this is done, exactly the same field names cannot be used again. To preserve historic information at least slightly different names must be used, e.g. former Barn field might be renamed Barn 2010.

The previous history of one of the original fields must be allocated to the new merged field.

A field cannot be merged with another field if a planned crop has already been entered for either field in the Harvest year when the merging happens. To merge a field, the planned cropping in the relevant Harvest year must first be deleted by going to either the Records or Nutrient Planning sections. To delete, highlight the row by clicking on the cell at far left hand end of the row and pressing the *Delete* key.
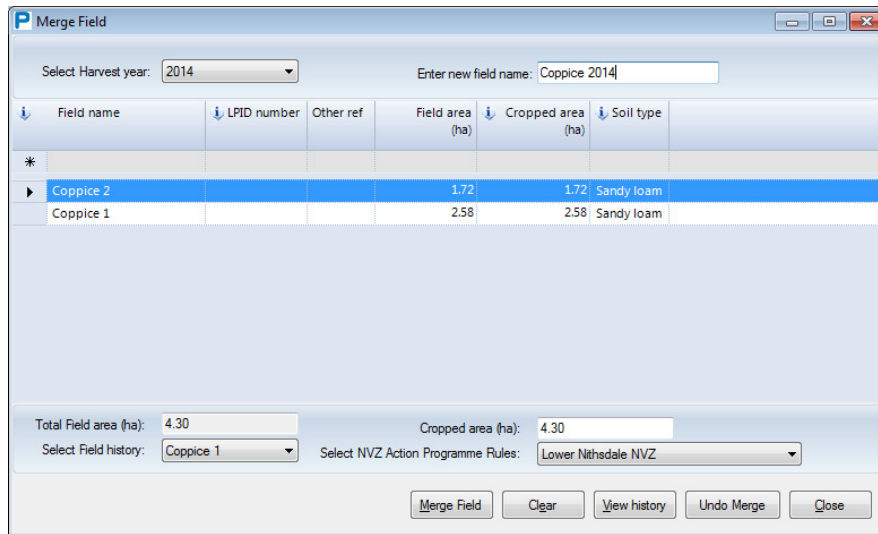
Step 1. Select fields.

Select the **Merge Fields** icon on the toolbar. In the Merge Fields window that appears, **Select Harvest year** in which the fields will be merged. Use **Enter new field name** to allocate a new field name for the new merged field.

Step 2

Select the **Field name** of those fields to be merged from the drop-down box. Details about each field will be shown. The **Total Field area** of the new merged field will auto-display. The **Cropped area** may be edited.

Step 3

Use **Select Field history** to select the field whose history will be used for the new merged field. This will usually be the largest of the component fields. Enter the **NVZ designation** of the new field.

Step 4

Select **Merge Fields**. Then select **Close** or proceed to merge other fields following steps 1 to 3. The new fields will display in Farm Details/Field Details and will be available for enter cropping and other information in the Nutrient Planning section for the current Harvest year.

The new field will not appear in the Records section until a planned crop has been entered. When viewing Records or generating Reports, information about the component fields prior to merging can be found against each of the field names.

You can 'undo' a merge provided that no cropping details exist against the 'new' field. To undo a merge field, select **Undo merge** from the merge field menu. Select the harvest year when the field was merged, then select the merged field and select **Undo merge**
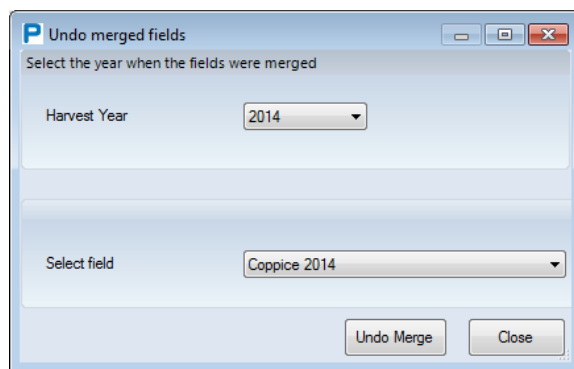
Leaving Farm and Field Details

Once all Farm and Field Details information has been entered, you can move to either the Records or Nutrient Planning section by clicking the appropriate button on the taskbar or by selecting from the *View* menu. You will be prompted to *Save* your information.

By selecting the relevant tab, you can now enter past information for previous Cropping, Organic manure use, Soil analysis and Nutrients and lime use. Unless information has already been entered, it is advisable to do this using the Records section but this information may also be entered using the Nutrient Planning section.

However, there are important differences in the status of the information depending on which section is used.

1. **Using the Records section (page 18)**. This section should be used when entering information about *what has actually happened* for one or more previous Harvest years. You will need to do this when a new Farm file is being set up. Information entered in the Records section will be stored as Confirmed information (i.e. it did actually happen) and will be shown on a white background. Thus, future plans for the current or planned crops should NOT be entered in the Records section.

   Entry of complete details of Cropping, Soil analysis, Organic manure and Nutrients and lime applications for last Harvest year must be entered before the SRUC recommendations can be generated for the current Harvest year. Field records going back to the Harvest year of the last soil analysis will result in the most accurate recommendations for phosphate and potash.

2. **Using the Nutrient Planning section (page 35)**. This section should be used when entering information about the *plans for the current or future crops*. Information entered in the Nutrient Planning section will be saved in Records but only as Planned information (e.g. planned cropping, organic manure and nutrients and lime applications for the current crop) and will be shown on a yellow background.

Records

The Records section stores past cropping and nutrient management information for all fields on the farm for all past years. This information may be used for generating SRUC recommendations for the current or planned crops. SRUC recommendations are generated in the Nutrient Planning section and cannot be generated in the Records section.

Only details of what actually happened should be entered into Records. <u>Do not enter information here that is uncertain or only planned.</u> All information entered into Records will be saved as 'Confirmed information' (i.e. actually happened). Information details that are plans only should be entered into the Recommendations section and will be saved as 'Planned information'.

Confirmed information. This is information that is confirmed (i.e. did actually happen in practice) and is shown on a white background. Confirmed information only will be shown on Report 1 (Field history) and only confirmed information will be used to generate an N max report where this is based on records of actual applications. Confirmed information can still be edited if required.

Planned information. This is information on future plans (e.g. cropping and nutrient applications) and may be uncertain; it is shown on a yellow background. Using the Confirmation process, it is important that Planned information is 'confirmed' (or corrected then confirmed) before the SRUC recommendations are generated for the next crop.

<u>Confirmed information is shown on a white background, Planned information is shown on a yellow background.</u>

<u>Warning.</u> It is important to confirm Planned information at the end of the season. Unless confirmed, Planned information may be inaccurate and might result in incorrect recommendations for following crops. Accurate records are needed to meet the requirements of the NVZ Action Programme rules.

Records Wizard

The Records Wizard allows you to select fields and a range of Harvest years for retrieving existing records. <u>The Wizard does not need to be used when entering new information.</u> Enter new information directly into one or more of the tabs – for a field in a Harvest year, you must enter the Cropping information before you can enter any other information for the field.

The Wizard will open automatically whenever the Records section is selected except when Records is first selected during set-up of a new farm file. Once selections have been made, they will be saved and used until changed by using the Wizard. If you do not want the Wizard to automatically open when selecting the Records section, tick the box 'Do not automatically show this Wizard again in this PLANET session'.

The Wizard can be selected at any time by clicking on the   icon that is located on the taskbar.

Step 1.   Choose selection of fields.

Select **Start a new selection of fields** or **Continue with previous selection**.

Step 2.   Select start and end year.

Use **Select start year** and **Select end year** to choose the date range of records you wish to retrieve. All existing information for these years will be shown in the Cropping, Soil Analysis, Organic Manures, Nutrients and Lime and Rainfall tabs. If you are interested in a single year only, enter the same year in both boxes.

Step 3.   Select display order.

Select how you wish to see the field information displayed -

- **Harvest year order** – information for all selected fields will be shown for each Harvest year in turn, starting with the *End year* that was selected.
- **Field name order** - information for all selected Harvest years will be shown for each field in turn in alpha-numeric order.
- **Crop type order** - information for all selected Harvest years will be shown for each field by crop in alphabetic order.
- **Order as first entered** - information for all selected Harvest years will be shown for each field in the order in which fields were first entered in the Field name column in the Farm Details/Field Details tab.
- **Field Reference order** - information for all selected Harvest years will be shown for each field grouped as labelled in the Other ref column in the Farm Details/Field Details tab.

Press the **Next** button.

Step 4.   Select fields.
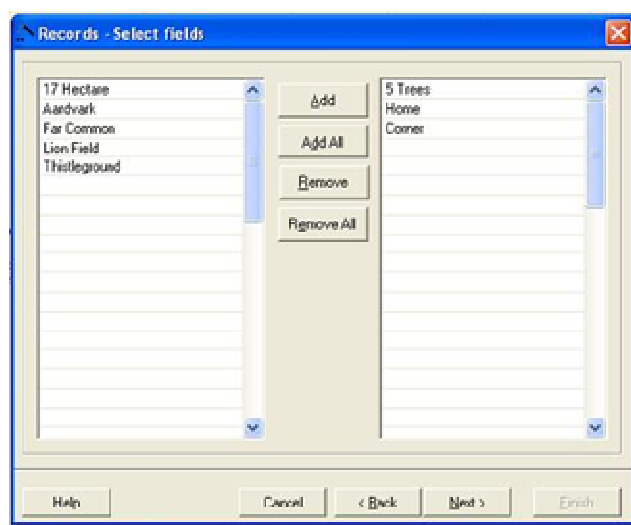
In the left hand column, click on a field that you wish to select and press the **Add** button. The field will then appear in the right hand column. Press **Add** all to select all fields. Press **Remove** or **Remove All** to de-select fields.

Multiple selections can be made by holding down the Ctrl key as you click on individual Field names. To select a group of fields, hold down the Shift key then select the first and last field of the group.

Press the **Next** button.

Step 5.   Finish.

When all selections have been made, press the **Finish** button. All information in the Records database for the selected fields and Harvest years will be shown.

Harvest years

All information for a field must be entered according to the Harvest year of the crop (i.e. the year when the crop was harvested). All information entered for a specific Harvest year will be used when calculating the recommendations for the crop grown in that Harvest year. Information entered for a different Harvest year will be regarded as applying to the crop grown in the specified year.

A new Harvest year will usually start immediately following harvest of the previous crop. This is because any actions that take place after harvest (e.g. organic manure applications, new soil analysis) will usually be relevant to the next crop grown even if it has not yet been established.

> *Example. Winter wheat has just been harvested in 2010 and potatoes are planned for Harvest year 2011. A new soil analysis is taken in September and an application of organic manures is planned for December 2010.*
>
> Harvest year 2011 should be selected. Details of the potato crop, the new soil analysis results and the organic manure application should be entered against Harvest year 2011.

Data Entry Wizard (Records)

This wizard is a new feature of PLANET version 3.0 and allows quick and easy copying of Cropping, Organic manure, Nutrients and Lime information between fields, either:

- o Copying from one source field to other fields in any Harvest year
- o Copying from selected source fields in one Harvest year to the same fields in another Harvest year

Note: The Data Entry Wizard will only copy information to a destination (i.e. a field, harvest year, tab) that has no existing information in it. For instance, if the destination field / Harvest year already has some Cropping and Organic manure information entered, but no Nutrients and Lime information, then only Nutrients and Lime information can be copied from the source field. If the existing Cropping and Organic manure information is deleted, then this information can be copied from the source field. Soil analysis information is NOT copied by this wizard.
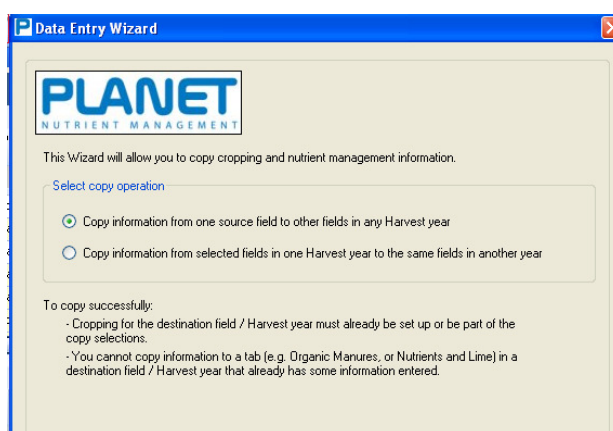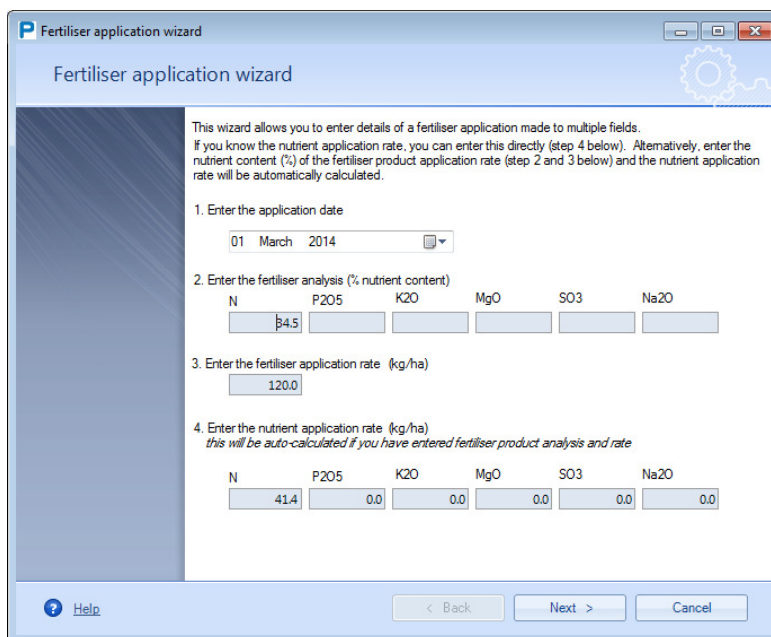

1. Open the Data Entry Wizard by clicking on the [icon] icon.

2. Select one of the two copying options. Click next. (Note: If you want to use both copy options then you will need to use the wizard a second time – e.g. to copy one field to other fields in the same Harvest year; then to copy all fields in one Harvest year to another Harvest year.)

3. Select the name and Harvest year of the *Source* field. Click next.

4. Select the *Destination* field(s) to copy the information to.

5. Select whether to copy Cropping, Organic manure and Nutrients and lime from the Source field to selected Destination field(s). Click next.

6. Select the Cropping, Organic manure and Nutrients and lime data-items to copy from the Source field to the selected Destination field(s). Click next and Finish.

<u>**Important:**</u> **Once data has been copied, make sure you make any edits to the data for each destination field so that all records are accurate.**

Fertiliser data entry wizard

This wizard is a new feature in PLANET v3.3. and allows quick and easy entry of a fertiliser application made to multiple fields. The fertiliser application wizard will not over-write existing data. You can use the wizard to enter details of multiple fertilsier applications to groups of fields.

1. Open the 'Fertiliser application wizard' by clicking on the blue hat icon 🎩 from the top task bar.

2. Select the fertiliser application date and enter details of the fertiliser application.

3. Select the 'Harvest year' for the fertiliser application from the drop down list, and select the fields to add the fertiliser application to.

4. Select 'Next' and then 'Finish'. The fertiliser application details are displayed in the 'Nutrients and lime' tab.

Cropping tab

Cropping information for each field and previous Harvest years may be entered here using the drop-down menus where available. It will not be possible to generate an SRUC recommendation for the current crop unless the previous crop type has been entered here. All information must be entered accurately in order for PLANET to function properly. You will be prompted by a red **!** if information is entered incorrectly or if essential information is missing. You must enter the missing information before you will be allowed to leave the tab. If you cannot enter the information you must delete the row before you can leave the tab.

You can use the + and – buttons to expand or collapse the view for each field. You can also select **Expand all** or **Contract all** of the tab by right clicking in a cell and selecting an option, or by going to the Tools menu.

You must set up the Cropping information for a field in a Harvest year before entering any other information (e.g. Soil Analysis, Organic Manures, or Nutrients and Lime) for that field in that Harvest year.

All information entered here will be Confirmed information and will be shown on a white background. Do NOT enter information here unless you are sure it is an accurate record of what actually happened.

Any information that has been previously entered will automatically be shown here in the Arable and Horticulture table, or the Grassland table. Planned information will be shown on a yellow background.
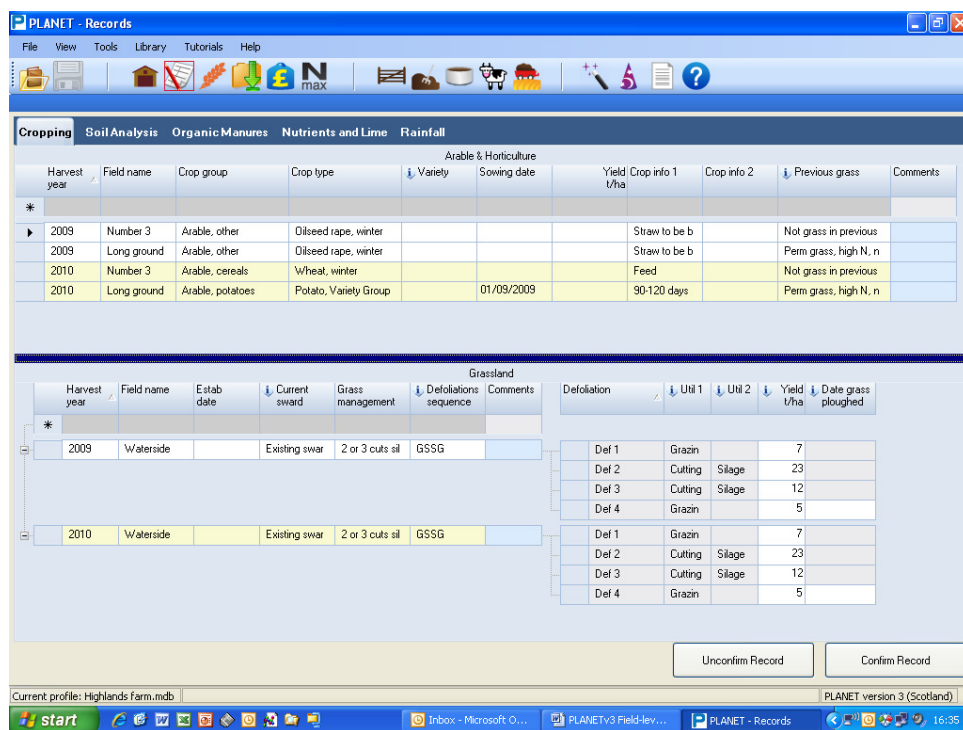
Arable and Horticulture

1. Select the **Harvest year**.

2. Select the **Field name**.

   Note. You will only be able to select an individual Field name once in a Harvest year unless one of the following crop types is selected which allows the possibility of a second crop (multiple cropping) – cereals, grass, forage rye, leafy vegetables. Only certain crops may be selected as

the second crop, depending on the crop type of the first crop. These will be shown in the drop-down menu that appears.

3. Select the *Crop group* (uncropped can be found in 'Other arable'). Select 'Other crops' for crops that are not covered in the SRUC Technical notes, and type in the crop name.

4. Select the *Crop type* from the drop-down list

5. Enter the *Sowing date* using the calendar or direct entry (dd/mm/yy or dd/mm/yyyy format). Enter the *Yield*.

6. Select the relevant *Crop info 1* option (e.g. feed, milling); options are not available for all crops.

7. Select the relevant *Crop info 2* option (e.g. straw to be baled, straw to be incorporated); options are not available for all crops.

Warning. Be careful that you enter information in the required units.

Grassland
1. Select the *Harvest year*.

2. Select the *Field name*.

3. Note. You will only be able to select an individual Field name once in a Harvest year unless one of the following crop types is selected which allows the possibility of a second crop (multiple cropping) – cereals, grass, forage rye, leafy vegetables. Only certain crops may be selected as the second crop, depending on the crop type of the first crop. These will be shown in the drop-down menu that appears.

4. Enter the *Establishment date* of the grass (if known) using the calendar or direct entry (dd/mm/yy or dd/mm/yyyy format).

5. Enter the *Current sward, Grass management,* and *Defoliations sequence.* The *Defoliations, Util 1* and *Util 2* columns will then automatically be shown based on these selections. Note: You cannot directly edit Defoliations information - to change this information, you must change one or more of your selections in the previous columns.

6. If the grass is ploughed out at the end of the Harvest year, enter the *Date grass ploughed*.

Double cropping

In some rotations, two crops may be grown in a Harvest year. PLANET allows a range of specific double cropping situations to be entered and recommendations will be given for each crop.

When entering information into Records/Cropping or Nutrient Planning/Cropping, you will only be able to select an individual Field name once in a Harvest year unless one of the following selected crop types is selected which allows the possibility of a second crop being grown in the same Harvest year – cereals, grass, forage rye, leafy vegetables. Only certain crops may be selected as the second crop, depending on the crop type of the first crop. These will be shown in the drop-down menu that appears after you have selected both the Harvest year and the field name for the second time, in either the Arable and Horticulture or the Grassland grids, depending on the second crop type.

In a double cropping situation, once each crop type has been selected in the Cropping tab, other information may be entered using the Organic Manure, and Nutrients and Lime tabs.

It is not essential to enter second crop details on the row immediately after the first crop. However, when entering information for double crops in a Harvest year, it is important to enter the *Sowing date* as this will inform PLANET which order the crops are grown in.

Soil Analysis tab

Soil analysis information for each field may be entered here using the drop-down menus where available.

All information entered here will be Confirmed information. <u>Do NOT enter information here unless you are sure it is an accurate record.</u>

1. Select the **Harvest year** when the samples were taken (e.g. 2009 for samples taken in September 2008). Soil pH, P, K and Mg results will apply from the start of the Harvest year entered and for all subsequent Harvest years until new soil analysis results are entered. Results for Soil Nitrogen Supply (SNS kg/ha) will only apply to the crop grown in the Harvest year entered.

   <u>Note:</u> Soil analysis results for pH, P, K and Mg will be used in the calculation of the SRUC recommendations if they are no more than 8 years old. Cropping records back to the date of the last soil analysis will be used to generate PK balances which are an important part of the SRUC recommendation. If possible, therefore, past history back to the date of the last soil analysis should be entered in PLANET to obtain the most accurate recommendations for P and K.

2. Select the **Field name**.

3. Enter the **Date** of soil sampling using the calendar or direct entry (dd/mm/yy or dd/mm/yyyy format). A date may be copied and pasted to other date cells by double clicking to highlight a date, then using Ctrl+C (copy) and Ctrl+V (paste). To set one date for multiple selected rows, use the Crtl key to select the rows, then do a right click and then enter the date in the message box.

4. Enter the soil **pH** value.

5. Enter the phosphorus analysis result (as **P mg/l**) and the phosphorus **P analysis** method used by the laboratory (SAC method is most common). The **P status** will be automatically calculated. If the P (mg/l) result is not known, you may select the status directly.

6. **K mg/l, K status, Mg mg/l, Mg status** – follow the same procedure as for P mg/l and P status.

7. **SNS kg/ha** – Only enter the Soil Nitrogen Supply (SNS) as kg/ha of N if you have results from soil mineral nitrogen (SMN) analysis in this Harvest year for the 0-90 cm soil depth. Always enter SNS information on a separate row to soil pH, P, K, Mg results even if the samples were taken on the same day.

8. If there is an entry for SNS kg/ha, the **N residue group** will be automatically calculated based on this value. If there is no entry for SNS (kg/ha), the N residue group will remain blank. The N residue group cannot be entered directly.

   If no SNS kg/ha information is entered, the N residue group for the crop will be automatically calculated using information for previous cropping and soil type, and will be shown in the Recommendations tab. However, if an SNS kg/ha value has been entered, the N residue group based on this result will be used, but only if it shows a higher N residue group than would apply based on the previous cropping of the field. The N residue group is used to calculate the SRUC nitrogen recommendation.

9. **S deficient** – select if the field is potentially sulphur deficient or not.

Classification of 'RB209' mg/l values into the SAC P, K and Mg status

| Status	P		K		Mg	
	SAC	RB209	SAC	RB209	SAC	RB209
VL	0-1.7	0-9	0-39	0-60	0-19	0-25
L	1.8-4.4	10-15	40-75	61-120	20-60	26-50
M-	4.5-9.4	16-20	76-200	121-240	61-200	51-100
M+	9.5-13.4	21-25				
H	13.5-30.0	26-45	201-400	241-400	201-1000	101-175
VH	>30.0	>45	>400	>400	>1000	>175

Importing soil analysis data

PLANET version 3.3 has the facility to directly import soil analysis data as long as the laboratory provide the data in a specified format. If you are unsure if your results are in the correct format you should check with your laboratory.

1. Save your soil analysis results file to your computer.

2. Open the 'Soil analysis import wizard' by clicking on the conical flask icon from the top task bar.

3. Locate the saved soil analysis file, then click 'Next'.
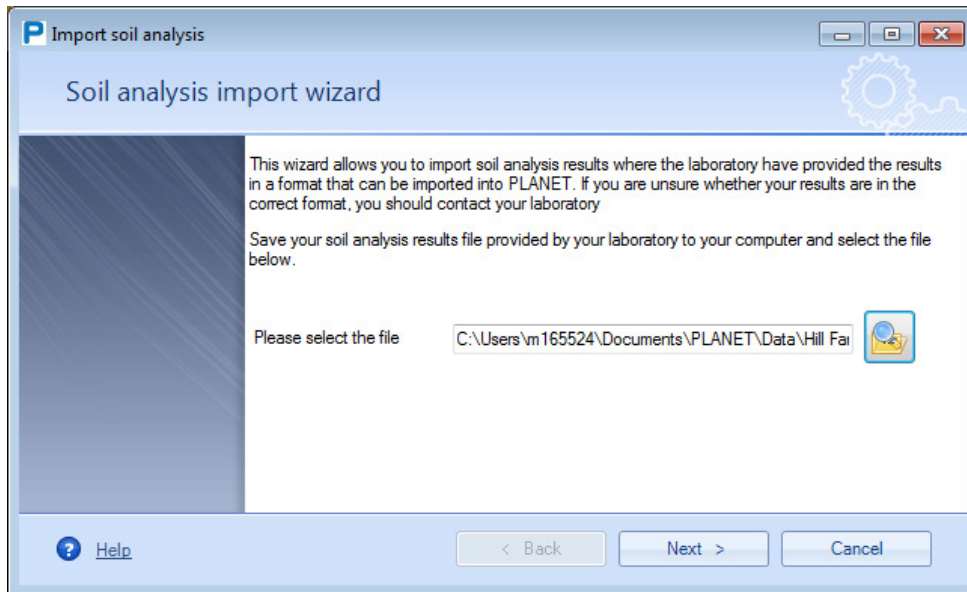
4. The wizard displays the soil analysis data. Match up the 'Lab analysis field' with the 'PLANET field name' by selecting from the drop down list of available fields (these are the 'Field names' entered in the 'Farm and Field Details' tab). You can edit the 'Date of sample' here.
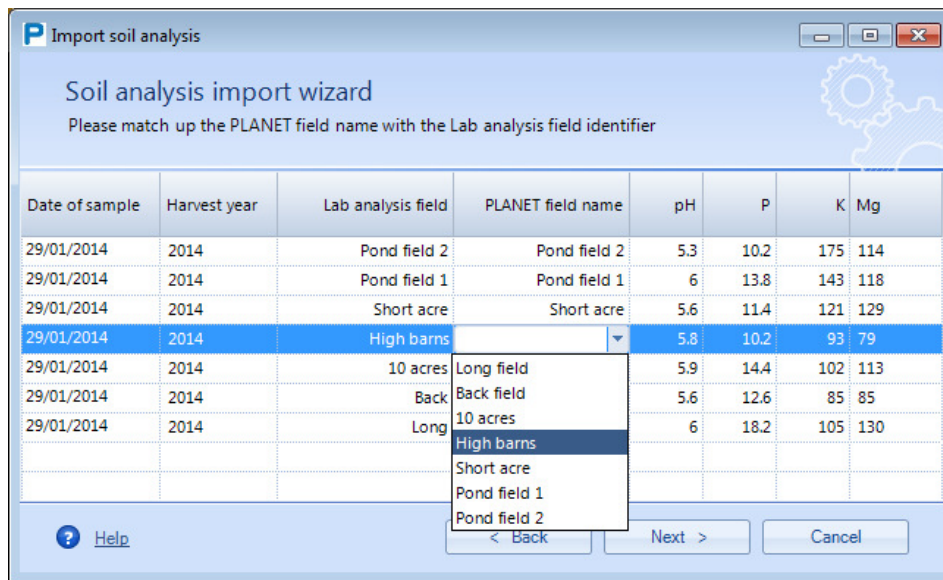
5. Select 'Next' and then 'Finish' to complete the import process and the data is displayed in the 'Soil analysis' tab (you can edit the data if you need).

Organic Manures tab

Information on organic manure applications for each field in previous Harvest years may be entered here using the drop-down menus where available. Leave this tab blank if there have been no applications of organic manures. All information must be entered accurately in order for PLANET to function properly.

You will be prompted by a red **!** if information is entered incorrectly or if essential information is missing. You must enter the missing information before you will be allowed to leave the tab. If you cannot enter the information you must delete the row before you can leave the tab.

If the field is located in an NVZ, and a planned application might breach one of the NVZ Action Programme rules, a message will show warning you of this possible breach. You should then reconsider the planned application.

You can use the + and – buttons to expand or collapse the view for each field. You can also select *Expand all* or *Contract all* of the tab by right clicking in a cell and selecting an option, or by going to the Tools menu.

All information entered here will be Confirmed information. <u>Do NOT enter information here unless you are sure it is an accurate record of what actually happened.</u>

Any information that has been previously entered will automatically be shown here in the Arable and Horticulture table, or the Grassland table. Planned information will be shown on a yellow background.
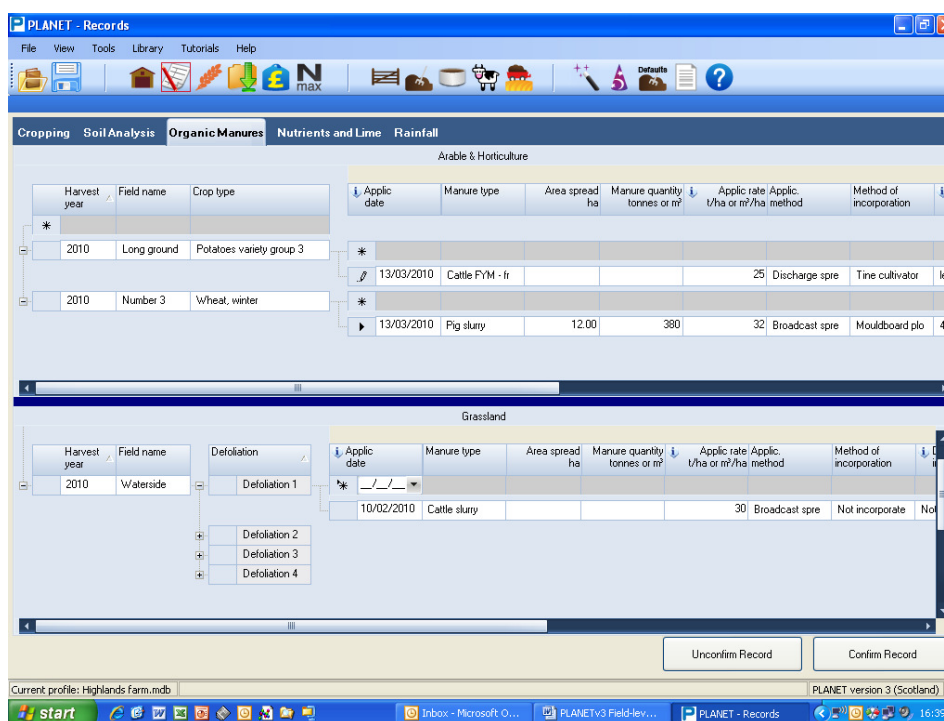
1. Select the **Harvest year**.

2. Select the **Field name**. The Crop type will then automatically appear and a new row for organic manure **Application 1**. For Grassland fields, only Defoliation 1 auto-displays in full. When information has been entered for Application 1, press the Return/Enter key and a new row will appear for Application 2. Information for up to 6 manure applications may be entered.

3. **Applic date** – enter the date of manure application using the calendar or direct entry (dd/mm/yy or dd/mm/yyyy format).

4. Select the **Manure type**. Once this has been selected, default values for the Manure type will appear. These values can be edited if more specific information is available. Manure types 'Other-

liquid' and 'Other-solid' are available for unusual manures (e.g. textile waste) for which values must be entered. If you want to name and set defaults for an 'Other' manure type, you must do this using the *Set new defaults* procedure (see below).

5. *Area spread, Manure quantity.* You can enter values in these columns which will be used to calculate the manure application rate (but this is optional).

6. *Applic rate* – this is the rate of application of the organic manure. The default value depends on the manure type and whether it is an Arable and Horticulture, or a Grassland field. It can be edited if more specific information is available.

7. *Applic method* – this is the method of applying the manure. The default can be edited.

8. *Method of incorporation* – this is the method of incorporating the manure. The default can be edited.

9. *Delay to Incorp* – this is the time delay between application of the manure and its incorporation (if any) into the soil. The default can be edited.

10. *End of drainage* – this is the date when soil drainage ceases which influences leaching losses of nitrogen. The default entry (31/03/yyyy) can be edited.

11. *Rainfall* – this is the actual rainfall between the Applic date and the End of drainage, based on the Average Annual Rainfall entered in the Farm Details section. This value can be edited if more specific information is available.

12. *DM* – this is the default dry matter percentage of the manure type. This value can be edited if more specific (e.g. laboratory analysis) information is available.

13. *Total N* – this is the default total N content of the manure type. This value can be edited if more specific (e.g. laboratory analysis) information is available.

14. *NH_4-N, uric acid-N, NO_3-N* – these are the default values for these components of the crop available N content of the manure type. Each value can be edited if more specific (e.g. laboratory analysis) information is available.

15. *P_2O_5* – this is the default total phosphate content of the manure type This value can be edited if more specific (e.g. laboratory analysis) information is available.

16. *K_2O* – this is the default total potash content of the manure type. This value can be edited if more specific (e.g. laboratory analysis) information is available.

17. *MgO* – this is the default total magnesium (as magnesium oxide) content of the manure type. This value can be edited if more specific (e.g. laboratory analysis) information is available.

18. *SO_3* – this is the default sulphur (as sulphur trioxide) content of the manure type. This value can be edited if more specific (e.g. laboratory analysis) information is available.

Warning. Be careful that you enter information in the required units. All laboratory analysis data must be entered in the chemical form and units shown (e.g. as P_2O_5 not P; as kg/t not mg/kg).

Set new defaults

PLANET contains default values for most details of a manure application, according to the Manure type. These default values apply whenever a new Farm file is set up. As described above, any default value for any individual manure application to a crop in a field in a Harvest year may be edited.

However, PLANET allows any default value of any Manure type to be permanently changed. This allows farm-specific defaults (e.g. the results of laboratory analysis of manure) to be set up and used whenever the manure type is selected on any future occasion that PLANET is used (e.g. a new application to a field, a past or future Harvest year). You can also enter the name and details for an 'Other' organic manure here which will then appear on the main drop-down menu of manure types. If you do set new default values for a manure type, these can still be individually edited for a specific application.

If needed, new default values must be set up individually for Arable and Horticulture crops and again for Grassland. They will then be used in both the Records and Nutrient Planning sections. They can be changed as many times as necessary.

Default values may also be set for one or more new manure types by selecting 'Other – liquid' or Other – solid'. Type in the name of the new manure type and its default values (e.g. application rate, nutrient content) and this will then be added to the full list of available manure types for future selection.

All records of manure applications are based on the values that are entered at the time of data entry.

Warning. If you Set new defaults for a manure type then reselect the manure type for an existing application that has previously been entered, the new default values will appear.
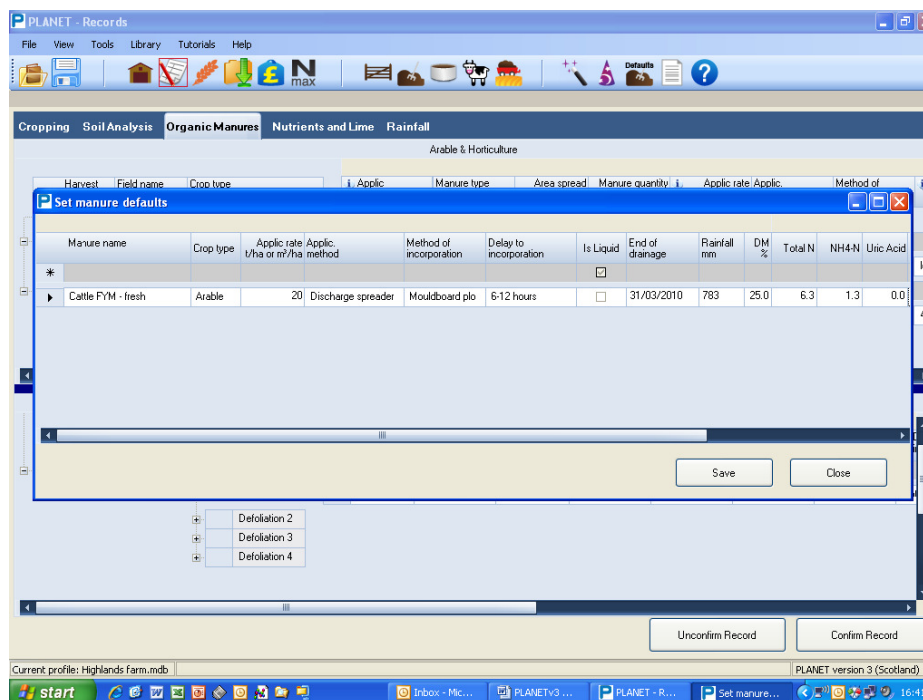
1. Click on the **Set new defaults** icon [Defaults icon] to bring up the Set new manure default values window.

2. Select the Manure type in the top left hand box for which new default values are to be given.

3. Select if you want the new default values to apply to manures applied to Arable (and Horticulture) crops, or Grassland. You will need to enter 2 rows of default values for each manure type that you use on both Arable (and Horticulture), and Grassland.

4. Edit any of the default values if you have more specific information. The default values for more than one manure type may be edited in a session.

5. Click **Save** to save the new default values which will then be used whenever the manure type is applied to a field. Then click **Close**.

6. If you want to Set new defaults for manure type 'Other', you must first overtype 'Other' with a new name which will subsequently display in the list of available *Manure types.*

Remember. If needed, new default values must be set up individually for Arable and Horticulture Crops and again for Grassland.

Nutrients and Lime tab

Information on applications of manufactured fertilisers and lime to each field in previous Harvest years should be entered here using the drop-down menus where available. All information entered here will be Confirmed information. Do NOT enter information here unless you are sure it is a complete and accurate record of what actually happened. All information must be entered accurately in order for PLANET to function properly. You will be prompted by a red **!** if information is entered incorrectly or if essential information is missing. You must enter the missing information before you will be allowed to leave the tab. If you cannot enter the information you must delete the row before you can leave the tab.

If the field is located in an NVZ, and a planned application might breach one of the NVZ Action Programme rules, a message will show warning you of this possible breach. You should then reconsider the planned application.

You can use the + and – buttons to expand or collapse the view for each field. You can also select *Expand all* or *Contract all* of the tab by right clicking in a cell and selecting an option, or by going to the Tools menu.

Any information that has been previously entered will automatically be shown here in the Arable and Horticulture table or the Grassland table. Planned information will be shown with a yellow background.

Important warning

When entering details of actual fertiliser and lime applications for a field, make sure that the information is complete for the whole of the Harvest year before leaving this tab. This is important since details of fertiliser nutrient and lime applications to previous crops are used when calculating SRUC recommendations for the next crop (e.g. calculating the PK balance). Incomplete entry of actual fertiliser and lime applications to past crops may result in incorrect recommendations for the current or next crop.

As soon as **any** fertiliser or lime application is shown for a field, PLANET will assume that complete details for all applications of fertiliser nutrients/lime for the whole of the Harvest year have been entered correctly and completely (including **all** grassland defoliations). If no information is entered, PLANET will assume that the recommended rates of nutrients have been applied but not recorded.

If there have been no applications of fertiliser nutrients or lime for the crop, it is important to record this fact. Do this by selecting an Applic date of 01/01/yyyy and entering '0' for all nutrients and lime. By default, PLANET causes this date and these values of 0 to automatically appear as soon as the Field name is selected. If some fertiliser(s) or lime have been applied, these 0 values should be edited.


PLANET - Records

File   View   Tools   Library   Tutorials   Help

Cropping   Soil Analysis   Organic Manures   **Nutrients and Lime**   Rainfall

Arable & Horticulture

Harvest year	Field name	Crop type	Applic date	Fertiliser analysis	Rate of application	N	P2O5	K2O	MgO	SO3	Na2O	Lime t/ha
2010	Long ground	Potatoes variety group 3	14/05/2010			45	0	0	0	0	0	0.0
2010	Number 3	Wheat, winter	14/05/2010			45	0	0	0	0	0	0.0

Grassland

Harvest year	Field name	Defoliation	Applic date	Fertiliser analysis	Rate of application	N	P2O5	K2O	MgO	SO3	Na2O	Lime t/ha
2010	Waterside	Defoliation 1	02/03/2010			45	23	56	0	25	0	0.0
		Defoliation 2	08/04/2010			110	0	68	0	0	0	0.0
		Defoliation 3										
		Defoliation 4										

Unconfirm Record   Confirm Record

Current profile: Highlands farm.mdb   PLANET version 3 (Scotland)

1. Select the **Harvest year**.

2. Select the **Field name**. The crop type and a new row for **Application 1** will then automatically appear. For Grassland fields, only **Defoliation 1** auto-displays in full. Click on the + signs beside the other Defoliations to enter or view fertiliser or lime applications.

3. **Applic date** – enter the date of application using the calendar or direct entry (dd/mm/yy or dd/mm/yyyy format).

4. **Fertiliser analysis, Rate of application.** You can enter values in these columns which will be used to calculate the nutrient application rate (but this is optional). To do this, double click on the cell in the *Fertiliser analysis* column, and enter the nutrient percentages in the fertiliser product. Then enter the *Rate of application* of the product in kg/ha.

5. **N** – enter the rate of nitrogen fertiliser (N) applied on this date.

6. **P_2O_5** - enter the rate of phosphate fertiliser (P_2O_5) applied on this date.

7. **K_2O** - enter the rate of potash fertiliser (K_2O) applied on this date.

8. **MgO** - enter the rate of magnesium fertiliser (MgO) applied on this date.

9. **SO_3** - enter the rate of sulphur fertiliser (SO_3) applied on this date.

10. **Na_2O** - enter the rate of sodium fertiliser (Na_2O) applied on this date.

11. **Lime** - enter the rate of lime applied on this date.

Rainfall Tab

Information for the *Winter rainfall (1 Oct – 1 March)* for a Harvest year may be entered here. This is the rainfall that will have most effect on leaching nitrate from the soil.

Entering the Winter rainfall for a Harvest year may increase the SRUC nitrogen recommendation for the crop if this rainfall has been over 450 mm, but it will not influence the N recommendations for other Harvest years. Thus, it is not usually necessary to enter the rainfall for previous Harvest years. Its main value lies in entering a figure for the current Harvest year if winter rainfall has been high (over 450 mm between 1 October and 1 March). It is usually best to do this at the end of the winter but before final decisions on nitrogen use are taken. Provisional SRUC recommendations can be generated and a nutrient application plan set up in the Recommendations section. When the Winter rainfall is known in March, this can be entered in the Rainfall tab and revised SRUC recommendations generated. If necessary, the nutrient application plan can be revised.
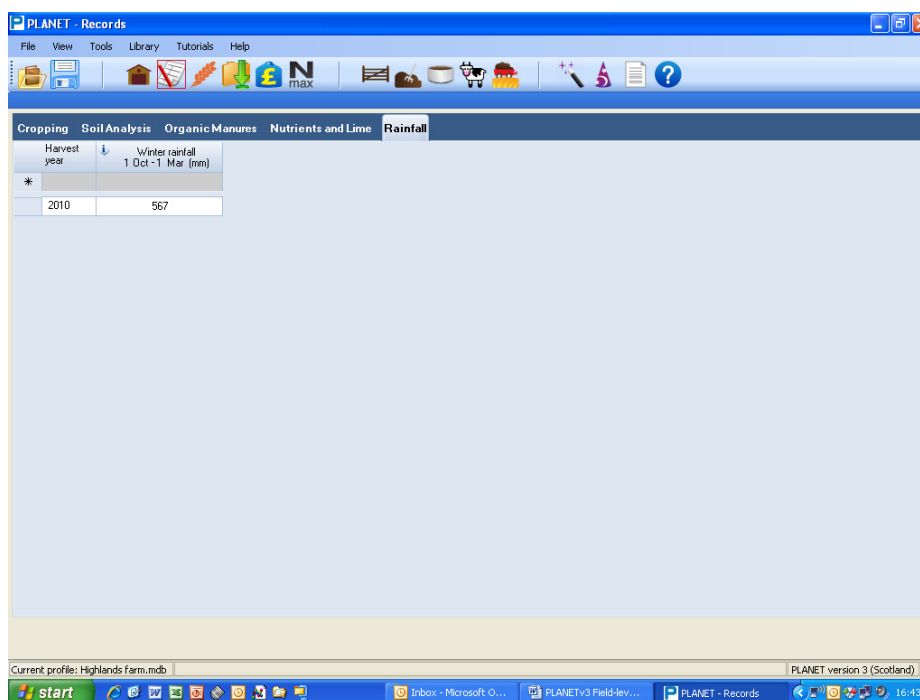
1. Select the *Harvest year*.
2. Enter the *Winter rainfall (1 Oct – 1 March)* in mm only (1 inch of rain is 25 mm).

Confirming Records

Information entered in the Records section is automatically saved as <u>Confirmed information</u> and is shown on a white background.

Information entered in the Nutrient Planning section is automatically saved in Records as <u>Planned information</u> and is shown on a yellow background.

It is important to confirm all Planned information at the end of the season. Unless confirmed, Planned information may be inaccurate and might result in incorrect recommendations for following crops. Accurate records are needed to meet the requirements of the NVZ Action Programme rules. Some information in the Cropping, Organic Manures and Nutrients and Lime tabs may be Planned information.
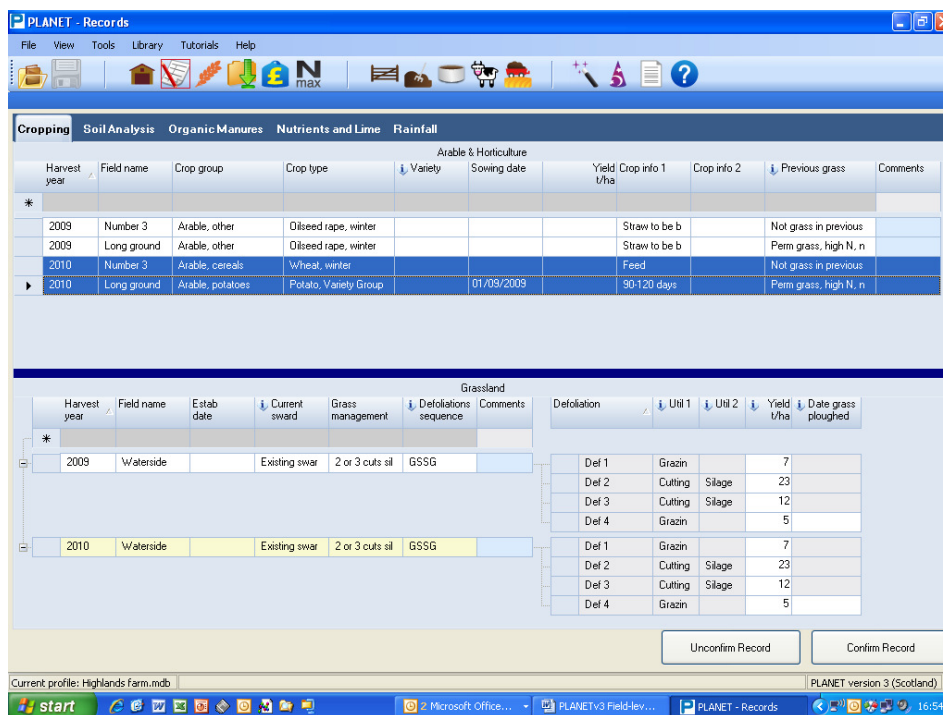
1. Check in the Cropping, Organic Manures and Nutrients and Lime tabs for information on a yellow background that needs confirming.

2. In each row of information that needs confirming, make any changes so that an accurate record of what actually happened can be kept. <u>Do NOT confirm a row of information until you are sure that the information is a complete and accurate record of what actually happened.</u> Once all changes have been made, confirm the information by highlighting the row (click on the cell at the far left hand end of the row), then press the ***Confirm Record*** button at the bottom right of the tab. Multiple rows may be highlighted by holding down the Control key when clicking on each required row of information.

3. To Unconfirm a row, select the row and press the ***Unconfirm Record*** button.

<u>Note.</u> If an error is subsequently noticed, confirmed information may still be edited.

Nutrient Planning

The Nutrient Planning section calculates recommendations that mimic those that would be obtained from using the SRUC Technical Notes, based on information entered into the Nutrient Planning section and using information already contained in the Records database.

In this section, you can:-

- Enter cropping and planned organic manure applications for all, or a selection of fields, for a new Harvest year.

- Enter any new soil analysis information for pH, P, K and Mg.

- Enter soil analysis information for Soil Nitrogen Supply (SNS).

- Obtain SRUC recommendations for N, P, K, magnesium, sulphur, sodium and lime, and advice on nutrient applications for the selected fields.

- Devise a nutrient application plan, including the timings of split applications, for the selected fields.

- Review and update an existing nutrient application plan (e.g. part-way through the season).

- Generate one or more Reports that can be printed (e.g. a nutrient application plan for selected fields).

Any information entered into Nutrient Planning will be saved in Records as Planned information and will be shown on a yellow background. The information can be reviewed and edited at any time.

You can also enter information into the Nutrient and Crop Prices (BER) section. This information will be used to calculate adjustments to the recommended N rate due to the Breakeven Ratio for cereal and oilseed rape crops. It will also be used to calculate the value of manure nutrients.

Provided all essential information is entered, the SRUC recommendations for the selected fields and selected nutrients will be automatically generated and shown in the Recommendations tab. You will be prompted if there is missing information that is needed to generate an SRUC recommendation.

Changes may be made to information already shown in the Nutrient Planning section, and the SRUC recommendations will be automatically recalculated whenever the Recommendations tab is selected.

Important

Complete details of Cropping, Soil analysis, Organic manure and Nutrients and lime applications for last Harvest year must be entered before SRUC recommendations can be generated for the current Harvest year. Field records going back to the Harvest year of the last soil analysis will result in the most accurate recommendations for phosphate and potash.

You are strongly advised to enter as full information as possible for the current and previous Harvest years. If important information is missing, the SRUC nutrient/lime recommendations may be incorrect. You should take steps to obtain the required information that you do not have readily available.

At the end of the season, it is important that Planned information is confirmed (or corrected then confirmed) before the SRUC recommendations are generated for the next crop – do this in the Records section. Unless Planned information is confirmed that it did actually happened in practice, it may be inaccurate and could then result in incorrect nutrient recommendations for the next and other future crops.

Nutrient Planning Wizard

The Nutrient Planning Wizard allows you to select the fields and nutrients and/or lime that you wish to work with during the PLANET session. Fields can be set up in convenient groups with the same cropping (e.g. winter wheat fields; grazing fields). Where a nutrient plan has already been devised and saved, this plan can be reviewed and edited if necessary.

Step 1.   Select New or Review.

Tick one of the following options:-

- *Generate new recommendations* – this will allow you to select fields for the selected Harvest year, and allocate a crop type. The fields registered in Farm Details will be available for selection. Use this option when setting up fields at the start of a new Harvest year.

- *Review existing recommendations* – this will allow you to retrieve information that has previously been set up for fields in the selected Harvest year. All information for the selected fields will be automatically displayed including the SRUC recommendations, nutrient application plan and any comments. Any of the information, including the nutrient application plan, can be edited if necessary.

Step 2.   Select Harvest Year and Select Nutrients

Select the *Harvest year* (i.e. the year when the crop will be harvested) for which you wish to Generate new recommendations or Review existing recommendations.

Tick the *Select nutrients* boxes for those nutrients and/or lime that you wish to consider in this PLANET session. Other nutrients can be considered at later PLANET sessions.

Press the *Next* button.

Step 3.   Select fields.
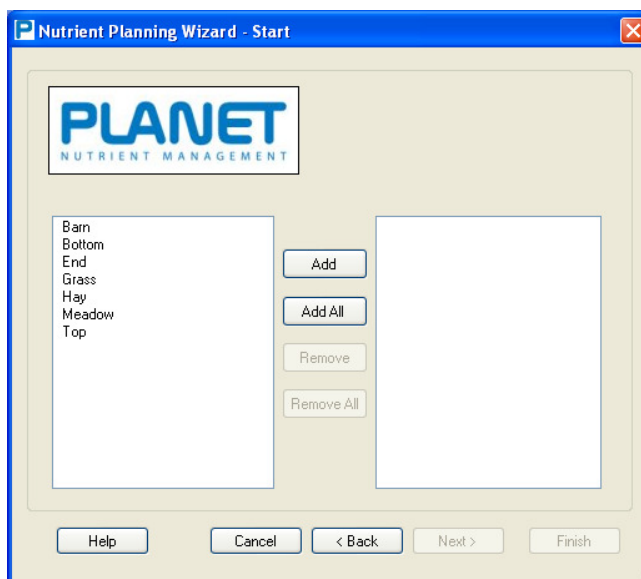
In the left hand column, click on a field that you wish to select and press the **Add** button. The field will then appear in the right hand column. Press **Add** all to select all fields. Press **Remove** or **Remove All** to de-select fields.

Multiple selections can be made by holding down the Ctrl key as you click on individual Field names. To select a group of fields, hold down the Shift key then select the first and last field of the group.

Press the **Next** button.

Step 4.   Select crops.
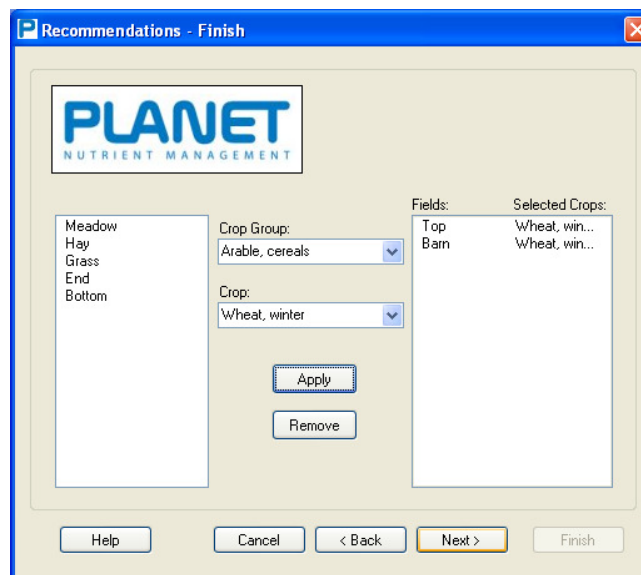
The selected Field names from Step 3 will appear as **Available Fields**. Click on the field or fields that have the same planned cropping, then select the **Crop Group** and **Crop** *(type)* planned for the field(s). Press the **Apply** button when these selections have been made and the **Selected Fields** and **Selected Crops** will be shown. Fields can be de-selected by clicking on the field and pressing the **Remove** button.

Several fields can be selected together by holding down the Control key and clicking on individual Field names. To select a group of fields, hold down the Shift key then select the first and last field of the group.

Press the *Next* button.

Step 5.   Finish.

When all selections have been made, press the *Finish* button. The selections will automatically appear in the Cropping tab where they can be edited, if required, and additional information entered.

Harvest years

All information for a field must be entered according to the Harvest year of the crop (i.e. the year when the crop was harvested). All information entered for a specific Harvest year will be used when calculating the recommendations for the crop grown in that Harvest year. Information entered for a different Harvest year will be regarded as applying to the crop grown in the specified year.

A new Harvest year will usually start immediately following harvest of the previous crop. This is because any actions that take place after harvest (e.g. organic manure applications, new soil analysis) will usually be relevant to the next crop grown even if it has not yet been established.

Example. *Winter wheat has just been harvested in 2010 and potatoes are planned for Harvest year 2011. A new soil analysis is taken in September and an application of organic manures is planned for December 2010.*

Harvest year 2011 should be selected. Details of the potato crop, the new soil analysis results and the organic manure application should be entered against Harvest year 2011.

Data Entry Wizard (Nutrient Planning)

This wizard allows quick and easy copying of Cropping, Organic manure, and Nutrient Application Plan information from one source field to selected destination fields that are all in the same Harvest year. When used in the Nutrient Planning section, the Data Entry Wizard cannot be used to copy information to other Harvest years. To copy information between harvest years, go to the Records section and use the Data Entry Wizard in this section.

Note: The Data Entry Wizard will only copy information to a destination field that has no existing information in it. For instance, if the destination field already has some Cropping and Organic manure information entered, but no Nutrient Application Plan information, then only the Nutrient Application Plan information can be copied from the source field. If the existing Cropping and Organic manure information is deleted, then this information can be copied from the source field. Soil analysis information is NOT copied by this wizard.
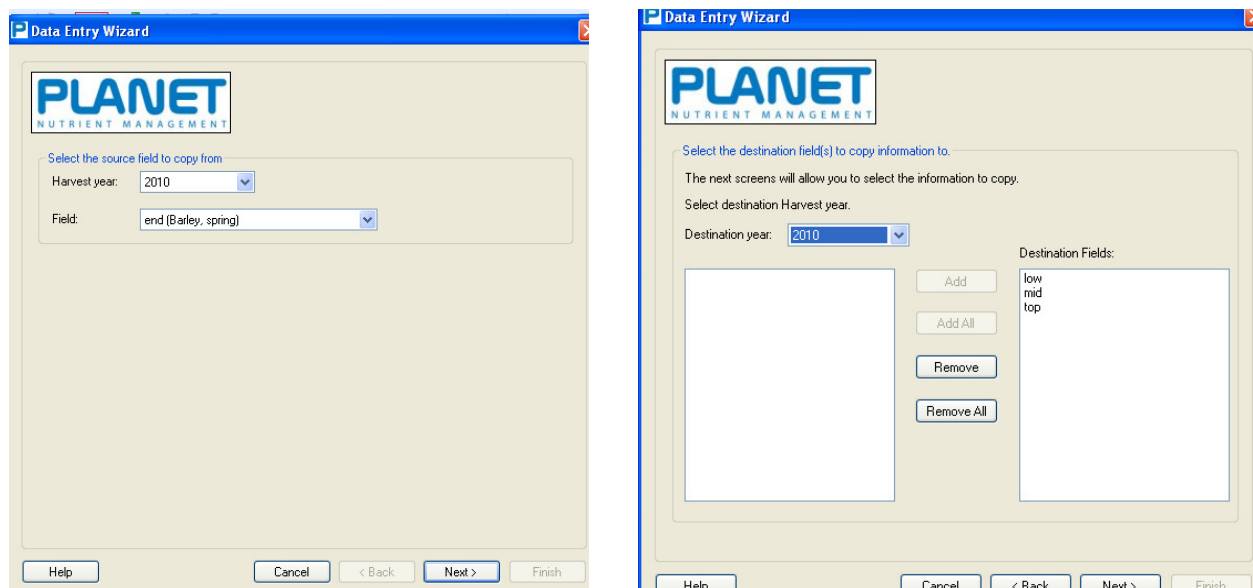
1. Go to the Nutrient Planning section and use the Nutrient Planning wizard ✎ to select the required Harvest year.

2. Open the Data Entry Wizard by clicking on the 🔎 icon.

3. Select the name and Harvest year of the *Source* field. Click next.

4. Select the *Destination* field(s) to copy the information to. Click next.

5. Select whether to copy Cropping, Organic manure and Nutrient Application Plan from the Source field to selected Destination field(s). Click next.

6. Select the Cropping, Organic manure and Nutrient Application Plan data-items to copy from the Source field to the selected Destination field(s). Click next and Finish.

Important: Once data has been copied, make sure you make any edits to the data for each destination field so that the planned information is accurate.

Nutrient and Crop Prices (BER)

This section allows entry of fertiliser and crop price information that is used to calculate the Breakeven Ratio (BER) for cereal and oilseed rape crops. This ratio influences the SRUC recommended N rate for these crop types.

The information entered is also used to calculate the approximate fertiliser value of manure nutrients applied to a field (shown in the Nutrient Planning / Recommendations tab). If no information is entered, then the following default values will be used:

- o   Nitrogen – 70 pence/kg
- o   Phosphate – 80 pence/kg
- o   Potash – 60 pence/kg
- o   BER (cereals) – 3.0
- o   BER (oilseed rape) – 2.5

1. Select the Nutrient and Crop Prices section by clicking on the icon £, or from the *View* menu.

2. Enter the ***Harvest year***. Information must be entered for each Harvest year.

3. Select the ***Nitrogen product*** and ***Product cost***. Alternatively enter the ***Nitrogen cost (p/kg)*** directly.

4. Select the ***TSP cost (£/t)*** – TSP is triple superphosphate (46% P_2O_5). Alternatively enter the ***Phosphate cost (p/kg)*** directly. You only need to make one entry per Harvest year.

5. Select the ***MoP cost (£/t)*** – MoP is Muriate of Potash (60% K_2O). Alternatively enter the ***Potash cost (p/kg)*** directly. You only need to make one entry per Harvest year.

6. Select the ***Crop type*** and ***Expected crop price (£/t).*** Make a separate entry for each cereal and oilseed rape crop type grown in the Harvest year.

7. The ***BER*** for each crop type will be automatically calculated.

Cropping tab

Information about the planned cropping for the selected Harvest year should now be entered. If the Nutrient Planning Wizard has been used, some information will appear automatically for the selected fields. Additional information should now be added using the drop-down menus where available. If the Wizard has not been used, each required Field name will need to be selected in the next available blank row. All information must be entered accurately in order for PLANET to function properly. You will be prompted by a red ! if information is entered incorrectly or if essential information is missing. You must enter the missing information before you will be allowed to leave the tab. If you cannot enter the information you must delete the row before you can leave the tab.

You must set up the Cropping information for a field in a Harvest year before entering any other information (e.g. Soil Analysis, Organic Manures or Nutrients and Lime) for that field in that Harvest year.

Information entered here will be stored in Records as Planned information which should be confirmed at the end of the season using the Confirmation process in the Records section. It is important that Planned information is confirmed (or corrected then confirmed) before SRUC recommendations are generated for the next crop to be grown in the following year. Unless confirmed, Planned information may be inaccurate and result in incorrect nutrient recommendations.

Any cropping information that has been previously entered for the selected Harvest year will automatically be shown here for Arable and Horticulture, or Grassland crops. This may be information that has been stored in Records or entered in the Nutrient Planning Wizard.

Entry of information is the same as described for the Cropping tab in the Records section.

Soil Analysis tab

Any new soil analysis information that is relevant for the selected Harvest year should be entered for each of the selected fields, using the drop-down menus where available. Information will be stored in Records as Confirmed information.

All soil analysis information that has been previously entered will automatically be shown here. This will be information that has been stored in Records.

Entry of information is the same as described for the Soil Analysis tab in the Records section.

Enter any results of soil mineral nitrogen (SMN) analysis in this Harvest year for the 0-90cm soil depth. Always enter SNS information on a separate row to soil pH, P, K, Mg results even if the samples were taken on the same day.

PLANET v3.3 has the facility to directly import soil analysis data (see page 26).

Organic Manures tab

Any new manure application information that is relevant for the selected Harvest year should now be entered for each of the selected fields, using the drop-down menus where available. Leave this tab blank if there have been no organic manure applications. You must enter the Field name and Crop type in the Cropping tab before entering manure application information for the field. All information must be entered accurately in order for PLANET to function properly. You will be prompted by a red ! if information is entered incorrectly or if essential information is missing. You must enter the missing information before you will be allowed to leave the tab. If you cannot enter the information you must delete the row before you can leave the tab.

If the field is located in an NVZ, and a planned application might breach one of the NVZ Action Programme rules, a message will show warning you of this possible breach. You should then reconsider the planned application.

Information entered here will be stored in Records as Planned information which should be confirmed at the end of the season using the Confirmation Process in the Records section. It is important that Planned information is confirmed (or corrected then confirmed) before SRUC recommendations are generated for the next crop to be grown in the following year. Unless confirmed, planned information may be inaccurate and result in incorrect nutrient recommendations.

Any information on actual or planned organic manure applications that has been previously entered for the selected Harvest year will automatically be shown here in either the Arable and Horticulture or Grassland tables. This may be information that has been stored in Records.

Entry of information and how to **Set new defaults** is the same as is described for the Organic Manures tab in the Records section. New defaults set in Nutrient Planning will also be available for subsequent selection in any Harvest year in Records.

Warning. Be careful that you enter information in the required units.
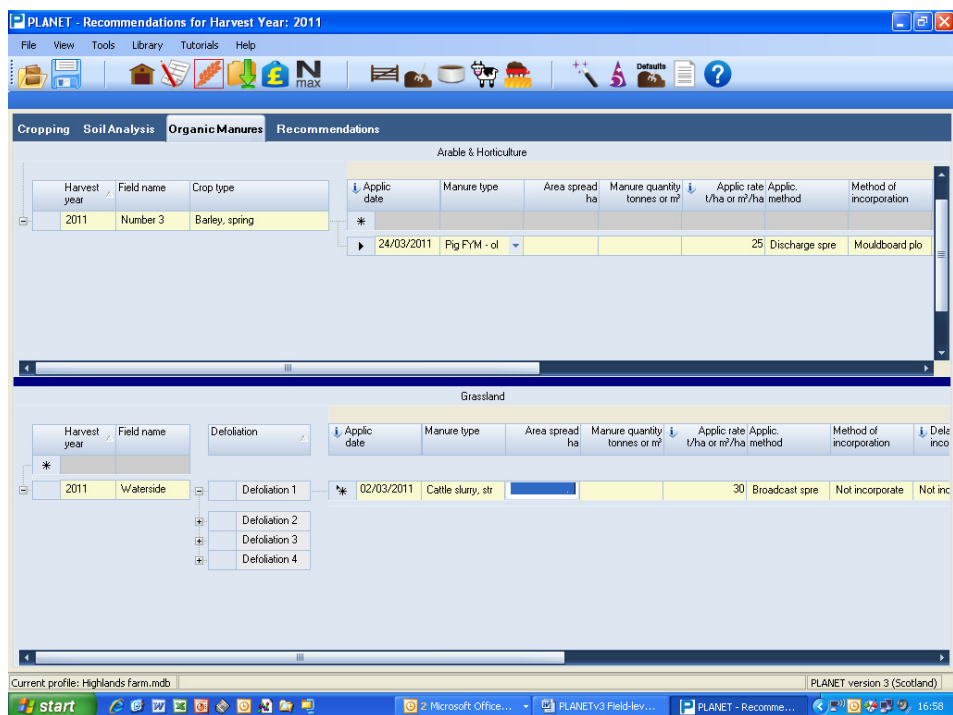
Recommendations tab

When this tab is selected, recommendations from the SRUC Technical notes will automatically be calculated and shown here for each field, provided that all essential information has been entered. If there is insufficient information to generate an SRUC recommendation, a warning message will appear – you must then enter the missing information and re-select the Recommendations tab.

The tab will show the SRUC recommendations for the selected fields and advice on when and how the nutrients should be applied. A nutrient application plan can then be devised based on these recommendations. The current soil analysis information will be shown provided it is not more than 8 years old. Otherwise, no soil analysis information will be shown. The N residue group will be shown.

Any changes made to the information contained in the Records or Nutrient Planning sections will result in recalculation of the SRUC recommendations when the Recommendations tab is selected.

You can use the + and – buttons to expand or collapse the view for each field. You can also select **Expand all** or **Contract all** of the tab by right clicking in a cell and selecting an option, or by going to the Tools menu.

Background footnotes (bottom right box) and advice comments (bottom left box) will appear for a selected field. To select a field, click on the *Field name*– the footnotes will then appear for this field.

Warning - it is important that the footnotes on view relate to the field of interest. This might not be the most recently selected field. Before looking at the footnotes, check that the Field name at the top of the footnote box is the field of interest.

If you wish to change the Harvest year, select the Nutrient Planning Wizard from the toolbar to change to a new Harvest year.

Status or pH
This will show the soil nutrient status and pH used as the basis for the SRUC recommendations.

- Nitrogen (N) – this will be based on the information about the cropping, and use of organic manures and fertiliser nutrients that has been entered for past Harvest years. Where the current crop is Arable or Horticulture and a SNS kg/ha value has been entered in the Soil Analysis tab for the current Harvest year, then the N residue group will be based on this value.

- pH, P, K and Mg status – these will be shown where soil analysis information has been entered provided it is no more than 8 years old. Where there is no soil analysis information, or the soil analysis information is more than 8 years old, these cells will remain blank and the SRUC recommendations will be based on default values.

For each field, the SRUC recommendations are shown in the pink area of the top table.

- *Crop need* – this is the crop need for nutrients (or Crop nutrient requirement) that should be supplied from organic manures and/or fertilisers, rounded to the nearest 5 kg/ha.

- *Manures* – this is the supply of nutrients from the organic manure application(s) that will contribute to meeting the Crop need.

- *Fertilisers or lime* – this is the balance of the Crop need, after allowing for the nutrients supplied by the organic manures and taking account of the P and K balances at the start of the Harvest year where appropriate. These nutrients should be applied as fertiliser. The lime recommendation is shown here in units of t/ha or tons/acre.

Beneath the table, advice is given for the selected field on how the nutrients should be applied. This advice is taken from the SRUC Technical notes, though paraphrased. To select a field, click on the field name and the footnotes will then be shown for this field.

Warning - it is important that the footnotes on view relate to the field of interest. This might not be the most recently selected field. Before looking at the footnotes, check that the Field name at the top of the footnotes box is the field of interest.

In the bottom right box, relevant information is shown about the cropping, soil type etc. of the selected field. The adjustment due to the current Breakeven Ratio (BER) is shown based on information entered in the Nutrient and Crop Prices section. The approximate financial value of the nutrients in all applications of organic manures for the crop is shown, based on the actual or default fertiliser prices entered in the Nutrient and Crop Prices section. Soil analysis information is summarised in the top table.

For some crop types (e.g. 'Other'), no Crop need recommendations are given but planned nutrient applications can be entered.

Devising a Nutrient Plan

In the yellow cells of the top table, a nutrient application plan for each field can be devised using the 8 time periods shown. The definitions of these periods cannot be edited. The **Total** rate of application of each nutrient/lime during the growing season is automatically calculated. There is no need to enter zero values.

If the field is located in an NVZ, and the planned application might breach one of the NVZ Action Programme rules, a message will show warning you of this possible breach. You should then reconsider the planned application.

A comment can be added by double clicking in the Comments column. Comments (e.g. to clarify or justify the nutrient application plan) for each field may be entered here and can be edited at any time by selecting the Comments box again. Comments can be copied and pasted using the Ctrl+C (copy) and Ctrl+V (paste) keys.

If the same nutrient application plan is intended for more than one field, the Data Entry Wizard can be used to quickly copy the plan from one source field to one or more destination fields – see page 38 for further details.

Planned nutrients entered here will be saved in the Records / Nutrients and lime tab as Planned information which will be on a yellow background. At the end of the Harvest year, it is important that this information is confirmed, or edited then confirmed, in the Records section so that it is a complete and accurate record of what actually happened.

**Warning**. Only the PLANET user can change the nutrient application plan or comments. If, during the growing season, changes are made to the cropping, soil analysis or organic manure application information, then the SRUC recommendations may change. However, any previously devised nutrient application plan and comments will NOT change automatically.

It is up to the PLANET user to make changes to the nutrient application plan and comments if needed during the season.

N max

The NVZ rules require that the nitrogen applied to a specified crop type grown on land in an NVZ, does not exceed the N max limit for that crop type.

For details of this rule, see NVZ Guidance booklet 6 'Planning nitrogen use – calculating Nmax for arable crops and grassland'' and booklet 9 'Nmax standard reference residue groups'.

The information supplied in this software is for guidance purposes only and is not intended to fully substitute for professional agricultural advice.

The specific statutory elements concerning water and nitrates are set out in the relevant legislation and you should refer to this legislation to find out exactly what you must do.
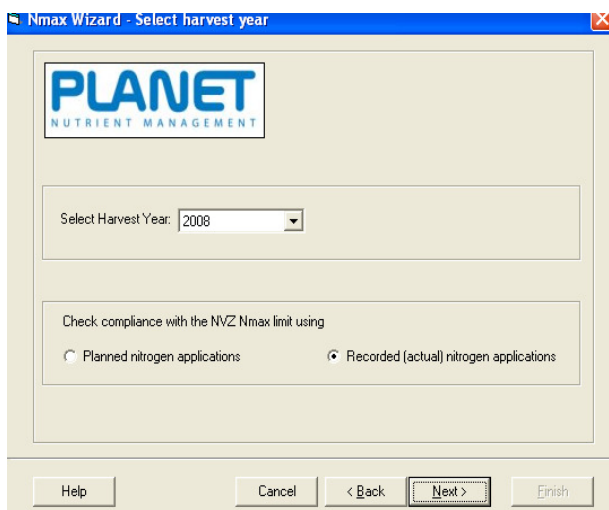
The N max section runs a wizard which takes you through the steps needed calculate whether the crop types grown on fields that are in an NVZ are compliant with the N max limit. Fields not in an NVZ are not included in the calculation.

The N max wizard produces a report which can be printed out and stored as a hard copy. PLANET itself does not store the results from running the Wizard but you can use the N max wizard at any time for any crop type in any Harvest year.

To use the N max section, select the N max icon ![N max] from the task bar at the top of the tab or choose the N max option from the *View* menu. Note that on entering this section you may be prompted to save changes first. The N max wizard will appear.

N max wizard

Step 1*.*   *Select Harvest year.*

1. Select the **Harvest year**.
2. Select **Planned nitrogen applications** or **Recorded (actual) nitrogen applications**.

Planned nitrogen applications – this will calculate the N max limit for each selected crop type even if you have not set up a nitrogen application plan or applied any nitrogen. It will allow you to compare your nitrogen plan (set up in the Recommendations section) with the N max limit for each crop type.

<u>Warning</u>. If Cropping information has been confirmed (in Records) for ALL fields of a crop type, then you will not be able to select this crop type under the Planned nitrogen applications option. You must select this crop type using the Recorded (actual) nitrogen applications option.

Recorded (actual) nitrogen applications – this will allow you to compare your <u>confirmed</u> actual nitrogen applications with the N max limit for a crop type. The calculations will only be made if Cropping, Organic Manure (if relevant) and Nutrients and Lime information has been entered and confirmed.

<u>Warning</u>. You must enter and confirm Cropping, Organic Manure and Nutrient and Lime information for ALL fields of a crop type in a Harvest year before you can obtain a comparison of the N max limit with your nitrogen applications.

3. Click on the **Next** button.

Step 2.   Select crop types and enter farm yield (some crops only).
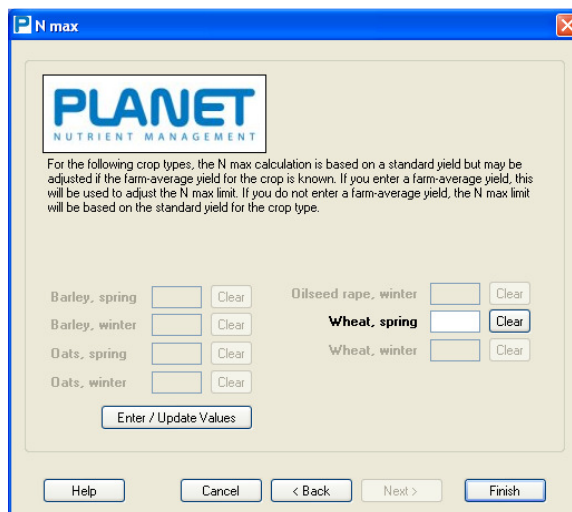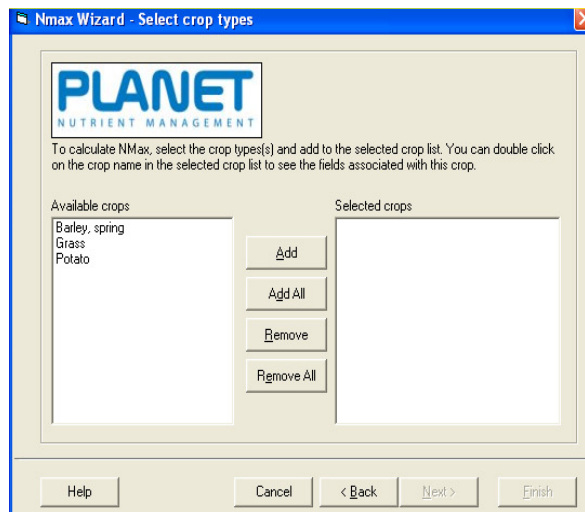
1. The **Available crops** will be shown in the left hand column. These are the crop types being grown that have an N max limit.
2. Select the Available crops for which you wish to carry out an N max calculation. Click on **Add** or **Add all** and the selected crop types will appear in the **Selected crops** column.
3. Click on the + sign for a crop type in the **Selected crops** column to see the Field names growing this crop type in the selected Harvest year. Click next.
4. For certain crops, there will then be an opportunity to enter a farm-average yield for the crop type in the Harvest year. This yield value will be used as an adjustment when calculating the N max limit.
5. Press **Finish** to close the wizard and the N max report will then appear.

N max report

An N max report is produced for each crop type that has an N max limit.

For each crop type, the report shows 2 tables

N max limit – top table. This table lists the fields that are in an NVZ and growing the crop type in the Harvest year. The N max limit for each field is shown making allowance for eligible adjustments.

Nitrogen applications based on planned nutrients / field records – bottom table. This table lists the same fields and the nitrogen that has actually been applied based on planned or confirmed details of applications of manufactured fertiliser and livestock manures. The calculation conforms to the mandatory method.

Don't forget to print a copy of the N max report for your records. It should be available for inspection.

To return to other sections in PLANET select the required icon from the task bar or use the 'View' menu.

Reports

Several different types of reports can be selected by clicking on the Reports icon which can be selected from within the Records or Nutrient Planning sections. When the Reports icon is pressed, the Reports Wizard will appear which allows you to select the Field names, Harvest years and report type required.

Types of Reports

1. Confirmed field history for a single field

This report shows a wide range of detailed information for one field, including previous cropping, soil analyses, organic manure applications and nutrient/lime use for a selected time period (e.g. Harvest years 2007 to 2010).

The field history report will only display Confirmed information of what actually happened. Planned information that has not been confirmed will NOT be shown on this report.

2. Summary nutrient application plan for selected fields

This report shows the SRUC recommendations and the nutrient application plan for selected fields and selected nutrients/lime, in a selected Harvest year.

3. Detailed nutrient application plan for a single field

This report shows detailed information for a selected field in a selected Harvest year. The report includes the SRUC recommendations and advice, planned nutrient applications, crop details, soil type and soil nutrient information, comments and warning messages.

4. SRUC crop nutrient recommendations for selected fields

This report shows the SRUC nutrient and lime recommendations for selected fields in a selected Harvest year. The annual requirement only is shown that needs to be met by nutrients from applications of organic manures and/or fertilisers.

5. Total planned nutrients for selected fields

This report shows the total of the planned nutrients for selected fields in a selected Harvest year. Only the total annual rate of planned nutrients is shown.

Reports wizard

Step 1.   Select report type and units required.

Step 2.   Select the start and end dates of the report.

Step 3.   Select the fields to include in the report.

Step 4.   When all selections have been made, press Finish.

Viewing, exporting and printing reports

Use the buttons on the taskbar at the top of the tab to adjust the viewing and to move between reports, and to print or export reports (in pdf format).

Data Import and Export

This section allows you to export a selection of field-level data from the PLANET Records database into a spreadsheet for further manipulation. Importing data into PLANET is only possible if the source data is structured to be compatible with the data format and structure in PLANET. The only data that can be imported into version 3.0 is LPID and field area data from Rural Payments On-line (see page 12).

This wizard can be used to export data that is relevant to the Field-level Planning and Recording module (e.g. past field records, SRUC recommendations, a nutrient application plan for the current Harvest year). You cannot use this wizard to export data from the other PLANET modules – to do this, right click in any tab to export the tab to an Excel file.

The wizard is accessible from all sections of PLANET by clicking on the icon or from the *View* menu.

Data can be exported in any of the following three file formats:

- Microsoft Excel (.xls) – a format specific to Excel.
- Comma separated values (.csv) - a generic format suitable for different applications.
- Extensible Markup Language (.xml) – a format that may become more commonly used in future.

PLANET will check for the presence of Microsoft Excel on the computer. If it is present on the computer, Excel will be selected as the default file format for exporting data. If Excel is not present, the .csv file format will be the default. Users may still choose a different file format for export.

The \My Documents\PLANET\DATA directory will be the default directory for saving exported datafiles but a different directory may be selected.

Step 1.   Select if you want to import or export data (see page 12 for importing data).
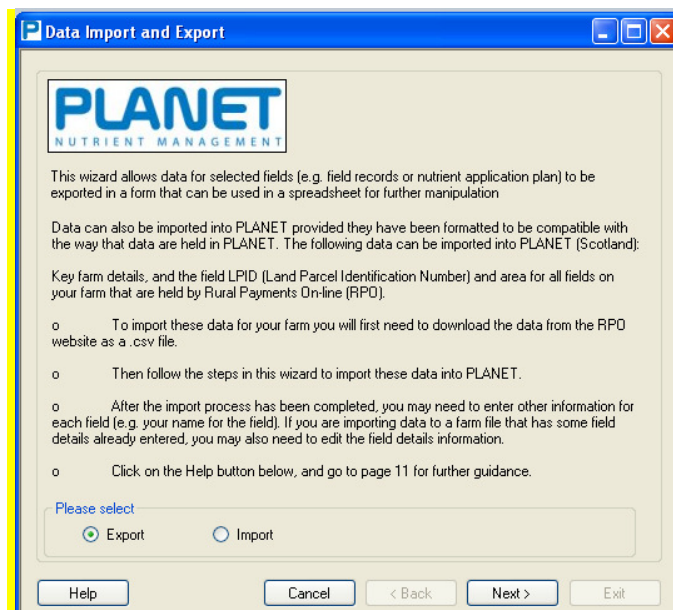
Step 2.   *Select the file type, filename and location of the exported file.*

Step 3.   *Select the start and end Harvest year of the data for export.*

Step 4.   *By ticking/unticking the boxes, select if the data is to be exported according to Field name or Crop type.*
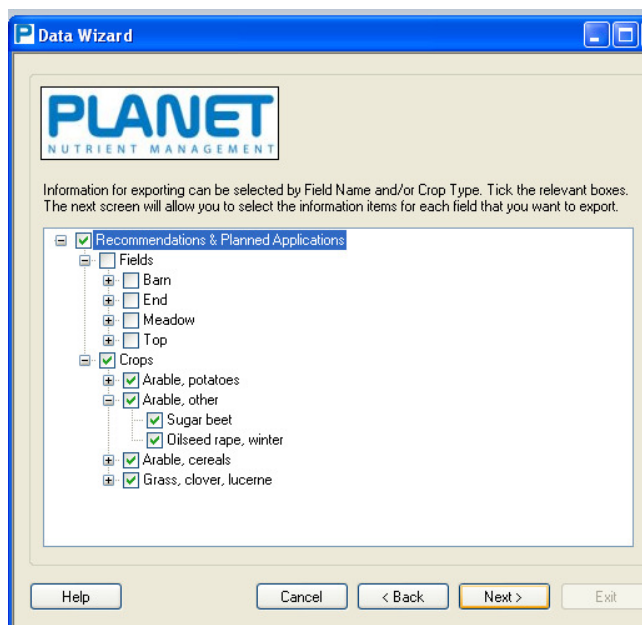
- Fields – all fields or individual fields can be selected by ticking the appropriate boxes. Each field name can be expanded to show the crop type or grass defoliation in the field. This allows selection by combinations of fields and crops or defoliations.

- Crops – each crop group can be expanded to show the crops grown. All fields growing a selected crop type or grass defoliation can be selected.

Step 5.   *Select the data items to be exported.*
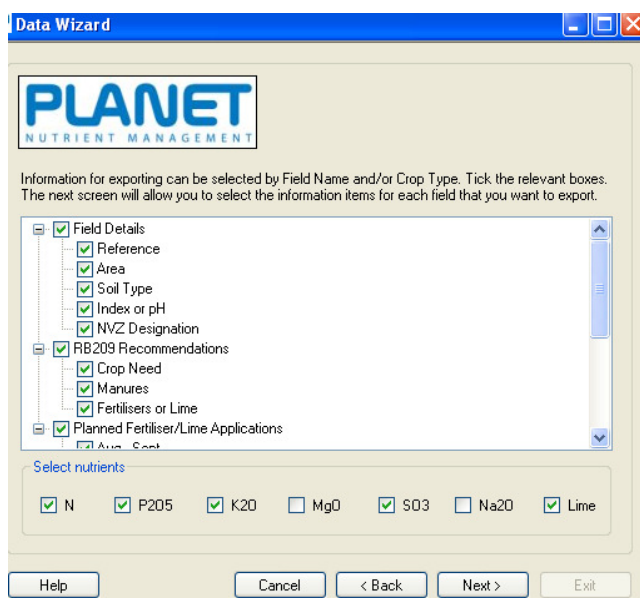
- Select the types of data to export for each selected field. Tick the boxes for **Field details**, **Recommendations** and **Planned Fertiliser/Lime Applications**.

- At the bottom of the box, select the nutrients to be exported.

Step 6.   *Click Next to complete the data export.*