

INRA/CIRAD/IAMM

# OLYMPE



Farm(s) Modelling and Simulation Tool

## INSTRUCTION MANUAL

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[www.olympe-project.net](http://www.olympe-project.net)

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# 1. Presentation of the "Olympe" software

## 1.1. About Olympe

Olympe is a simulator for farm decision making for strategic orientation. It can be used for both individual and collective scales.

The advantage of Olympe is in its speed to explore different variants, which allows testing many aspects of a project and its viability.

Olympe has various functionalities:

- It can be used as a Database: information on product prices, native units, cropping / animal systems, farming systems.
- Simple accounting calculator: automatic computation or own output forms from custom indicators to answer specific questions.
- The evaluation of consequences of a new investment, the removal or addition of a production farming system, change in a cultural practice calendar, technical change, ...
- The integration, in a simulation, of risks through evaluation of consequences of possible events, which are called **production hazards**. They may be internal or external to the farm; e.g.: fluctuation in prices, climatic hazards, evolution of the market.

*Olympe* may be used as a simulator at regional level and therefore allows an aggregated modelling of cropping systems in a global approach.

The simulator can show the impact of changes but does not allow the understanding of the stakeholders' management techniques to anticipate their reactions following modifications of events linked to their environment. To model the complete system operation, it is imperative to understand and formalize the rules of the stakeholders' decisions as well as the law governing these rules.

## 1.2. Installation of the software

### 1.2.1. Installation and updates, Setup

#### First installation:

When you install Olympe for the first time, some Runtime files (c++.dll) are required. Install them prior to install Olympe. They can also be added later on, if Olympe requires one of them. It is without risk, because existing or more recent files will not be replaced.

Run the Olympe\_System\_Files\_Setup.exe file to download the System files.

#### To install or update Olympe software:

- Download the Olympe\_Setup.exe file from the [www.olympe-project.net](http://www.olympe-project.net) Website (or from the CD-Rom given during the training course). It includes the last updates.
- Copy it to the Hard Disk in a temporary Directory.
- Run the exe file.
- The setup procedure creates:
  - ✓ A directory named "C:\Program file\Olympe" for the program files.
  - ✓ A directory called "My Documents\Olympe" for your "xxxx.oly" work files.

#### Notes:

- New versions of the software can read older files. Not the opposite.
- It is advised always working on a copy of your main data file. So, in the event of corrupted files or use of older versions, you can revert to the last valid version of the data file.

### 1.2.2. Configuration of Ms Windows<sup>®</sup>; Writing of numbers

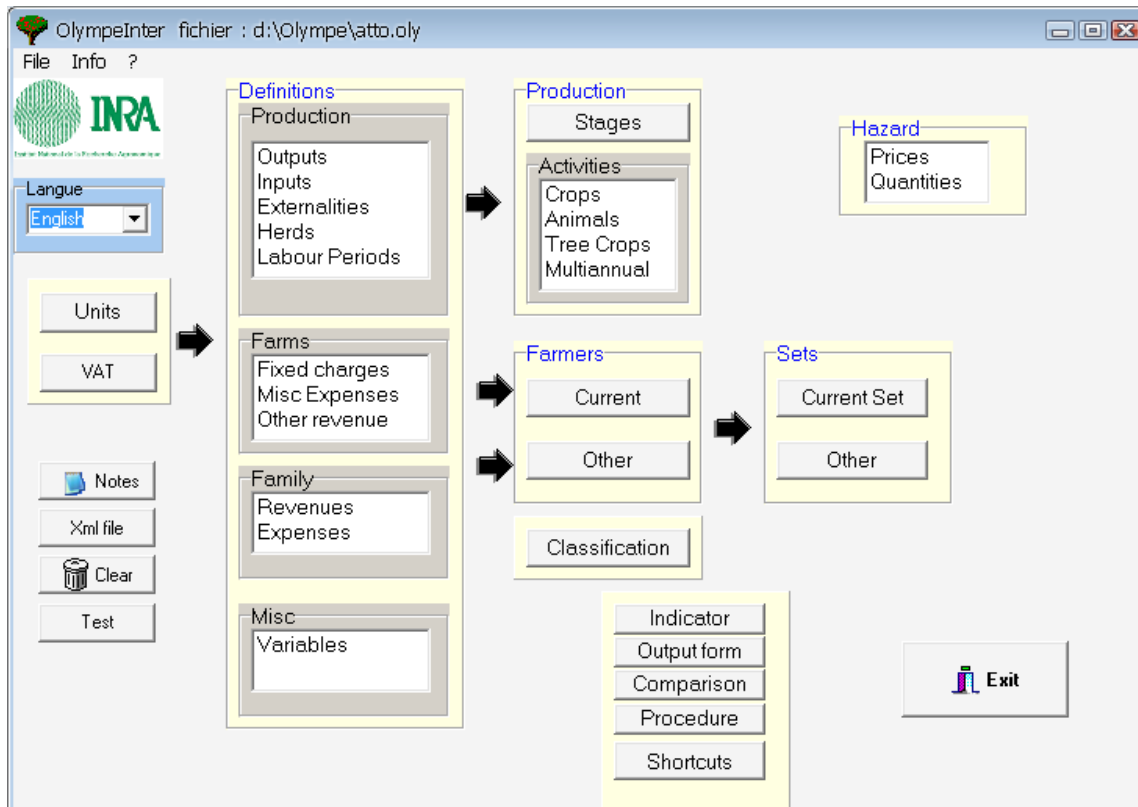
Olympe uses the English configuration for numbers. i.e.:

- ✓ Point for decimal symbol.
- ✓ Coma for grouping thousands in a number.

Non English users should configure Ms Windows<sup>®</sup> accordingly.

## 1.3. Introduction to the software

### 1.3.1. The Main Window



From left to right:

- The elements constituting the **initial data base**: Units and VAT.
- **Definitions** of the elements which will be used in the Production Workshops, the Farms, the Family, and Others.
- The Elements for analysis of custom data: variables to create own processes.
- The **Production workshops** which describe the production systems for annual crops, animals, tree crops and perennials.
- **Farmers**: This item is used to study the actual production systems of farmers.
- **Sets of farmers**: each unit corresponds to a group of farmers having the same typology. Several sets of farmers can be analysed and compared.
- **Hazards**: This allows defining the tendencies or the evolutions on prices or quantities.
- Components for custom **presentation**: **Indicators, Output forms and Comparison**.
- Access to the **Procedure** module, allowing to carry out customised analyzes or to establish a link with other software programmes (G.I.S., multi-agent systems ...).
- The **Shortcut** module is used to facilitate the access to often used comparison tables or graphs.

**Note:** Each window has a **Tool Bar** at the bottom to handle the data.

### 1.3.2. Description of tasks in a standard use of the software

The first Step consists in defining the **units** and the **VAT** rates.

The next steps are to create and manage:

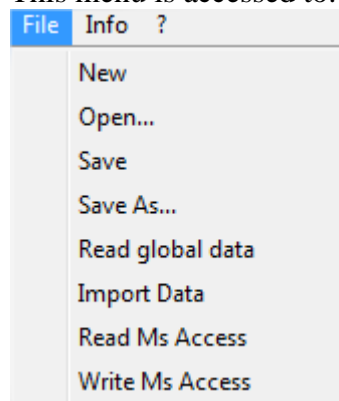
- The **Definitions** of the elements structuring the data base: farming system, livestock farming or activities. These will be used in the Production workshops, then in the farmer's production systems.
- Your own **variables**, for custom analyses.
- The **Production Workshops**, used to define the elements composing the technical itineraries of the farming systems, which will be used in the Farmers' production systems.
- **Farmers**: the elements constituting every production system: a farm with a decision maker.

**Note:** By selecting "**Current**", you select the last opened farmer.  
To create a new farm or work on another one, select the "**Others**" button!

- **Sets of farmers**: defines the elements of the sets of farmers for a regional analysis.
- **Hazards**: variations in the output or inputs per year due to uncontrolled variations of quantity and price changes.

### 1.3.3. File Menu

This menu is accessed to:



- Create a new file
- Open a file already created,
- Save the file currently used,
- Save the file currently used using another name,
- Read all possible recoverable data from a damaged file.
- Import CSV data using an external Interface.
- Import (Read) data from an Ms Access<sup>®</sup> database.
- Export (Write) data to an Ms Access<sup>®</sup> database.

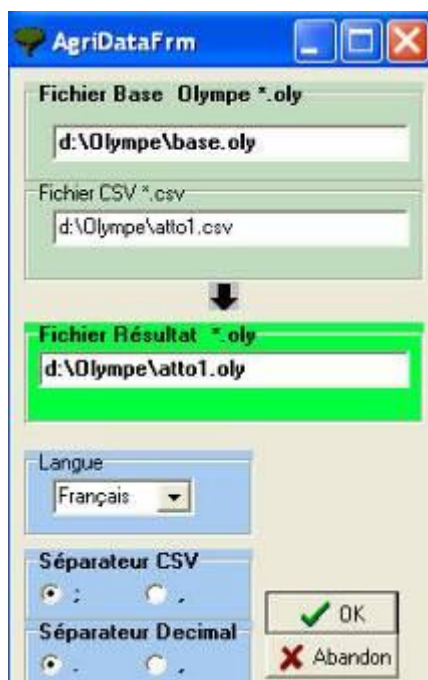
#### 1.3.3.1. Import CSV data through an interface

This module is used to combine the data of:

- An Olympe basic file which contains the basic data: units, definitions, variables, workshops, inputs, outputs, comparisons forms, custom output forms, hazards, etc (all except farmers' data).
- A farmer's CSV data file containing the farm data to be analyzed: delta (hazards), and given farmer's data (crop rotations, animals, Assets, etc).

In order to create a combined base+farm.oly file resulting from the combination of the two files here above.





Click inside one of the cells to show up the “open file” window.

An Olympe basic file.

A CSV File.

The file resulting from the combination of the two files here above.

### **Conversion information**

Specify the items and decimal separators.

Then, click on OK opens the page “Results” of the farmer.

The xxxx.csv file can be created from a specific interface or from a standard spreadsheet (e.g. Ms Excel). In this file:

- Any blank line is ignored by Olympe.
- Any line which starts with // (= used for comment) is ignored by Olympe.
- Any line which starts with a word not recognised by Olympe is ignored (keyword or Name of a definition created in the basic module).

### **Introduction of data**

#### **Items to be combined**

The keywords recognised by Olympe correspond to the headings of the tabs in the FARMER. The key word is introduced into column A (the other columns remain empty).

Into the lines which are under the key word, one introduces the elements which one wants to amalgamate in the same order as if they were introduced into Olympe/Farmer in progress; i.e.:

- In column A: the name of the item (its definition),
- In column B: Its category,
- In columns C, D ...: the values as they will have to appear in the file resulting from combination.

#### **Case of hazards items**

The key word is "Delta" which is Witten in column A. It must be followed by:

- In column B: the type of hazard (Price or Quantities),
- In column C: Category of the risk (Produced or Charges),
- In column D: Kind of hazard (Tendency or Scenario),
- In column E: Simulation followed by its number.

The last line contains the page to be posted when the software returns in Olympe. It contains:

- In column a: the word RESULTS
- In column b: the category of result; usually: Standard
- In column C: The window to open (e.g.: Receipts Expenditure).

### 1.3.3.2. Import (Read) data from a file created with Ms Access®

Use this option to convert data from a .mdb file (*file created by Ms Access®*) into an .oly file (*file used by Olympe*). The data will have been created either using the "Write\_Access" or directly from a database created with the MS Access® software.

To do this, Click on "Read Access", and Olympe will ask the name of the file to read and retrieve the data it contains.

Olympe only reads the tables in the .mdb file whose names are recognized by Olympe. These tables and fields are described in the file "[Olympe Access Tables En.PDF](#)". If the tables contain additional fields (columns), only the fields required by Olympe will be read. But, if one field that is required is missing, the whole line will not be read.

At a minimum, we recommend the tables of "units systems" and "Vat" (2 tables).

The tables have a hierarchy to be maintained. Particularly, for:

- **Definitions:** Create the list of categories (Def\_Categ) before the table of elements (Def\_Item ...).
- **Workshop:** Create a list of categories (Ate\_Categ) and sub-categories (Ate\_SousCateg) before the tables of elements (Ate\_Item).
- **Hazard:** Alea\_Categ before Alea\_Item
- **Farmers:** Farmers' list (Ag) before all others.

### 1.3.3.3. Export (Write) data from an Olympe file into Ms Access®

Use this option to convert an .oly file (*file created by Olympe*) into a .mdb file (*file read by Ms Access®*). So the file can be modified directly with MS Access®. Later, it may be converted back using "[Read Access](#)".

To do this: Click on the "Write Access" option in the File menu and follow the instructions. The file is created and contains all the tables in the .oly file, which are described in in "[Olympe Access Tables En.PDF](#)". The resulting file contains all the information required by Olympe, namely:

- Unit Systems and VAT(2 tables) ;
- Definitions : list of items by categories (9 tables) ;
- Workshops : list of categories, sub-categories and their characteristics (4 tables) ;
- Hazards (2 tables) ;
- Farms and their characteristics : Definitions, production areas, animals, and finance (21 tables)
- sets of farmers (2 tables).

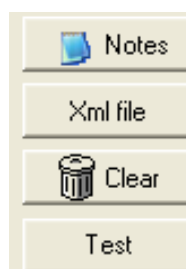


#### **The following tables are not included:**

- In *Farmer's module*: Production/**Herds** (movements of animals), Stock/**Account**, and **Treasury**.
- Contents of **output forms** and **comparison forms**.

The details of relations between tables and fields are described in the file [Olympe Access Tables relations](#).

### 1.3.4. Other maintenance activities



**Notes:** Allows taking notes on the current file. It is small notepad.

**Xml files:** Converts all data of the current file into XML format for use with other software programs able to read XML formatted data.

**Clear:** Allows deleting unwanted data in your xxxx.Oly file.  
Attention: It has no UNDO.

**Test:** Used to test the version.

#### 1.3.4.1. Notes

Allows taking notes on the current file. It is a small notepad.

#### 1.3.4.2. Xml File

Converts all data of the current file into XML format for use with other software programs able to read XML formatted data.

#### 1.3.4.3. Clear

Allows deleting unwanted data in your xxxx.oly file. Attention: It has no UNDO option.

The clear option should be used to:

- Reuse part of a file (so you do not have to retype all data); e.g., if you need same basic data (definitions, production workshops, but not farmer's accounts, etc.).
- Recover a corrupted file, in order to try saving some of the data (*see also 1.3.3*).

### 1.3.5. Exportation of data and tables to Ms Excel

All tables can be exported to an existing Ms Excel file having a .CSV extension or to a new file with the same .csv extension.

**Attention:** the file has to be opened from Ms Excel and not from the Ms Windows Explorer; otherwise it would create a file with a single column with all data separated by semi-colons.

Exporting to Excel is very useful to:

- Save data in another form.
- Improve the presentation: custom quality graphs.
- Do snapshots on the main data of the farm and improve immediate overview.
- Do further analysis not normally possible inside *Olympe*; e.g. statistical analysis.
- Improve the presentation: i.e. make quality graphs.
- Transfer data for further statistical analyzes.

### 1.3.6. Possible Actions in the windows

- Save the just modified data.
- Leave the current table = «Close»
- Leave the software = “Quit”
- Send data to the recycled bin = “Clear”
- Copy the data to or from Excel: either on a separated file, or by continuing the same file.

### 1.3.7. The Tool Bar

A tool bar is displayed at the bottom of each window.



Some windows have more buttons. They will be described when necessary. (For example: in the Production workshops, the **MARGIN** button shows up the detailed or synthetic margins).

From left to right:



**Save:** save all data after checking.



**Black Recycle bin:** delete the current line after confirmation (*if possible*)



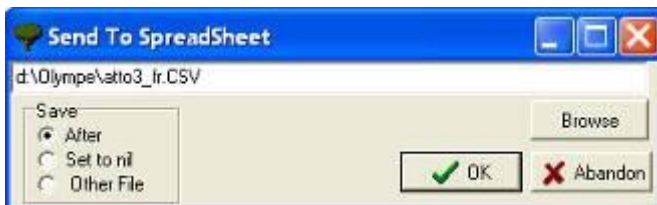
**Red Recycle bin:** delete all data in the sheet after confirmation (*if possible*)

**Print:** shows the contents of the sheet on full screen. The screen will be printed after another

click on



Sends the contents of the "**csv**" file. By default, the Excel file has the same name as the current .oly file but with CSV extension. This file could be worked using a spreadsheet (type Ms Excel).



The data can be written :

- at the end in an existing file;
- in the existing file, but after clearing all of its data;
- in another file.



Converts the contents of the sheet in Ms Excel format and creates an **Olympe.xls** file that can be opened directly from a spreadsheet (such as Ms Excel).



Sends the contents of the **Olympe.xls** file back into the current Olympe sheet!

The three buttons are used to:

- save data in another format;
- do snapshots of the main farm data to improve the overall vision of it ;
- do more sophisticated analyses and calculations not possible with Olympe ;
- do other types of graphs, statistical analyses not available in Olympe.

Sort

Sort the lines of the sheet. A click reveals the following buttons:

**Copy to right:** this carry forward is possible only if the neighbour cell is empty!



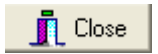
**Copy down:** this carry forward is made only if the bottom line is empty!



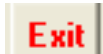
Copy the content of the cell to all the lines, and replace the existing data if the check box  is checked!



This button appears in the production workshop windows. Click on it to show up a table of detailed or synthetic margins.



Close the current page and goes back to the previous frame. It saves any modified data.



Exit the programme without saving anything. *ATTENTION: Should be used only if the software stops running.*

## 2. Initial Data Base

### 2.1. Unit systems

**Units** are used for the definition of the units system. Every product, cost, expense, income ... has a unit, which can be different according to the Farming system, the farm or the Region. Any type of units is possible, with conversion from plot to farm and to region levels.

This is the first table to fill. The **Units** are used for all successive items. Every product, cost, expense, income ... has a unit.

Any type of units is possible, with conversion from plot level to farm and to region levels.

|     | Farming system | Farm level | Region | ratio 2/1 | ratio 3/2 | Currency |
|-----|----------------|------------|--------|-----------|-----------|----------|
| 1 * | f              | f          | Kf     | 1.000     | 1 000.000 | N        |
| 2   | q              | q          | T      | 1.000     | 10.000    | N        |
| 3   | T              | T          | T      | 1.000     | 1.000     | N        |
| 4 * | kg             | kg         | kg     | 1.000     | 1.000     | N        |

Unit can be different according to the Farming system, the farm or the Region.

- Units are entered in the Farming System column.
- The corresponding farm level units are entered in the Farm level column.
- The corresponding units for a group of farmers are put in the Region column.

**Note:** The items marked with a \* are already used elsewhere and, therefore, they cannot be deleted.

Example for irrigation water, we can use:

- mm at the level of the crop
- cubic meter at the level of farm
- thousand of cubic meters at the region level

We will then define:

Farming system Unit: mc  
 Farm level Unit: mc  
 Region level Unit: Mmc

and relation between these units:

2/1 -> mc/mc = 1  
 3/2 -> Mmc/mc = 1000

The Currency column is used to specify whether the unit is used for currencies Yes (O) or No. N is automatically added if omitted (default value). The default "used currency" unit will be chosen among one of these.

### 2.1. VAT: for liable farms

|     | Name | Rate |
|-----|------|------|
| 1 * | Sans | 0    |
|     |      |      |
|     |      |      |

DEFAULT

Vat: None

F. Assets: None


You can specify all possible types of VAT.

Name e.g. none  
 Rate in percentage (%). 0

In the right panel, select both the VAT to be used by default and the VAT to be used by default for Fixed Assets.

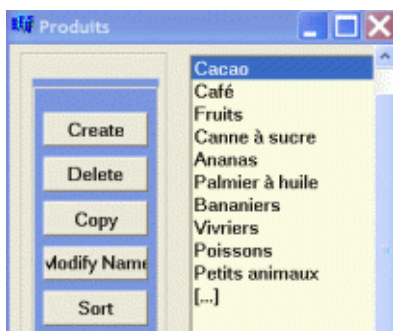
### 3. Definitions

The following windows are used to create and manage the definitions for the production systems of the farms, the farm and the family.

|  |   |
|--|---|
|  | <p><b>Production:</b> Input the Definitions (name, price, ...) for:<br/>The Outputs, Inputs, Externalities, Herds and Labour Periods which will be used in the production workshops and the farming systems (current farmers). Some outputs from animals can be added in the Outputs module. See 4.3.1. for more details).</p> <p><b>Farm:</b> Input the Definitions (name, price, ...) of:<br/><b>Fixed Assets</b> and <b>miscellaneous Expenses</b> and <b>other Revenues</b> not linked to an activity described above.</p> <p><b>Family:</b> Family accounts: Revenues and Expenses of the family.<br/>The FAMILY account is used to separate the items strictly related to the family from those done for the farm (investment); even if the agricultural turnover is generally entirely used by the family.</p> |
|--|---|

**The Farming system items are grouped in categories. They are all the same for all production workshops.**

Clicking on one of the definitions will open a new frame.



The left panel buttons of the window enable you to:

- Create a new category. This can also be done by clicking on the last empty item [...]
- Delete a category. This works only if it doesn't contain any item.
- Modify the name of the category.
- Sort the items by moving them up or down.

To display the contents of a category, click on its name. This opens a new frame.

In this frame, you can create and manage the elements (inputs, outputs ...) which will be used in the production workshops, the farms and the families.

### 3.1. Definitions for the Production Workshops

#### 3.1.1. Definitions, Outputs

Put here all outputs which will be produced by the cropping systems, or livestock farming or activities (yields, products ...).

First, input the categories of outputs to describe. Then, click on an existing category or create a new one to open the table of items.



To fill the table, Place the cursor in:

- 1<sup>st</sup> column: Specify the **name** of the output item to define.
- 2<sup>nd</sup> column and click on the **Units** button to open the dictionary and select the **units** in which you will buy and sell the said product → all three columns are filled.

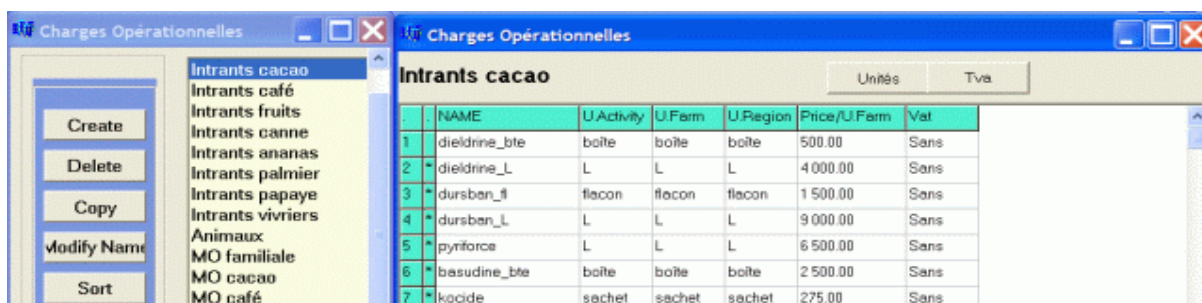
Then, input:

- Price per unit.
- **VAT** by clicking on the **VAT** button. *Without any indication, the VAT by default is used.*

#### 3.1.2. Definitions, Inputs

Put here all the inputs related to the crops, the livestock or the activity considered (e.g.: manure, treatments, seeds, etc).

First, input the categories of inputs to describe. Then, click on an existing category or create a new one to open the table of items.



To fill the table, Place the cursor in:

- 1<sup>st</sup> column: Specify the **name** of the output item to define.
- 2<sup>nd</sup> column and click on the **Units** button to open the dictionary and select the **units** in which you will buy and sell the said product.

Then:

- Input the price per unit.
- Input the **VAT** by clicking on the **VAT** button. *Without any indication, the VAT by default that will be used.*

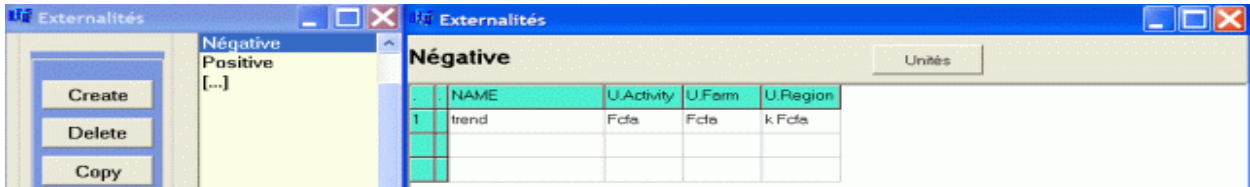


### 3.1.3. Definitions, Externalities

These tables are used to describe:

- **Negative externalities:** e.g. pollution by a pesticide, soil water pollution by fertilizer or pig manure, etc.
- **Positive externalities:** e.g. carbon sequestration, etc.

First, input the categories of externalities to describe. Then, click on an existing category or create a new one to open the table of items.



To fill the table: Place the cursor in:

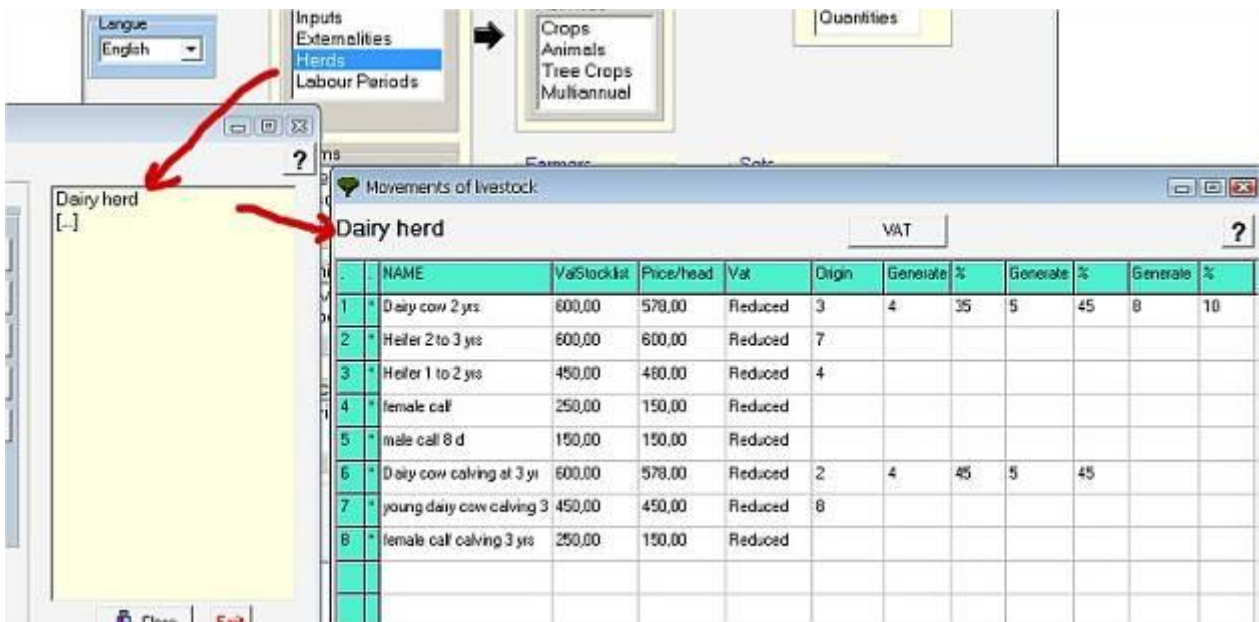
- 1<sup>st</sup> column, and input the name of the item.
- 2<sup>nd</sup> column and click on the Units button to open the dictionary. Select the units in which you will buy or sell the item (units per farm and region are filled automatically).

**Attention:** the externalities are in **quantities** (not in values). To obtain the value of the externalities, save the sheet to Ms Excel and do the calculation separately.

### 3.1.4. Definitions, Herds (Animals WITH movement of the livestock)

This frame is used to describe the type of herd and the animals included in it.

First, input the categories of animals to describe. Then, click on an existing category or create a new one to open the table of items.



Create or select a category (example: dairy cows). This will open the definition table of herds.

Then, Enter:

- The **Names** of the type of animals: All types of animals are considered as products: i.e. they can be bought, sold or be consumed in midterm. For example: dairy cows, cows, bulls, 1 year calf, 2 years calf, heifers 1 year, heifer 2 years etc.
- Their **stocktaking** values (from the accountant level)
- Their **prices** per capita of cattle
- Their rates of **VAT**
- Their **origin** compared to the animals of the herd listed in the lines below: typically, the dairy cows come from 2 year old heifers, which themselves comes from 1 year old heifers, etc.
- **Generate** and **%**:
  - Put the number of the line below corresponding to the animal generated. For example, the cow (line 1) generates (gives birth to) one female-calf (line 4) with 35% of success AND generates a male-calf (line 5) with 45% of success AND generates ...
  - The % of generated animals can be > 100% for rabbits or pigs, according to the reproduction cycle, etc

Repeat the procedure for Generate 2, Generate 3, etc.

More information is given in [chapter 6](#).

### 3.1.5. Definitions, Working Periods

This menu is used to build up working activity calendars. Each calendar is made of periods or activities.

Many calendars can be specified (e.g.: labour, tractor, etc.). Calendars can be used for different purposes. For example: to separate dry from rainy seasons or to separate men from women.

First, input the categories of Labour to describe. Then, click on an existing category or create a new one to open the table of items.

#### **A calendar is separated in two parts:**

1. The Definition of **labour period** or activity and **their lengths**. A period starts «**first day included**» and ends «**last day excluded**».

- For first day (e.g.: 15 November), type 15 11.
- For last day (e.g. 28 February), type 01 03

2. The **working availability** = The number of hours needed for **one** worker to realize the activity (or for the period) computed from the:

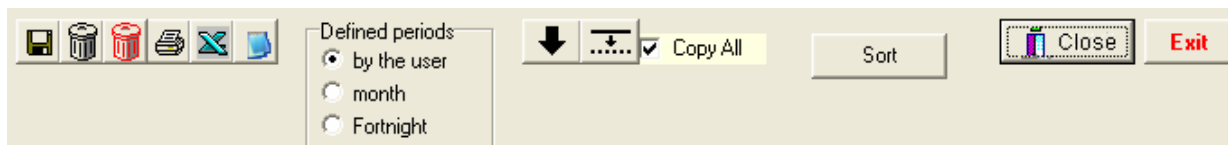
- Number of working hours per day.
- Percentage of available time: taking in account other constraints; e.g. climatic conditions, etc.

Finally, the available days and hours are computed by the software.

| coconut |                  | Definition    |             |       | Availability |      |            |             |
|---------|------------------|---------------|-------------|-------|--------------|------|------------|-------------|
|         | Period           | Start include | End exclude | h/day | %Available   | Days | Days Avail | Hours Avail |
| 1       | harvest nuts 1   | 01 01         | 15 02       | 8.00  | 80           | 45   | 36         | 288         |
| 2       | * harvest nuts 2 | 01 04         | 15 05       | 8.00  | 80           | 44   | 35         | 282         |
| 3       | * harvest nuts 3 | 01 07         | 15 08       | 8.00  | 80           | 45   | 36         | 288         |
| 4       | * harvest nuts 4 | 01 10         | 15 11       | 8.00  | 80           | 45   | 36         | 288         |

Note: It is often difficult to have correct data about farmer's activity. If this is the case, use relative value: this allows seeing where the labour constraints are.

The calendar periods can be months, fortnights or specified by the user, if so needed.



## The principle of Working period and labour

**In Definitions:** input: Activity (or period) AND Hours per worker.

Example: Weeding = 3 days ( $\times 6$  h) = 18 hours.

**In Workshop:** input: the actual time length required to do the activity (*reminder: standard workshop unit = 1 hectare*)

Example: Workshop / Corn  $\rightarrow$  30 hours are needed to do the weeding (per ha of corn)

Workshop / Wheat  $\rightarrow$  20 hours are needed to do the weeding (per ha of wheat)

**In Farmer / Production:** Input Corn: 1 ha + Wheat: 1 ha  $\rightarrow$  2 ha

**Then,** Olympe will compare availability and needs:

- Availability = 18 h /worker
- Needs =  $(30+20)$  h  $\times$  2 ha = 100 h (for both activities)

**In Farmer / Results / Labour:**  $100/18= 5.5$  workers

### 3.2. Definitions for the Farm

Definitions not connected with any production (crop, animal) activity described above.

#### 3.2.1. Farm, Fixed Assets

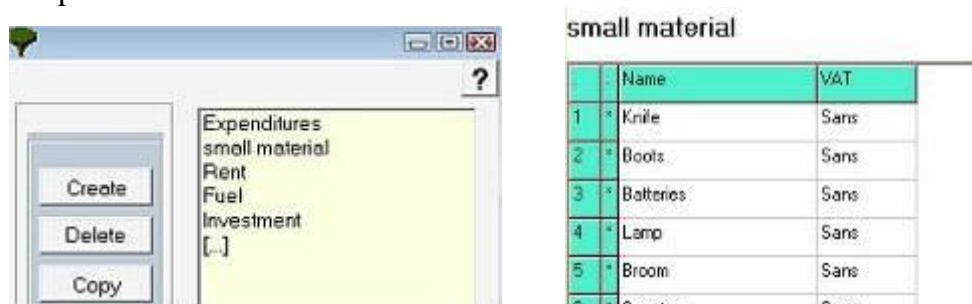
First, input the categories to describe. Then create or select an item to open the table.



Use the VAT button to input the VAT button. Else, the VAT by default is added.

#### 3.2.2. Farm, Misc. Expenses

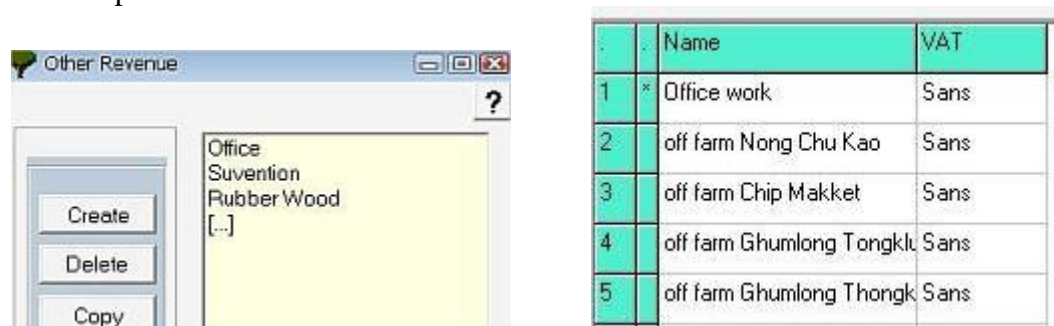
First, input the categories to describe. Then, click on an existing category or create a new one to open the table of items.



Use the VAT button to input the VAT button. Else, the VAT by default is added.

#### 3.2.3. Farm, Other Revenues

First, input the categories to describe. Then, click on an existing category or create a new one to open the table of items.



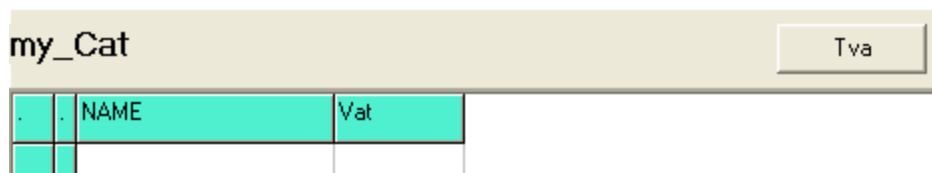
Use the VAT button to input the VAT button. Else, the VAT by default is added.

### 3.3. Definition for the Family

Definitions not connected with crop or animal production or farm activities.

#### 3.3.1. Definitions, Family Revenues

Click on “Revenues” to open the corresponding category window: Then create or select an item to open the following frame.

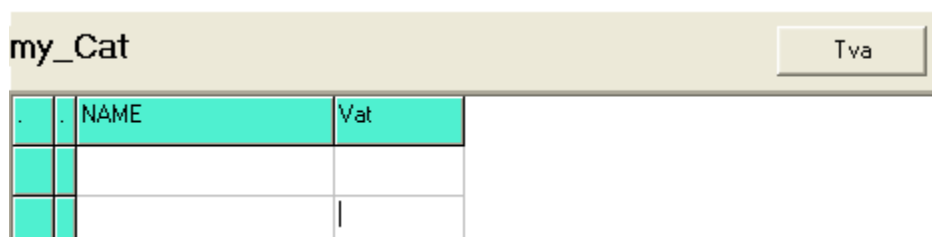


|  |  | NAME | Vat |
|--|--|------|-----|
|  |  |      |     |
|  |  |      |     |

Use the VAT button to input the VAT button. Else, the VAT by default is added.

#### 3.3.2. Definitions, Family Expenses

First, input the categories to describe. Then, click on an existing category or create a new one to open the table of items.



|  |  | NAME | Vat |
|--|--|------|-----|
|  |  |      |     |
|  |  |      |     |

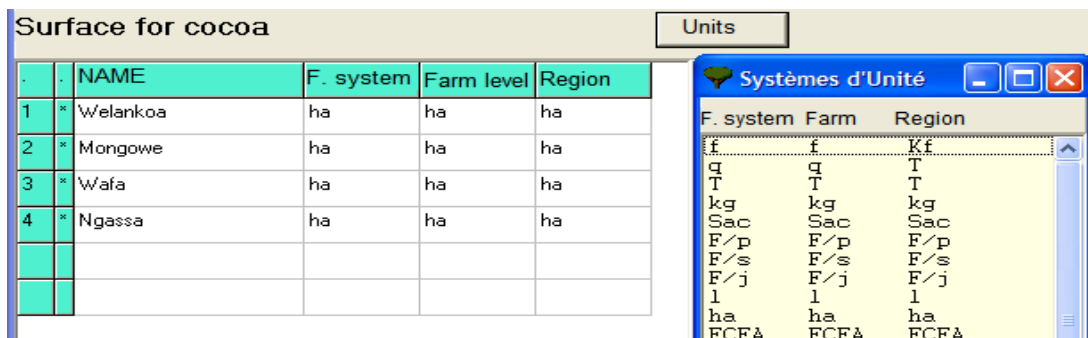
Use the VAT button to input the VAT button. Else, the VAT by default is added.

### 3.4. Miscellaneous Definitions

#### 3.4.1. Definitions, Variables

The “**variables**” are created by the user when those already present in the software are not sufficient or does not cover a particular aspect. It is one of the elements of the flexibility of Olympe. The user can create any variable, and then integrate it in a specific indicator, non pre-existent in the software.

First, input the categories to describe. Then, click on an existing category or create a new one to open the table of items.



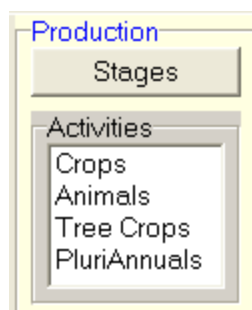
Enter the variables by family categories so that only the variables belonging to the same family could be used at a given time, thus making easier the choice faster and to cover the results in the “Farmers” Chapter.

| DEFINITION PRODUCTIONS VARIABLES OUTPUTS INPUTS MISC. EXTERNALITIES FIXED ASSETS FINANCES PRIVATE STOCK CURRENT PAST RESULTS CASH FLOW |           |          |      |      |      |      |      |      |      |      |      |
|--|-----------|----------|------|------|------|------|------|------|------|------|------|
| Variables  |           |          |      |      |      |      |      |      |      |      |      |
|  | NAME      | Category | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| 1  | Var_Perso | test     |      |      |      |      |      |      |      |      |      |

## 4. Production Workshops

The Production workshops are used to describe in details any activities of the farm related to the cropping systems, farming systems, and livestock farming systems.

Each production system provides outputs (products ...) and consumes inputs (costs ...). Some costs are proportional to the surface area, others to the quantity.



The cropping systems are defined through 4 types of crops, which are:

- **Annual Crops:** with or without a *Secondary Crop*: maximum one year full cycle with the possibility to include expenses in year «before one» (equivalent of year zero).
- **Animals:** livestock, farming systems ... (See 4.3., page 30 for animal production workshops).
- **Tree-crops having a cycle of more than 5 years:** e.g. coffee, cocoa, rubber, oil palm, fruits, pepper, vanilla, long life agro-forestry systems. Any annual or bi-annual cultural associations can be included in the technical itineraries: they must be included in the stages (see below).

**Note:** “stages” have to be specified before defining the tree-crop production systems.

- **Perennials:** biannual or perennial seasonal crops with a maximum of 5 years: example: banana, pineapple, cassava, any annual culture or biannual associations can be included in the technical itineraries.

**Technical itineraries** with their implications on the economic plan (but the itinerary in itself is not detailed in Olympe) at a rate of a different technical route with each time an element changes (a quantity of manure, a quantity of seeds, etc).

Olympe did not envisage systems of processing and manufacture of the agricultural products produced on the farm or other type of activity related to agriculture,... if integrating these types of activity in the workshop (fruits transformation, or milk or etc) is required; it is possible to use one of the 4 systems above with a specific name according to the lifespan of the activity.

If the type of activity is **non agricultural**, put it in **various revenues** in the “farmers” module.

## 4.1. Tree crops production stages

To be used only for tree-crops and BEFORE using them in the Production workshops.

Each stage is a homogeneous period having the same outputs and the same inputs. A stage can last several years. For example:

- Year zero: Land preparation
- Year 1: Plantation
- Years 2 to 4: growing immature period, without any production...
- Years 5 to 7: beginning of production; low level of production.
- Years 8 to 10: average level of production.
- Years 11 to 20: maximum level of production.
- Years 21 to 30: decreasing level of production.
- Years 31 and above: felling trees and sale of timber. Destruction of the plantation.

|   | Species            | Begin deprec | Maxi | 1 | 2 | 3 | 4  | 5  | 6  | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|--------------------|--------------|------|---|---|---|----|----|----|---|---|---|----|----|----|----|----|----|----|
| 1 | * banane           | 1            | 6    | 1 | 2 | 3 | 4  | 5  |    |   |   |   |    |    |    |    |    |    |    |
| 2 | * bois             | 1            | 40   | 1 | 2 | 3 | 4  | 5  | 6  | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |    |    |
| 3 | * canne à sucre    | 1            | 10   | 1 | 2 | 3 | 4  | 5  | 6  | 7 | 8 | 9 | 10 |    |    |    |    |    |    |
| 4 | * fruitiers        | 1            | 40   | 1 | 2 | 3 | 4  | 5  | 6  | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |    |    |
| 5 | * prairie Aristida | 1            | 40   | 1 | 2 | 3 | 4  | 5  | 6  | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |    |    |
| 6 | * SCV              | 1            | 10   | 1 | 2 | 3 | 4  | 5  | 6  | 7 | 8 | 9 | 10 |    |    |    |    |    |    |
| 7 | * ananas_EP        | 1            | 5    | 1 | 2 | 3 | 4  | 5  |    |   |   |   |    |    |    |    |    |    |    |
| 8 | * enherbement EP   | 1            | 10   | 1 | 2 | 3 | 4  | 5  | 6  | 7 | 8 | 9 | 10 |    |    |    |    |    |    |
| 9 | * ficchi           | 1            | 36   | 1 | 2 | 5 | 10 | 26 | 36 |   |   |   |    |    |    |    |    |    |    |

To fill the columns, enter:

- **SPECIES:** the name of the species or the mode used.
- **Beginning of Depreciation:** number of years before the plantation begins to depreciate.
- **Maximum:** length of crop depreciation period.
- **Other columns:** each column corresponds to a life stage of the plantation.

If annual crops (e.g.: rice) or biannual (e.g. cassava) are associated to the main crop, the stages should be modified accordingly.

The information used in the tree-crop inputs and outputs frames will be generated from the descriptions given here.

Use the buttons  to create suite and use  to clear the values.



## 4.2. Productions workshops for crops: Annual (2 years), Multiannual (4 years) and Tree-crops (40 stages)

Click on one of the production workshop items to open a new window. Workshops are listed in Categories and sub-categories.



The buttons of the left panel are used to:

- **Create** a new category. This can also be done by clicking on [...]
- **Delete**. Provided it does not contain any item.
- **Copy** a category.
- **Modify** the name of the category.

When a sub-category is highlighted, the lower buttons can be used to:

- **Create** a new Activity inside the category. This can also be done by clicking on one of the [...]
- **Delete** an activity. Provided that it does not contain any item.
- **Modify** the name of the activity.

All items can be **Sorted**.

A sub-category has many characteristics described in separate tabs.

| local coconut   |               |                    |               |          |                  |        |         |             |            |
|---|---------------|--------------------|---------------|----------|------------------|--------|---------|-------------|------------|
| Used  |               |                    |               |          |                  |        |         |             |            |
| Main Crop <input checked="" type="radio"/> True <input type="radio"/> False |               |                    |               |          |                  |        |         |             |            |
| Products  |               |                    |               |          |                  |        |         |             |            |
| Outputs   | Inputs        | Inputs f(quantity) | Externalities | Advance  | Fixed Asset Prod | Labour | Tree/Ha | Output/Tree | Input/Tree |
|   | Name          | Category           | Unit          | Before_1 | 1                | 2      | 3       | 4 et +      | 6 et +     |
| 1   | dry nutslocal | coconut            | noix          |          |                  |        |         |             | 1 500.00   |

The contents of panels are described in the next paragraphs.

At the bottom of each window, there is a tool bar.



### Case of tree-crops and perennials (see next page for description of the concept)

Main Crop  
 TRUE  FALSE

If the crop used in this category window (*see title of the window*) is the main crop, check the TRUE box; or else check the FALSE box.

Example: Cassava intercropped in a corn field: indicate TRUE for corn and FALSE for the cassava (being the secondary crop).

**NOTE:** The area of a secondary crop is not added in the total of surfaces of the **Outputs**.

## 4.2.1. Workshop, Outputs

|   | Name   | Category | Unit | Before_1 | 1 - 6 | 7 - 11  | 12 - 18 | 19 - 24 | 25 ... |
|---|--------|----------|------|----------|-------|---------|---------|---------|--------|
| 1 | USS 60 | Rubber   | kg   |          |       | 2110.00 | 2110.00 | 2110.00 |        |
|   |        |          |      |          |       |         |         |         |        |
|   |        |          |      |          |       |         |         |         |        |

### To add (replace) an item in a line:

- Place the cursor into the desired cell of first column.
- Click on the **Products** button to display the list of previously defined products.
- Select the desired item to input from the list. This will input the **Name, its category and Farming system unit** (as specified in definitions module) in the 3 first columns.

**Note:** there is no year ZERO. The year [**before\_1**] is used for advance in crop (e.g. land preparation). For perennials, the columns are corresponding to the stages created previously.

### Other columns are filled as follows:

- **Before\_1:** last year outputs.
- **1:** first year of effective crop. (Annual cash crop = production year as specified in the rotation of crops).
- **2:** next year production.
- Etc.: idem (for perennials and tree crops).

🔑 The **Margin** button (at the bottom of the window) makes it possible to view the results (see 4.2.11.).

### **4.2.1.1. Production Workshop, Secondary Crop description of the concept**

Many options are available in Olympe making it possible to take into account the following particular systems:

- **Associated crops** (annual or perennial): several crops can be associated as long as part of their cycle is common. For example: a cassava (one year) with corn (4 months), beans (5 months) and cucurbitaceous (7 months). If less than one year, they should be put into annual crops. If more than one year; they should be put into perennial crops (up to 4 years).
- **Intercropping of cash crops in a tree-crop plot** during the immature phase: can be managed as crops associated with the tree-crop. The livestock systems can also be integrated. This is an alternative of the above but with tree crops.
- **Agroforestry systems** containing mixture of fruits, rubber, cocoa, timber trees, etc. can also intercropped during the immature period of these multi-strata systems.

In the three cases: add one by one the various outputs inputs, and labour. In the selected categories: annual, tree-crops or perennials. In any case, the surface is not modified (the species being associated on a same land, even with different cycles). On the other hand, the species cannot be separate later, in the analysis of expenditure. The gross margin would be that of the whole and not separated per crop: there are the economic results of the unit.

**Note:** it is often illusory to think of being able to separate each species. And, in addition, it is normally the whole of the farming system which interests us.

At the farm level, in “current farmer”, there is a synthesis table for the margins. In this case, the margin is that of the whole of the selected activities (for example all technical routes for rice or perennials ...) balanced by the surface of each crop. We are not any more in the margin/ha and the comparison of the technical routes but in the comparison of the margins per type of activity at the farm level.

#### 4.2.2. Workshop, Inputs (Operational Costs, proportional to the acreage)

| Outputs | Inputs        | Inputs f(quantity) | Externalities | Advance | Fixed Asset Prod | Labour | Tree/Ha | Output/Tree |
|---------|---------------|--------------------|---------------|---------|------------------|--------|---------|-------------|
| 1       | Pesticide 100 | Chemicals          | L             |         | 1.25             | 1.25   | 1.25    | 1.25        |
| 2       | Fertilizer 11 | Chemicals          | kg            |         | 625.00           | 625.00 | 625.00  | 625.00      |
| 3       | lactic acid   | Chemicals          | L             |         |                  | 110.00 | 110.00  | 110.00      |
| 4       |               |                    |               |         |                  |        |         |             |

**To add (replace) an item in a line:**

- Place the cursor into the desired cell (of first column).
- Click on the **Expenses** button to display the list of previously defined items.
- Select the desired item to input from the list. This will input the **Name, its category and Farming system unit** (as specified in definitions module) in the 3 first columns.

**Note:** there is no year ZERO. The year [**before\_1**] is used for advance in crop (e.g. land preparation). For perennials, the columns are corresponding to the stages created previously.

Other columns are filled as follows:

- **Before\_1:** last year outputs.
- **1:** first year of effective crop. (Annual cash crop = production year as specified in the rotation of crops).
- **2:** next year production.
- **Etc.:** idem (for perennials and tree crops).

👉 The **Margin** button (at the bottom of the window) makes it possible to view the results (see 4.2.11.).

#### 4.2.3. Workshop, Costs per quantity of product (Yield)

These are the costs proportional to the quantity produced (example: bags of coffee which are function of the total yield of coffee beans ...)

| Outputs | Inputs  | Inputs f(quantity) | Externalities | Advance | Fixed Asset Prod | Labour | Tree/Ha | Output/Tree |
|---------|---------|--------------------|---------------|---------|------------------|--------|---------|-------------|
| 1       | Avocats | Kar                |               |         |                  |        |         |             |

For example:

- Proportional taxes in relation to the yields can be specified.
- Costs of the farm tenant can also be put here.

**To add (replace) an item in a line:**

- Place the cursor in the desired cell (of first column).
- Click on the **Output** button and Select the Output to use as reference from the list. (*Its farming system unit is added*).
- Place the cursor in the desired cell (of third column).
- Click on the **Inputs** button and select the desired item to input from the list. This will input the **Name, its category and Farming system unit** (as specified in definitions).

Then, in the columns (Before\_1, 1, etc.), indicate how many of this supply per product is needed.

The **Margin** button (at the bottom of the window) makes it possible to view the results (see 4.2.11.).

#### 4.2.4. Workshop, Externalities

They are expressed in Quantities.

|   | Name          | Category | Unit | Before_1 | 1 | 2-3 | 4-9 | 10... |
|---|---------------|----------|------|----------|---|-----|-----|-------|
| 1 | rosion par ha | Négative | T    |          |   |     |     |       |

**To add (replace) an item in a line:**

- Place the cursor into the desired cell (of first column).
- Click on the **Externalities** button to display the list of previously defined items.
- Select the desired item to input from the list. This will input the **Name, its category and Farming system unit** (as specified in definitions module) in the 3 first columns.

The data in quantities can be exported to an Ms Excel spreadsheet, and then be given a price to facilitate the calculation of a value.

The **Margin** button (at the bottom of the window) makes it possible to view the results (see 4.2.11.).

#### 4.2.5. Workshop, Advances to crops

To correctly establish the assessments and the accounts of company, it is often necessary to define the advances in the cultures. For this, Olympe provides the expenditure carried out each year. But the user can supplement, or modify these items.

In the example below, the INPUT panel shows that the rubber involves some expenditure.

## Inputs sheet:

| Rubber Yupa Thongprik  |               |                    |               |          |                  |        |         |             |            |
|--|---------------|--------------------|---------------|----------|------------------|--------|---------|-------------|------------|
| Used <input checked="" type="radio"/> True <input type="radio"/> False |               |                    |               |          |                  |        |         |             |            |
| Expenses   |               |                    |               |          |                  |        |         |             |            |
| Outputs  | Inputs        | Inputs f(quantity) | Externalities | Advance  | Fixed Asset Prod | Labour | Tree/Ha | Output/Tree | Input/Tree |
|  | Name          | Category           | Unit          | Before_1 | 1 - 6            | 7 - 11 | 12 - 18 | 19 - 39     | 40 ...     |
| 1  | 15-15-15 (10) | Chemicals          | kg            |          |                  | 312.50 | 312.50  | 312.50      |            |
| 2  | Rock Phosph   | Chemicals          | kg            |          |                  | 89.30  | 89.30   | 89.30       |            |
| 3  | Cup 7         | Small materia      | Item          | 437.50   |                  |        |         |             |            |
| 4  | Wire 3        | Small materia      | Item          | 437.50   |                  |        |         |             |            |
| 5  | Gulter 0.2    | Small materia      | Item          | 437.50   |                  |        |         |             |            |
| 6  | Rubber stump  | Plantation me      | Item          | 437.50   |                  |        |         |             |            |

That you can find in the margin table and the synthetic table. The expenses are displayed in the right panel of the Advance window.

|                 | Average | Before_1 | 1 - 6   | 7 - 11 | 12 - 18 | 19 - 39   | 40 ...    |
|-----------------|---------|----------|---------|--------|---------|-----------|-----------|
| Products        | 68 073  |          |         | 17 915 | 107 485 | 89 570    |           |
| Expenses        | 3 403   | 10 588   |         | 3 804  | 3 804   | 3 804     |           |
| Expenses Volume | 0       |          |         |        |         |           |           |
| Margin          | 64 671  | -10 588  |         | 14 111 | 103 681 | 85 766    |           |
| Total Margin    | 106.48  | -10 588  | -10 588 | 59 969 | 785 737 | 2 586 823 | 2 586 823 |
| Margin/hour     |         |          |         | 16.18  | 118.89  | 98.35     |           |

Plus, beside these expenditures, the farmer can decide to include some other elements.

## Advance Panel:

To take in account the opening date of the financial year, the table allows defining the advance according to the opening month. Thus, if the production year starts in January there would be 250 € in advance. On the other hand, if the year starts in September there will be no costs in advance.

| Rubber Yupa Thongprik  |          |                    |               |         |                  |        |            |             |            |
|--|----------|--------------------|---------------|---------|------------------|--------|------------|-------------|------------|
| Used <input checked="" type="radio"/> True <input type="radio"/> False |          |                    |               |         |                  |        |            |             |            |
| Expenses   |          |                    |               |         |                  |        |            |             |            |
| Outputs  | Inputs   | Inputs f(quantity) | Externalities | Advance | Fixed Asset Prod | Labour | Tree/Ha    | Output/Tree | Input/Tree |
|  | Before_1 | 1 - 6              | 7 - 11        | 12 - 18 | 19 - 39          | 40 ... | in Value!! |             |            |
| 1  | 250      |                    |               |         |                  |        | Before_1   | 10 588      |            |
| 2  |          |                    |               |         |                  |        | 1 - 6      | 0           |            |
| 3  |          |                    |               |         |                  |        | 7 - 11     | 3 804       |            |
| 4  |          |                    |               |         |                  |        | 12 - 18    | 3 804       |            |
| 5  |          |                    |               |         |                  |        | 19 - 39    | 3 804       |            |

#### 4.2.6. Workshop, Fixed Assets with depreciation

| Duration of Depreciation |          |   |   | Start of depreciation |        | Total of Expenses |  |
|--------------------------|----------|---|---|-----------------------|--------|-------------------|--|
|                          | Before 1 | 1 | 2 | Before 1              | 0      |                   |  |
| By Farm                  |          |   |   | 1                     | 26 200 |                   |  |
| By Family                |          |   |   | 2                     | 0      |                   |  |

The fixed assets products correspond to the necessary investments and expenses during the immature period of the crop; e.g. necessary investment during the setting up of a plantation.

**Attention:** some expenses can be put in the first production year; e.g. cost of equipment for rubber trees is most often spent during the first year of production. So, the total investment cost will be equal to the fixed assets + cost of trees. Because of that, a specific «indicator» should be created.

#### 4.2.7. Workshop, Labour

Input the number of hours required for each calendar or activity.

| Grassland    |          |       |   | Main Crop<br><input checked="" type="radio"/> True <input type="radio"/> False |  | Products |  |
|--------------|----------|-------|---|--|--|----------|--|
| Monthly Cal  |          |       |   | Labour Requirement (hours)   |  |          |  |
|              | Before_1 | 1     | 2 |  |  |          |  |
| March        |          | 2.00  |   |  |  |          |  |
| April        |          |       |   |  |  |          |  |
| May          |          | 3.00  |   |  |  |          |  |
| June         |          | 2.00  |   |  |  |          |  |
| July         |          |       |   |  |  |          |  |
| August       |          |       |   |  |  |          |  |
| September    |          |       |   |  |  |          |  |
| October      |          | 4.00  |   |  |  |          |  |
| November     |          |       |   |  |  |          |  |
| December     |          |       |   |  |  |          |  |
| Total Annual |          | 11.00 |   |  |  |          |  |

1. Choose a calendar to display the periods (or activities)

2. Fill the number of hours required to fulfill the works

The Calendars

- Monthly Cal
- Forfait Cal [...]


Total Requirement <sup>11</sup>

Copy from

Delete

Important notice: Click on the Save button before changing between calendars.

Olympe will take care of overlapping periods.

 The **Margin** button is used to view the results.

#### 4.2.8. Workshop, Trees per hectare

In this sheet, indicate the number of trees per hectare of the main crop. The figures can vary between the stages.

#### 4.2.9. Workshop, Outputs per tree

In this sheet, indicate the Outputs per tree (of the main crop). As for the products, but per tree.

#### 4.2.10. Workshop, Inputs per tree

Here, you indicate the Inputs per tree (of the main crop). As for the Inputs, but per tree.

#### 4.2.11. Workshop, Margins

Note: the **margins / hectare** can be obtained immediately by clicking on the “Margin” button



For tree crops, the margin / ha is displayed per production stages (i.e. per homogeneous year, production or yield and cost) and not per year.

| Detailed Margin poule |          |       |          |          |       |                |       |        |       |        |       |
|-----------------------|----------|-------|----------|----------|-------|----------------|-------|--------|-------|--------|-------|
| poule Total           |          |       |          |          |       |                |       |        |       |        |       |
| NAME                  | CATEGORY | Unit  | Prix Kar | Quantity | Value | Before_1 Quant | Value | 1Quant | Value | 2Quant | Value |
| Products              |          |       |          |          |       |                |       |        |       |        |       |
| poule                 | Elevage  | unite | 5.00     | 1.00     | 5     |                |       | 1.00   | 5     |        |       |
| total Products        |          |       |          |          | 5     |                |       |        | 5     |        |       |
| Margin per unit       |          |       |          |          | 5     |                |       |        | 5     |        |       |

The columns 5 and 6 show:

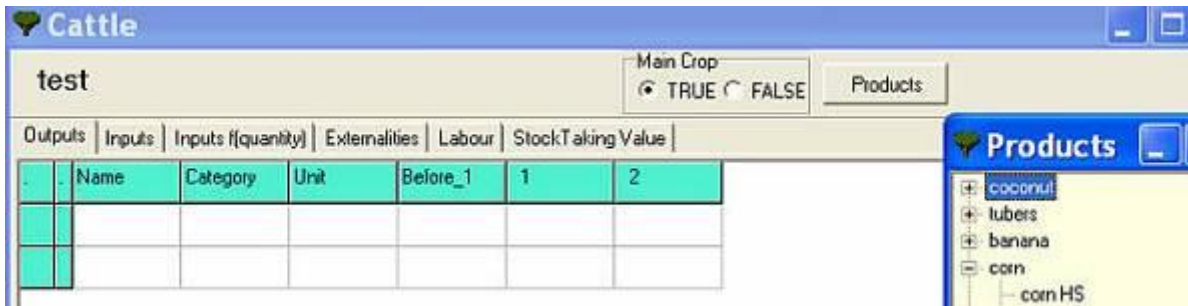
- The total quantity.
- The total margin for the whole cycle.

### 4.3. Production workshop for animals

Like crops, animals supply products, consume goods, expenses proportional to the quantity, and create positives or negatives externalities, need labour and have Fixed Asset values. Like other productions, the animals create **products** and consume **Costs**.

**The items are grouped by categories, as described in the following tabs:**

Click on one of the tab to open the corresponding panel. Input information is the same than for crops.



Use the MARGIN button on the bottom line to display the results.

The Stocktaking value is specific to breeding animals. If the animal is a breeder in the accounting understanding or not, this Stocktaking Value does not go to the same place in the accounts.

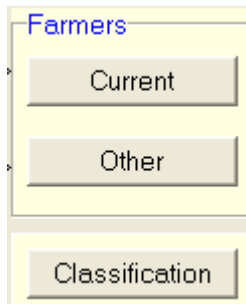


More information is given below (see [chapter 6](#)).



## 5. Farmers: The production system

This module is used to create and manage the items that are **specific** to each production system. A **production system** is a farm with a decision maker.



**Current:** Opens the last used **production system**.

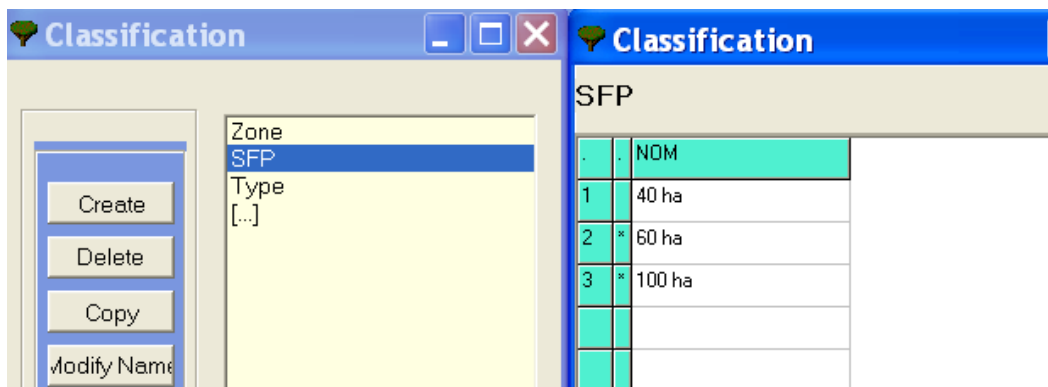
**Other:** Manage the farms: create, modify their descriptions, create and manage alternatives.

**Classification:** Create and manage the classification criteria which will be used in Other and Current.

Start from the bottom: Classification, then Others, then Current.

### 5.1. Classification of farms

This module is used to define the items required to classify the farms (typology).



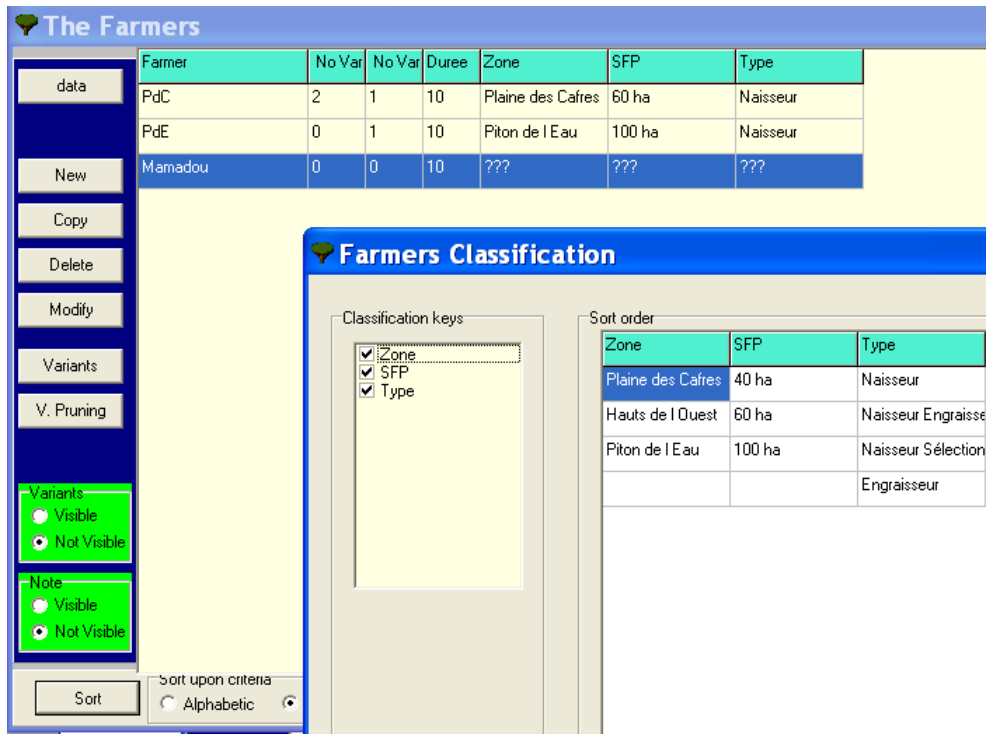
For example, you can specify:

- the farmer's specialization; i.e. types of crops; geographical situation; mode of irrigation, ...
- technical itineraries used,
- etc.

The criteria defined here will be useful in the **Definition** of the farmers and in the **Sets** of farmers for regional analysis.

## 5.2. Other Farmers, manage the farms

The left column gives you all possible actions to create and manage the descriptions of farms and farms variants.

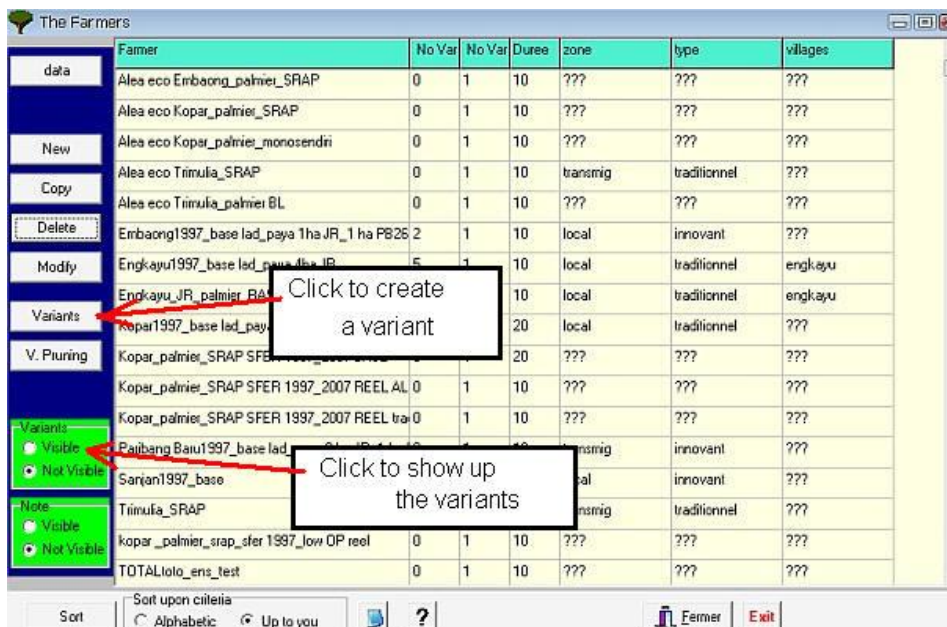


The Classification criteria defined above are now the names of new columns used to describe and sort the farmers.

## Variants

Many variants of farms can be created; as well as variants of variants, etc.

Variants or sub-farms created can be displayed or only the parent farmer.



A variant farm can be:

- An existing farm with modification of some technical itineraries, cash crops rotation, etc. Any modification making this farm different from the mother farm. This allows testing scenarios.
- Farms in which scenarios are done on the production hazards.
- A daughter farm issued from a mother farm on which different type of farming practices is specified.
- The complete variants tree can be displayed.

But, do not to multiply too many variants in an unconsidered manner and take notice of what you do.

The «**note**» buttons opens a small notepad to help you describe each variant.

## 5.3. The Current Farm



### 5.3.1. Current Farm, Definition of the Farm

This window is used to describe the characteristics of a given farm.

The name of farmer and the Variant cannot be changed here.

**Starting year:** it is the first year of simulation (will be displayed as the first column title in subsequent panels).

**Opening month:** For accounting use.

**Number of years:** Number of years for simulation. Basic farm is displayed on 10 years (one decade). But, since version 1.34, it is possible to work on as much as 100 years.

**Classification criteria** are displayed in the classification panel.

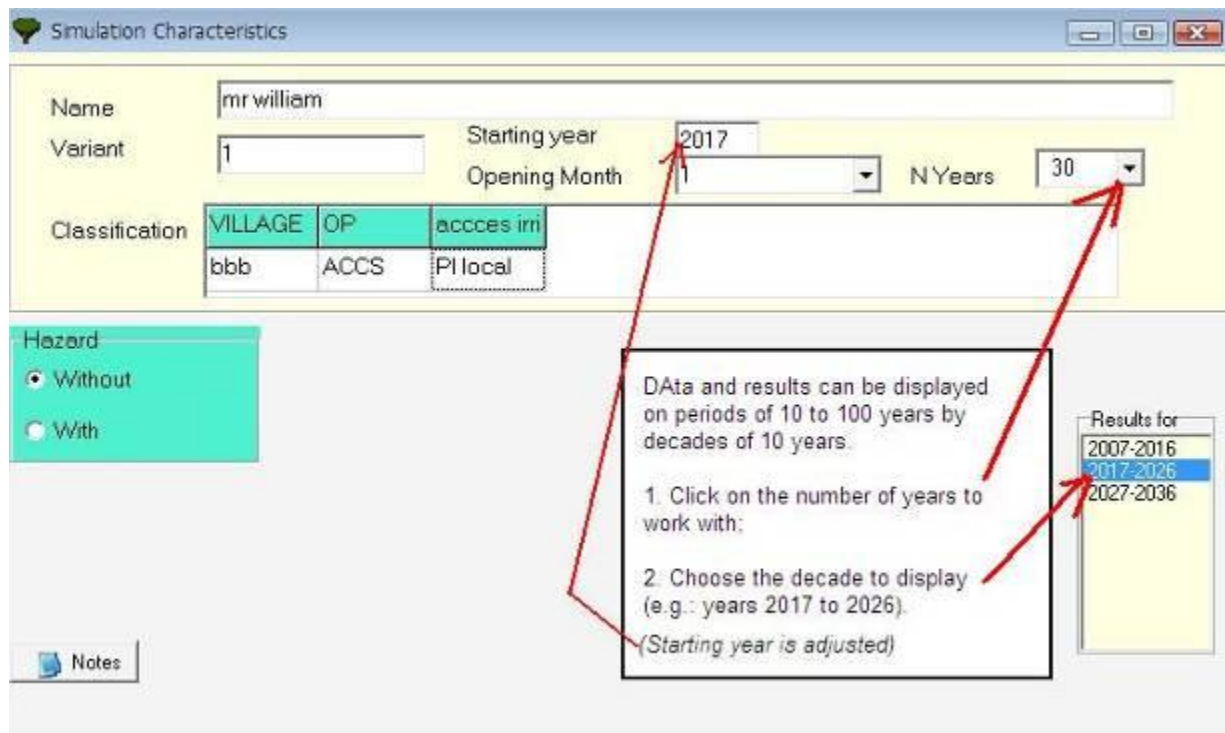
**Hazard** (With or Without) can be used to build up simulations by changing the hazards in Price or Quantity.

Since version 1.34, it is possible to study the farm evolutions on periods of 100 years i.e. 10 decades of 10 years).

Number of years = Choose the number of years to display (up to 100 years).


Periods over 10 years are used to:

- Study tree crops over long periods.
- Do simulations over long periods in relation to hazards. For this, hazard tables have now **100 columns** and tree crops can be defined on **40 stages**.



Remarks: Each decade created when you click on the figure in the combo-box, is a variant of the basic farm (years 1 to 10).

- **Advantage:** it is possible to compare the decades between them.
- **Inconvenient:** If data need to be modified in one of the tabs, the modification **will not be repeated** in the other decades.

 If you need to make a modification, you have to:

- Put the focus on the first decade (e.g. here 2007-2016),
- Select No Years = 10 to delete the other decades,
- Save and close the window (risk of bug!).
- Do wished modifications and recreate the decades; e.g. choose again the number of years to display.



## 5.3.2. Current Farm, Productions

### 5.3.2.1. Annuals crops Cropping Plan

This table is used to manage annual-crop areas.

RESULTS CASH FLOW

**Cropping plan**

Crops    Area

|   | NAME   | Category | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|--------|----------|------|------|------|------|------|
| 1 | tomato | tomato   | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

### To create (or modify) crops:

- Put the cursor into the cell under the "Name" column you wish to create or to modify. Then, click on the **Crops** button. (*The category is added automatically*).
- Input the **area cultivated** per crop per year.

 Click on  to display the total area planted: annuals + tree-crops + perennials.

### 5.3.2.2. Tree crops

This table is used to manage tree crops.

Definition Productions Variables Outputs Inputs Misc. Externalities Fixed Assets

**Tree crops**

Tree crops    Area

|   | Name       | Species       | Area | Planting | Uprooting |
|---|------------|---------------|------|----------|-----------|
| 1 | coco var 1 | Local coconut | 1.00 | 2000     | 2050      |

### To create (or modify) crops:

- Put the cursor into the cell under the "Name" column you wish to create or to modify. Then, click on the **Tree-crops** button. (*The Species is added automatically*).
- Input the **area** to be planted, the **planting year** and the **uprooting year**.

### 5.3.2.3. Animals

This table is used to manage animals WITHOUT movement of livestock.

RESULTS CASH FLOW

**ANIMALS**

ANIMALS

|   | NAME | Category | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|------|----------|------|------|------|------|------|
| 1 | Cow  | bovin    | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |

### To create (or modify) animals:

- Put the cursor into the cell under the "Name" column you wish to create or to modify. Then, click on the **Animals** button. (*The category is added automatically*).
- Input the **number** of animal(s) per year.

### 5.3.2.4. Herds

See the description of this module in [chapter 6](#).

### 5.3.2.5. Perennials

This table is used to manage multi-annual crops.

RESULTS CASH FLOW

PERENNIALS

PERENNIALS Area

|   | NAME    | Category | Area | Planting | Duration |
|---|---------|----------|------|----------|----------|
| 1 | Cassava | cassava  | 1.5  | 2000     | 2        |

PER...  
 - cassava  
   - cassava  
     - [...]  
 + chili

### To create (or modify) crops:

- Put the cursor into the cell under the "Name" column you wish to create or to modify. Then, click on the **Perennials** button. (*The category is added automatically*).
- Input the **area** to be planted, the **planting year** and the **duration** (number of years).

### 5.3.3. Current Farm, Variables

This table is used to manage variables introduced into the Definitions.

RESULTS CASH FLOW

Variables

Variables

|   | NAME     | Category | 2020  | 2021  | 2022  | 2023  | 2024  |
|---|----------|----------|-------|-------|-------|-------|-------|
| 1 | Rubber   | test     | 51.00 | 29.00 | 29.00 | 29.00 | 29.00 |
| 2 | Palm Oil | test     | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |

A...  
 - test  
   - Cocoa  
   - Rubber  
   - Palm Oil  
   - [...]

### To create (or modify) crops:

- Put the cursor into the cell under the "Name" column you wish to create or to modify. Then, click on the **Variables** button. (*The category is added automatically*).
- Input the quantity used per year.

### 5.3.4. Current Farm, Outputs

This table is used to manage farmer's outputs.

Products

Products Dico Keyword

Product Quant : Café : café\_rob1 \* Product Price : Café : café\_robitem:Incomes Products 1

|   | NAME        | Category  | 2003    | 2004    | 2005    |
|---|-------------|-----------|---------|---------|---------|
| 1 | café_rob1   | Café      | 167 400 | 167 400 | 167 400 |
| 2 | avocats_sac | Fruits    | 5 760   | 5 760   | 5 760   |
| 3 | banane      | Bananiers | 3 960   | 3 960   | 3 960   |
| 4 | maïs_bass   | Vivriers  | 2 600   | 2 600   | 2 600   |
| 5 | maïs_autoc  | Vivriers  |         |         |         |

Products  
 - Cacao  
 - Café  
   - café\_arab1  
   - café\_arab2  
   - café\_arab3  
   - café\_rob1  
   - café\_rob2  
   - café\_rob3  
   - [...]  
 - Fruits

Key Word  
 +  
 -  
 \*  
 /  
 <  
 <=  
 >  
 >=  
 %  
 #  
 N  
 AN

Dictionary  
 - Item  
 - Incomes Products  
 - Expenses Supplies  
 - Margin  
 - "Fix\_Ass\_Costs""  
 - Misc\_Incomes  
 - Misc\_Expenses  
 - Family\_Income  
 - Family\_Expenses  
 - Balance  
 - Total Balance  
 - Results  
 - Ebe  
 - Caf  
 - Balance

When opening the table for the first time, the names and quantities computed from the data found in the Definitions and Workshops are displayed.

**To add new data (in new lines) or modify existing data:**

- Put the cursor into the cell under the "Name" column you wish to create or to modify. Then, click on the **Products** button and choose the items to use. (*The category is added automatically*).
- Do the modifications in the **formula zone** using items from the list in the Dictionary and the Keywords.

→ Custom results can be built in each of the cells.

### 5.3.5. Current Farm, Inputs

**Variable costs, operational expenses**

This table is used to manage farmer's inputs: operational expenses.

| operational Expenses  |                  |             |      |        |        |        |        |
|---|------------------|-------------|------|--------|--------|--------|--------|
| Expenses Dico Key word  |                  |             |      |        |        |        |        |
| Cost Quant : paid labour : land preparation * Cost Price : paid labour : land preparation |                  |             |      |        |        |        |        |
|   | NAME             | Category    | 2020 | 2021   | 2022   | 2023   | 2024   |
| 1   | land preparation | paid labour |      | 48 000 | 48 000 | 48 000 | 48 000 |
| 2   | weeding          | coconut     |      |        |        |        |        |

When opening the table for the first time, Olympe displays the names and quantities computed from the data found in the Definitions and Workshops.

**To add new data (in new lines) or modify existing data:** Do as for outputs.

**Fixed costs**

This table is used to manage farmer's fixed costs related to farm activities.

| Fixed assets               |            |          |      |      |      |      |      |
|----------------------------|------------|----------|------|------|------|------|------|
| Fixed assets Dico Key word |            |          |      |      |      |      |      |
| [Large empty cyan area]    |            |          |      |      |      |      |      |
|                            | NAME       | Category | 2005 | 2006 | 2007 | 2008 | 2009 |
| 1                          | Water pump | Material |      |      |      |      |      |
| 2                          | motorcycle | Material |      |      |      |      |      |

**To add new data (in new lines) or modify existing data:** Do as for outputs.



### 5.3.6. Current Farm, Miscellaneous: Revenues and Expenses

These tables are used to manage miscellaneous expenses or revenues of the farm; e.g. farm tenancy, social contributions, etc.

|   | NAME                         | Category  | 2005 | 2006 | 2007 |
|---|------------------------------|-----------|------|------|------|
| 1 | off farm Nong Chu Kai Office |           |      |      |      |
| 2 | Subvention                   | Suvention |      |      |      |

**To add new data (in new lines) or modify existing data:** Do as for outputs.

### 5.3.7. Current Farm, Externalities: Negative or Positive

These tables are used to manage externalities, either negative (e.g. nitrogen pollution from excess fertilization use) or positive (e.g. carbon sequestration) from farm activities.

|   | NAME    | Category | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---------|----------|------|------|------|------|------|
| 1 | nitrate | Negative | 100  |      |      |      |      |

**To add new data (in new lines) or modify existing data:** Do as for outputs.

### 5.3.8. Current Farm, Fixed Assets

#### 5.3.8.1. Stocktaking

This table is used to manage farm Fixed assets.

|   | FIXED_ASSETS | Purchase_Val | Date    | Depr | Deprec_Jend | VAT | Sale_Val | Date    |
|---|--------------|--------------|---------|------|-------------|-----|----------|---------|
| 1 | Tractor      | 10 000       | 12 2000 | L    | 15          | n   | 5 000    | 12 2015 |

For the fixed assets stocktaking, the input can be:

- Equipment by equipment
- On the whole stock.

The two modes are not exclusive one from the other. The small equipments bought and depreciated in the year can be subject of a special grading system input.

**To add new data (in new lines) or modify existing data, input:**

- **Name:** of the fixed assets.
- **Purchase Value:** corresponds to the purchase value exclusive of tax.
- **Purchase Date:** Date format:           mmAA or mmAA or mmAAAA   mm AAAA  
  1001     10 01       102001       10 2001

- **Type of depreciation:**



- **Depreciation period:** duration in years.
- **VAT:** Choose the rate from the button list. If not defined, the rate by default is used.
- **Sale Value:** calculated sales by Olympe = value at the beginning of the simulation.
- **Sale Date:** Date stored material is sold.

### 5.3.8.2. Small equipments

This table is used to input an overall value of all small equipment used within the year. All ten years corresponding to the decade are displayed.

| Small Equipment |      |       |        |
|-----------------|------|-------|--------|
|                 | Year | Value | VAT    |
| 1               | 2007 |       | Normal |
| 2               | 2008 |       | Normal |
| 3               | 2009 |       | Normal |
| 4               | 2010 |       | Normal |
| 5               | 2011 |       | Normal |

**Input** the overall value of all small equipment bought and depreciated during the year.

### 5.3.8.3. Global loans for Fixed Assets

This table is used to add data to other investments.

|   | NOM                  | 2006  | 2007  | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|----------------------|-------|-------|------|------|------|------|------|
| 1 | Residual value       | 2 000 | 605   | 605  | 605  | 605  | 605  | 605  |
| 2 | Depreciation         | -     | 1 200 |      |      |      |      |      |
| 3 | Buy                  | -     | 100   |      |      |      |      |      |
| 4 | Sold                 | -     | 450   |      |      |      |      |      |
| 5 | Surplus              | -     | 120   |      |      |      |      |      |
| 6 | Capital loss         | -     | 1 000 |      |      |      |      |      |
| 7 | Fixed assets Product | -     | 155   |      |      |      |      |      |

ATTENTION! The following control is done:

$$\text{Residual Value (n)} = \text{residual value (n-1)} - \text{Depreciation (n)} + \text{Purchase (n)} - \text{Resale (n)} \\ + \text{Surplus (n)} - \text{Losses (n)} + \text{Fixed assets production (n)}.$$

#### 5.3.8.4. Integration of material and fixed assets depreciation

A farm has tools, fixed assets, machines... and many other basic investments which depreciate over a specific duration (which can differ according to the type of investment).

A false benefit could be computed if the outdated states of the above investments are not properly considered. Thus, not considering the replacement of these items would hide a real impoverishment of the farm.

It is thus necessary to interpret the economic results of Olympe properly according to the choices available: a benefit, apparently correct, might not be good if the cost of material renewal is not taken into account.

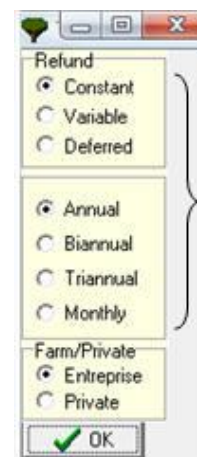
**Note:** Olympe not being built up for an accountant use, there is no line planned for the “capital endowment”, since in the real farm, this endowment is only an accounting forecast and does not modify the current accounts of the farm.

### 5.3.9. Current Farm, finances

#### 5.3.9.1. Long Term Loans

This table is used for managing long term loans.

|   | Loans   | Amount | Duration 1 | Rate 1 | Duration 2 | Rate 2 | Type | Implementati | Refund  | F/p |
|---|---------|--------|------------|--------|------------|--------|------|--------------|---------|-----|
| 1 | Roll's  | 30 000 | 20         | 5.00   | 5          | 1.00   | CA   | 11 2010      | 2 2022  | E   |
| 2 | Tractor | 50 000 | 20         | 3.00   |            |        | CA   | 1 2000       | 12 2020 | E   |



#### **To add new data (in new lines) or modify existing data, input:**

- First, input the name of the loan.
- Select the Refund and type of refund option (*default: CA*), and the beneficiary of the loan (*default: E = Farm*).
- When done, click OK. (*If you closed the window and need to fill more lines, re-open Finance → Long term-loan*).

#### **Then, fill the other cells:**

- Amount,
- Durations (in years) and Rates (in %) : 1 or 2 durations and rate (*Total loan duration = I + 2*),
- Implementation date (Date format = mmAA or mm AA or mmAAAA mm AAAA),
- Capital refund date.

**Refund date** = the date starting **first repayment of the capital**. Between realisation and the first payment up to the date of payment, the interest is given at each instalment. The first payment is done after a specific period (year, semester, term, month, according to the specific type) is completely achieved.

### 5.3.9.2. Short Term Loans

This table is used for managing short term loans.

|   | LOANS    | Amount | Rate | Type | Implementati | Reimbursm | F/p |
|---|----------|--------|------|------|--------------|-----------|-----|
| 1 | Computer | 1 500  | 2.00 | N    | 1 2000       | 12 2005   | E   |

#### **To add new data (in new lines) or modify existing data, input:**

- First, input the name of the loan. Then, select if interest are Normal or Deducted, and the beneficiary of the loan.
- When done, click OK. (If you close the window and want it to fill more lines, re-open Finance → Short term loan).



#### **Then, fill the other cells:**

- Amount
- Rate (in %).
- Implement date: (Date format = mmAA or mm AA or mmAAAA mm AAAA)
- Date of reimbursement.

### 5.3.9.3. Overdraft: Credit Opening

This table allows a rough mean to consider the credit. **Year:** represents the financial year (all ten years of the current decade are displayed).

| Year | Amount | %Spent | Rate  | Costs |
|------|--------|--------|-------|-------|
| 2005 | 1 000  | 50     | 10.00 | 50    |
| 2006 | 1 000  | 100    | 10.00 | 100   |
| 2007 | 1 000  | 10     | 10.00 | 10    |
| 2008 | 1 000  | 5      | 10.00 | 5     |

#### **To add new data, input:**

- **Amount:** the maximum amount granted by the bank.
- **% spent:** percent used during the year.
- **Rate:** interest rate (in %)
- **Costs:** financial expenses calculated.

### 5.3.9.4. Other revenues

#### Grants

|   | SUBVENTION | Amount | Date   | Duration |
|---|------------|--------|--------|----------|
| 1 | my subv.   | 1 000  | 1 2000 | 1        |

#### To add new data, input:

- Name of the grant.
- Amount,
- Starting date (mm yyyy)
- Duration (in years).

#### Investments

| Investments |             |        |      |      |            |         |     |
|-------------|-------------|--------|------|------|------------|---------|-----|
|             | INVESTMENTS | Amount | Rate | Type | Implemente | Period  | F/p |
| 1           | bank        | 1 000  | 5.00 | A    | 1 2001     | 12 2005 | E   |

#### To add new data, input:

- **Name** of the investment. **Then**, select the type and beneficiary. When done, click OK. *(If you closed the window and need to fill more lines, re-open Finance → placement).*

#### Then fill

- Amount, rate (in %),
- Starting date (mm yyyy)
- Final date (mm yyyy).

#### Global Loans

| Global Loans |                   |      |      |      |      |      |      |
|--------------|-------------------|------|------|------|------|------|------|
|              | NOM               | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|              | LT Debts          |      |      |      |      |      |      |
|              | LT Reimboursement | -    |      |      |      |      |      |
|              | LT Interest       | -    |      |      |      |      |      |
|              | LT New            | -    |      |      |      |      |      |
|              | ST Debts          |      |      |      |      |      |      |
|              | ST Reimboursement | -    |      |      |      |      |      |
|              | ST Interest       | -    |      |      |      |      |      |
|              | ST new            | -    |      |      |      |      |      |

Data in this table are added to other loans.

ATTENTION! The following control is done:

$$\text{Debt (n)} = \text{debt (n-1)} - \text{Refund(n)} - \text{new (n)}$$

### 5.3.10. Current Farm, Private

#### 5.3.10.1. Private Revenues

This table is to calculate Private revenues of the family, *not related to the farm* not considered in the farm's results, but they are taken into consideration in the accounts of the whole (farm + family). For example: the spouse salary working outside.

|  | NAME | Category | 2003 | 2004 | 2005 | 2006 | 2007 |
|--|------|----------|------|------|------|------|------|
|  |      |          |      |      |      |      |      |

**To add new data (in new lines) or modify existing data:**

- Put the cursor into the cell under the "Name" column you wish to create or to modify. Then, click on the **Revenues** button and choose the items to use. (*The category is added automatically*).
- Do the modifications in the **formula zone** using items from the list in the Dictionary and the Keywords.

→ Custom results can be built in each of the cells.

#### 5.3.10.2. Private Expenses

Private expenses of the family, not related to the farm. Example: Children scholarship.

|  | NAME | Category | 2003 | 2004 | 2005 | 2006 | 2007 |
|--|------|----------|------|------|------|------|------|
|  |      |          |      |      |      |      |      |

**To add new data (in new lines) or modify existing data:** Do as for Revenues.

### 5.3.11. Current Farm, stocks and marketing module

#### 5.3.11.1. Storage Policy

This table is used for crop products that are not sold the production year and must be stored. **These products stored are considered the following year.** (For storages over multiple years, see below).

The storage policy is defined per output.

| Storage Policy |         |       |      |         |            |               |          |
|----------------|---------|-------|------|---------|------------|---------------|----------|
| Products       |         |       |      |         |            |               |          |
|                | Product | Price | Unit | %Stored | Maxi_Stock | %Price_increa | %Depreci |
| 1              | Durian8 | 8.00  | kg   | 40      | 200        | 110           | 90       |

#### To add new data (in new lines) or modify existing data:

- Place the cursor in the first column and use the **Product** button to choose an item from the list (=> *Price and unit are added*).

Then, input the:

- % stored,
- Maximum storage capacity (*all quantities above are sold in the current year, whatever the % stored*),
- % price increase (*or decrease*) if product is sold following year (100% = same price),
- % depreciation.

#### 5.3.11.2. Initial Stock

This table is used to manage products coming from initial stocks and products stored over many years.

This table shows a period of **ten years before the current decade**.

| Stocks   |            |       |       |       |       |       |       |       |
|----------|------------|-------|-------|-------|-------|-------|-------|-------|
| Products |            |       |       |       |       |       |       |       |
|          | FPRODUCTS  | 1995  | 1996  | 1997  | 1998  | 1999  | 2000  | 2001  |
| 1        | Latex 57   | 2 000 | 2 000 | 2 000 | 2 000 | 2 000 | 2 000 | 2 000 |
|          | Cost Price | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 |

#### To add new data

Click into the first empty "Name" cell or the cell you wish to modify and use the **product** button to add more items. → *A second line is displayed to input the cost price.*

Then, for each year, input:

- the amount of product stored
- the cost price

Those products are managed through the "**Marketing**" module (*see next page*).

### 5.3.11.3. Marketing module

The **marketing module** is used to buy or sell farm products in chosen amounts and at various prices.

The module has two tables:

- On top: the productions of the product selected with the **outputs** button
- Below: quantities to sell for the year selected with the menu "Production year". The table below relates **only to the quantities of the selected year AND ONLY FOR THAT YEAR** (top column with a blue background and the year selected in the list). But, you can sell stocks over several years.

If there are initial stocks, then the marketing module must be used after filling the **initial stock** table. Only existing stocks are displayed.

The screenshot displays the 'Marketing' window for 'Latex 57 kg'. The 'Production year' is set to 2005. The top table shows production and inventory data:

|               | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Production    | 6 600 | 6 600 | 6 600 | 6 600 | 8 514 | 4 306 | 4 306 | 4 306 | 4 306 |
| Val Inventair | 57    | 57    | 57    | 57    | 57    | 57    | 57    | 57    | 57    |
| Reste         | 6 600 | 6 600 | 6 600 | 6 600 | 8 514 | 4 306 | 4 306 | 4 306 | 4 306 |

Below this is a table for sales input for the selected year (2005):

|           | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|-----------|------|------|------|------|------|------|------|------|------|
| 1Quantity |      |      |      |      |      |      |      |      |      |
| Price     |      |      |      |      |      |      |      |      |      |
| Value     |      |      |      |      |      |      |      |      |      |
| 2Quantity |      |      |      |      |      |      |      |      |      |
| Price     |      |      |      |      |      |      |      |      |      |
| Value     |      |      |      |      |      |      |      |      |      |
| 3Quantity |      |      |      |      |      |      |      |      |      |
| Price     |      |      |      |      |      |      |      |      |      |
| Value     |      |      |      |      |      |      |      |      |      |
| 4Quantity |      |      |      |      |      |      |      |      |      |

The bottom panel contains the following controls:

- Balance button
- Copy All button
- Copy towards dropdown menu (set to 2005)
- Copy toward All button
- Sale button (Quantity)
- Stock button (Quantity)
- Sale button (Value)
- Stock button (Value)
- Delete button (with radio buttons for Current Product and All)
- Farmer button
- Exit button

The bottom panel of the window shows, from left to right:

- The “**Balance**” button displays the remaining quantity after the sales when a Quantity cell is selected.
- The “**Copy to**” button copies the movements to another year (of your choice).
- The “**Copy to All**” button copies the movements to all following years.
- The **Sale** and **Stock** buttons displays the quantities and values of stocks each year. The stocks value corresponds to the quantity of stock in year N x Fixed Assets value in year N.



**To sell stocks:** do the following steps:

**On top:**

- Select the production with the “**Output**” button. The total quantity is added in the production line as well as the price of the item.
- Select the production year with the “**production year**” drop-down menu where you wish to carry out movements.

**In the bottom table:**

- Go to the year of desired sale and add the quantity actually sold in the first cell of the sale year in the “**1 Quantity**” line.
- Then input its price in the line below. The “**value**” will be computed and displayed.
- Repeat as many times as you want on the same (below) year or following years (next column(s)).

The remaining quantity of product is automatically calculated in Balance (upper table) and is stored.

### 5.3.12. Current Farmer's Liabilities

They are used to define:

- Credits
- Debts
- Debts owned by a debtor at the beginning of the simulation
- Information related to the VAT at the beginning of the depreciation.

#### 5.3.12.1. Credits and Debts

These tables are used to input credits or debts at the beginning of the simulation.

| Credits |         |       |         |
|---------|---------|-------|---------|
|         | PRODUCT | Value | Payment |
| 1       | grain   | 10    | 1 2000  |

| Debts |         |       |         |
|-------|---------|-------|---------|
|       | PRODUCT | Value | Payment |
|       |         |       |         |

**To add new data (in new lines) or modify existing data, input:**

- Name of the loan,
- Amount,
- Payment date.

The names and quantities depend on what was introduced into the Definitions and workshop.

#### 5.3.12.2. VAT and Cash Flow

This table is used to indicate:

- Farmer's **initial accounts** at the beginning of the current financial year.
- VAT of the previous financial year, if the financial year does not correspond to the calendar year.

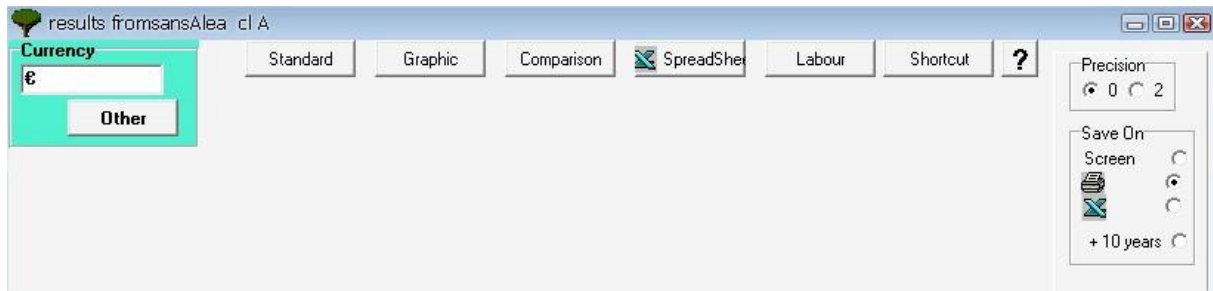


The screenshot shows a window titled "Situation at Start" with the following fields:

- Cash at beginning: 0
- Vat:
  - VAT received 2006: 0
  - VAT paid 2006: 0
- Part payment May 2006: 0
- Part payment Aug 2006: 0
- Part payment Nov 2006: 0
- Part payment Feb 2007: 0

### 5.3.13. Current Farm, Results

The results can be presented in several formats: Tables, Graphs, comparison tables between several farmers, Labour requirements by periods and working time.



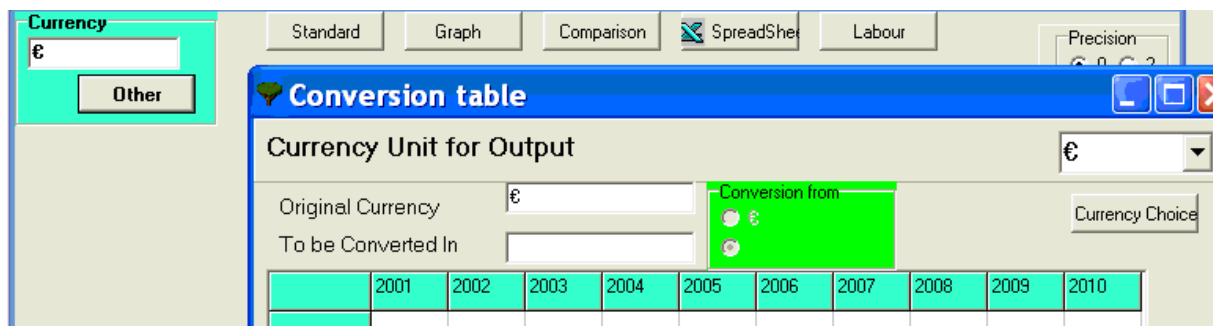
Use  + 10 years  this option to show the results of:

- Receipts-Expenses,
- Quantities,
- Balance,
- Areas, and
- Stocks

Use precision  0  2 to display the results with 0 or 2 decimals.

#### 5.3.13.1. Results, Choice of the currency unit

The results are expressed in the currency unit defined in the Units table. But, for display purpose, Olympe can convert them into another currency unit, chosen by the user.



Click on the “**Other**” button to choose its currency. This will open a conversion table to help compute the exact rate.

### 5.3.13.2. Results, Standard

Commonly used output results can be displayed by clicking on one of the following item. Custom output form or use a self-made output built by the user in the “Output Form” module.

#### The options are:

|                      |  |
|----------------------|--|
| Synthesis            | → Main management items  |
| Receipt & Expenses   | → Receipt and Expenses of the farm, family or sets of farms      |
| Rec & Exp Summary    | → Summary table of the above items                               |
| Quantities           | → Quantities of outputs and inputs                               |
| Farm Accounts        | → Overall Farm Accounts  |
| Balance              | → detailed balances per crop                                     |
| Family accounts      | → Family accounts not included in other farm activities          |
| Margins              | → Detailed margins by type of crop accrued by outputs or inputs. |
| Externalities        | → Negative and positive externalities per crop                   |
| Output Forms         | → Use of custom tables created by the user                       |
| Finance              | → Details of loans, grants, investments, etc.                    |
| Fixed Assets         | → Details of capital of investments                              |
| VAT                  | → VAT details  |
| Crop Areas           | → Distribution of the cultivated areas per year                  |
| Tree-Crops Account   | → Accountable items of added value for tree-crops plantations    |
| Stocks               | → Annual inventory control of Stocks                             |
| Long term Loans      | → Long term Loans  |
| Fixed Assets Summary | → Summary of Fixed Assets  |

#### Example of Synthesis output

|               | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009      | 2010      | 2011      | 2012      |
|---------------|---------|---------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|
| Sales         | 179 720 | 179 720 | 179 720 | 179 720 | 179 720 | 179 720 | 179 720   | 179 720   | 179 720   | 179 720   |
| MARGIN        | 151 520 | 151 520 | 151 520 | 151 520 | 151 520 | 151 520 | 151 520   | 151 520   | 151 520   | 151 520   |
| EBE           | 154 520 | 41 520  | -30 480 | 241 520 | 241 520 | 241 520 | 241 520   | 241 520   | 241 520   | 241 520   |
| CAF           | 154 520 | 41 520  | -30 480 | 241 520 | 241 520 | 241 520 | 241 520   | 241 520   | 241 520   | 241 520   |
| BALANCE       | 154 520 | 41 520  | -30 480 | 241 520 | 241 520 | 241 520 | 241 520   | 241 520   | 241 520   | 241 520   |
| ADDED BALANCE | 154 520 | 195 040 | 165 560 | 407 080 | 648 600 | 890 120 | 1 131 640 | 1 373 160 | 1 614 680 | 1 856 200 |
| Products Ceg  | 369 720 | 369 720 | 369 720 | 369 720 | 369 720 | 369 720 | 369 720   | 369 720   | 369 720   | 369 720   |
| Results Ceg   | 154 520 | 41 520  | -30 480 | 241 520 | 241 520 | 241 520 | 241 520   | 241 520   | 241 520   | 241 520   |

#### Abbreviations meanings:

|                 |   |
|-----------------|---|
| EBE             | : Gross Operating Surplus   |
| CAF             | : Self-Financing Capacity   |
| Balance         | : Balance of annual cash flows = Gross margin – Farm costs + family account balance + Fixed assets – loans – Vat. |
| Accrued balance | : Same as above, but accrued over the decade.   |
| CEG             | : Overall Farm Accounts → <i>See Account above.</i>   |

#### Note:

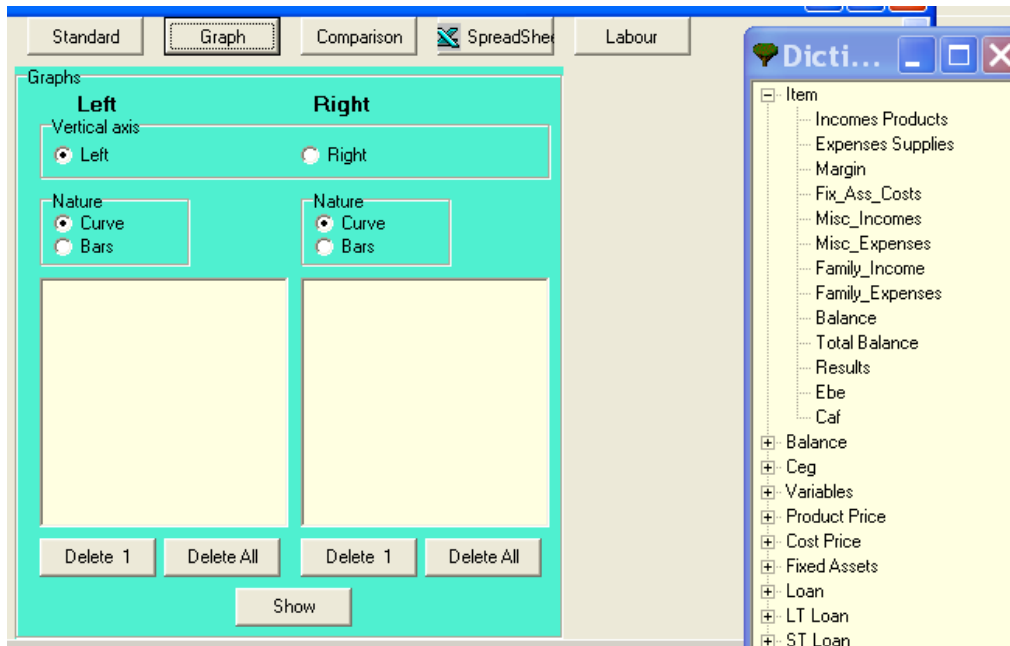
The Margins can be held concurrently by product. The margins are also calculated in “Incomes & Expense” table.

The income statement is a flow account. There can be depreciation in this account.

The Assessment is an account of stock.

### 5.3.13.3. Results as Graph

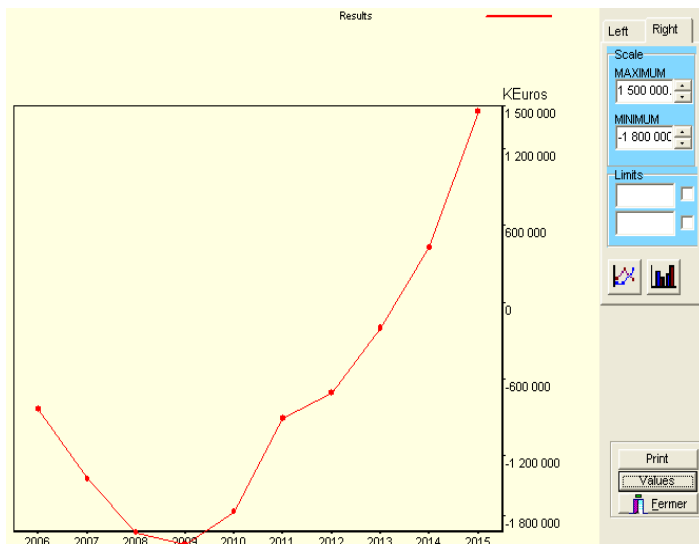
Click on the Graph button to open the following window.



Put the cursor in the left or right frame and, then, select the items from the list. The items will use the left or right axis in the graph.

The graphs can be displayed as curves or bars.

Example of graph:



Both left and right axis can be modified.

Use the arrows allow to modify or enter the figures manually.

Limits are used to draw horizontal lines. Tick the box to activate.

Choose Lines or Bars

Print the graph  
Check values  
Close the window

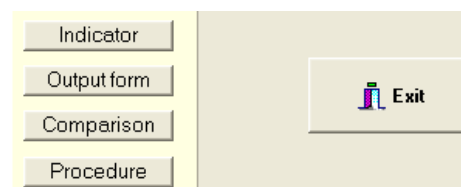
### 5.3.13.4. Results, Comparisons

Comparisons are possible on different levels; i.e. to compare:

- Several farmers (maximum 10) on a **given item** (chosen from the list)
- Several farmers on a **set of data** (series which were previously defined in the “comparison” module).

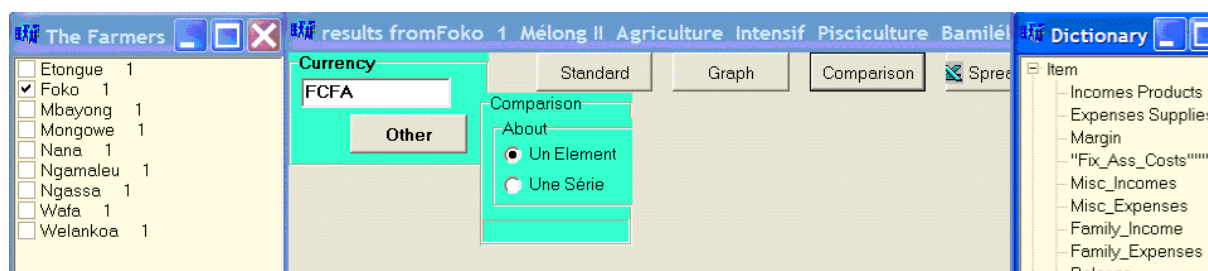
#### Note: Comparison with series:

It is necessary, as a preliminary, to have defined a series of items to be compared in the “comparisons” module from the main page of Olympe.

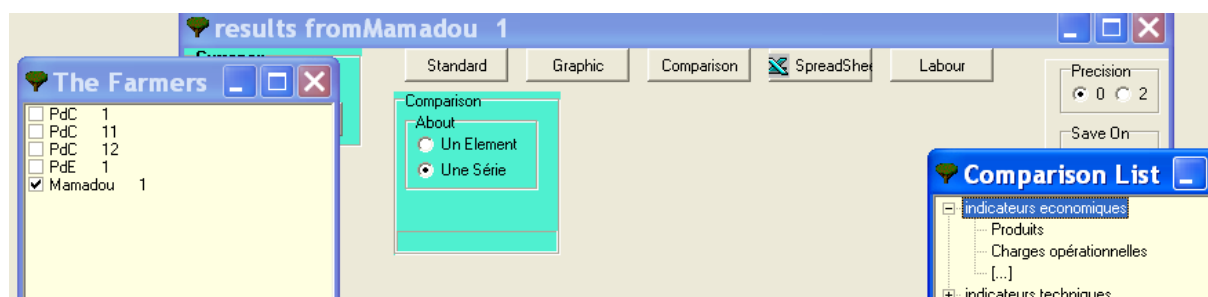


#### Choose **One item** or **One series**

#### Comparison of several farmers on One item

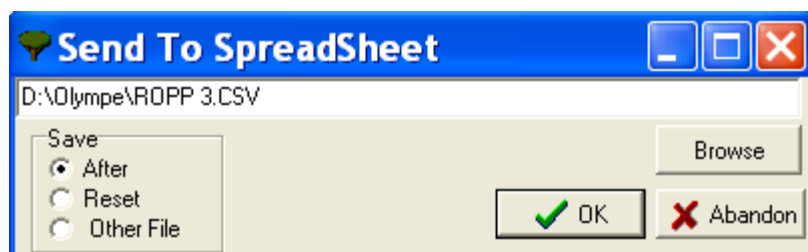


#### Comparison with series



### 5.3.13.5. Results, Send to Spreadsheet

This function sends the table to directly a spreadsheet (e.g. Ms Excel).

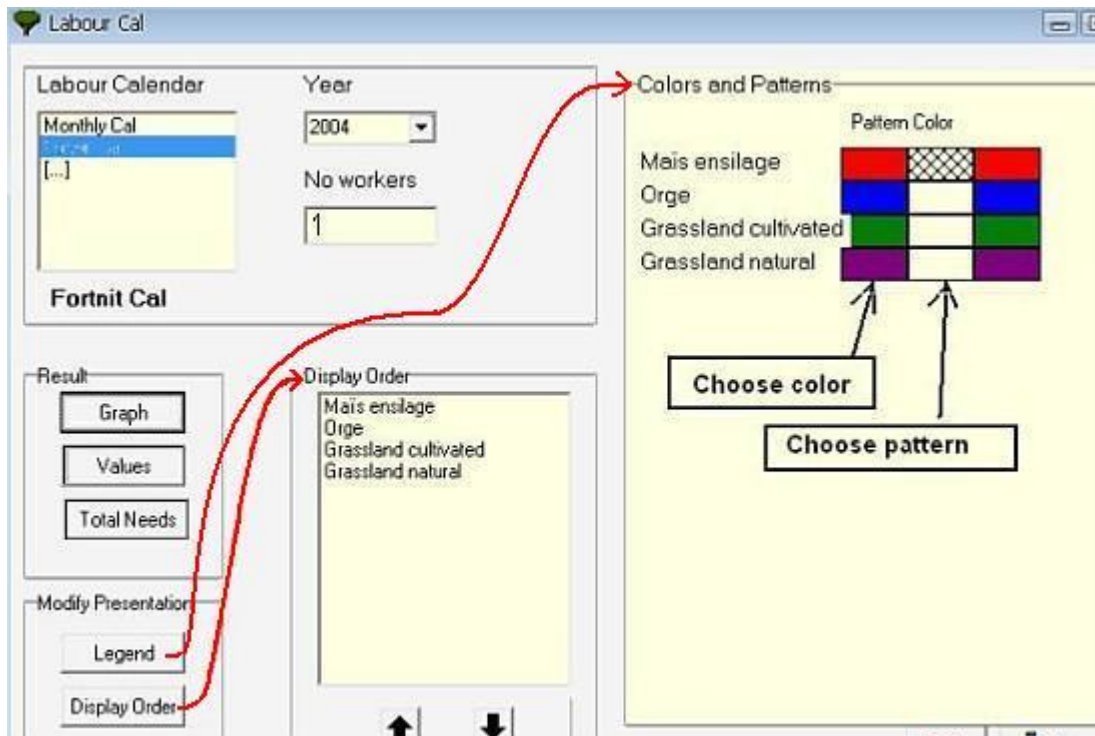


Choose a table, then click on the **Spreadsheet** button: Olympe will ask to which type of file: either “after” existing data in an already existing file or to the same file but cleared (Reset), or to a new “different” file.

### 5.3.13.6. Results, Labour and working periods

The **Labour** module is used to display graph or tables of labour calendars per periods or activities.

This module is useful to check the adequacy of the manpower needs (Man days) for the farm activities (agricultural or not) including the available family labour.



- Select the year. (Here = 2004)
- Input in the **available family labour** in: No workers.
- Choose to display the result in the form of **Graphs** or of **Values**.

To have a sum of all the working periods, input the same farming calendars in all the **workshop modules** → “**Annual crops**”, “**Tree crops**” and “**Perennial**”.

We strongly suggest using farming calendars using the fortnight or month option, to come out with simpler and more practical outputs.

The available family labour used is based on an average throughout the whole year. The ideal situation would be to have the availability of family labour by periods (month, fortnight...). But 1) this would be too complicated and 2) most of the time such detailed information is not available. Thus, the use of this option is to detect if the choice of a technique or a crop returns can be done by the family labour or if it exceeds it: When? And how much? To then integrate the additional costs of external labour.

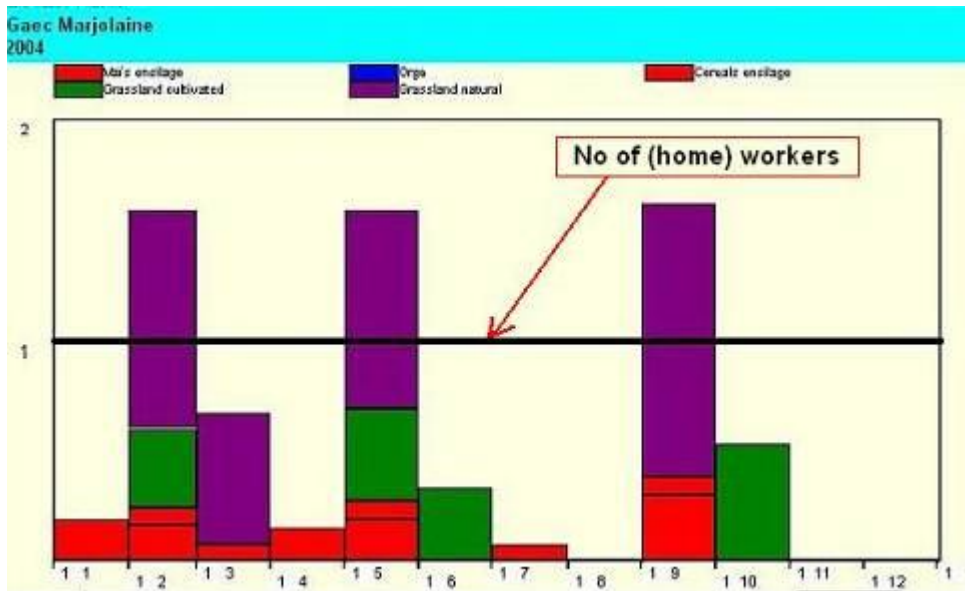
The accuracy will depend on the initial data, but it should be known that family labour is seldom very precise, hence, the choice of an annual average. On the other hand, the average availability of family labour can be defined in the Definition → Labour Periods.

If the number of available workers is not sufficient and external workers should be hired, do not forget to add in the cost of these extra workers, if it has not been indicated elsewhere.

### 5.3.13.7. Labour presented as graph

The window presents:

- The number of available and needed Man-days (bold limit). Set to 1 in the figure.
- The cumulative working of the various crops per periods or activities.



### 5.3.13.8. Labour presented as table

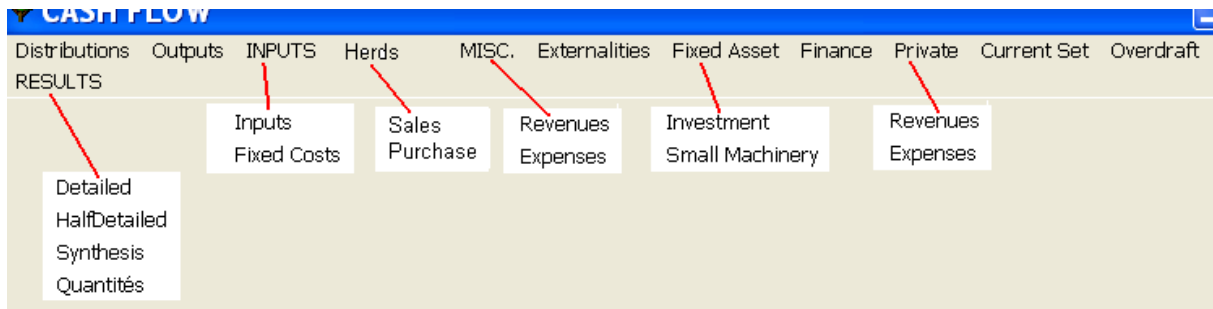
The table shows the working periods to facilitate the scheduling and study the adequacy between working demand throughout the year (distribution per week, month or fortnights according to the selected format) and available family labour.

| Non                  | Total | 1/1 15/1 | 15/1 1/2 | 1/2 15/2 | 15/2 1/3 | 1/3 15/3 | 15/3 1/4 | 1/4 15/4 | 15/4 1/5 | 1/5 15/5 |
|----------------------|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Maïs ensilage        | 150   |          | 30       |          | 15       | 15       |          | 23       | 8        |          |
| Orge                 | 56    |          |          |          | 4        |          | 4        |          |          |          |
| Grassland cultivated | 182   |          |          |          | 17       | 17       |          |          |          | 50       |
| Grassland natural    | 233   |          |          |          |          | 47       | 47       |          |          |          |
| Labour Requirement   | 620   |          | 30       | 20       | 78       | 65       |          | 23       | 8        | 50       |
| Available per worker |       | 140      | 170      | 140      | 140      | 140      | 170      | 140      | 160      | 140      |
| Workers needed       |       |          | 0.18     | 0.14     | 0.56     | 0.46     |          | 0.16     | 0.05     | 0.35     |
| Workers available    |       | 2.0      | 2.0      | 2.0      | 2.0      | 2.0      | 2.0      | 2.0      | 2.0      | 2.0      |
| Hours available      |       | 280      | 340      | 280      | 280      | 280      | 340      | 280      | 320      | 280      |
| Hours missing        |       |          |          |          |          |          |          |          |          |          |



## 5.4. Cash Flow

The Cash Flow module is accessed by clicking on Farmers → Data → Cash Flow. This will open the following window, with many options.



The Cash flow is related to a farmer. It is used to manage:

- **Sales or purchases** of products at different periods and different prices, thus with an action on financial inputs and outputs. It is the traditional use of the accounts on an accountant and financial point of view.
- **Financial Flows** of materials, products, inputs or outputs. It is a different and diverted use which makes it possible to manage non financial flows and to pass from the annual level down to the monthly level.

The cash flow analysis can reveal problems on shorter periods (monthly), i.e. visible or generating specific short term expenses (short-term loans) which would not be visible at the annual level.

Thus the accounts of a farm can look satisfactory on the annual level but might not be satisfactory on the monthly level.

The analysis of the cash flow is done at the monthly level.

Only the standard use in terms of financial accounts is described below.

### 5.4.1. Cash Flow, Distributions

The **first step** is to **create the distributions** of the outputs and inputs sold throughout the year.

The “**distributions**” module makes it possible to distribute a product on a monthly calendar. The products are distributed in % of the production in the calendar tables.

These distributions will be used to distribute products, costs, etc, in the following tables.

The screenshot shows the 'Répartition Définition' window with a table for 'vente mais'. The table lists months from Janvier to Décembre. A callout box points to the October row, indicating that 50% of corn was sold in October of Year 1, and then 20% in April and 30% in May of Year 2.

| Standard  | Avr 1 | 1 | 2  |
|-----------|-------|---|----|
| Janvier   |       |   |    |
| Février   |       |   |    |
| Mars      |       |   |    |
| Avril     |       |   | 30 |
| Mai       |       |   | 20 |
| Juin      |       |   |    |
| Juillet   |       |   |    |
| Août      |       |   |    |
| Septembre |       |   |    |
| Octobre   |       |   | 50 |
| Novembre  |       |   |    |
| Décembre  |       |   |    |

Total en % : 100

### 5.4.2. Cash Flow, Outputs

This table shows the distribution and values of the outputs for sale.

The screenshot shows the 'Produits VALEUR' window with a table of outputs for sale. The table has columns for years from 2004 to 2013 and rows for 'Blé', 'Orge', 'Maïs', 'Pailles céréales', and 'Pailles maïs'. A callout box explains that the same cash flow calendar was used for all crops via the Distribution button.

|                  | 2004          | 2005          | 2006          | 2007          | 2008          | 2009          | 2010          | 2011          | 2012          | 2013          |
|------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Blé              | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org |
| Orge             | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org |
| Maïs             | vente maïs    | vente maïs    | vente maïs    | vente maïs    | vente maïs    | vente maïs    | vente maïs    | vente maïs    | vente maïs    | vente maïs    |
| Pailles céréales | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org | vente blé org |
| Pailles maïs     | vente maïs    | vente maïs    | vente maïs    | vente maïs    | vente maïs    | vente maïs    | vente maïs    | vente maïs    | vente maïs    | vente maïs    |

Other example: Distribution table for the products from wheat, barley and corn.

Choose a Cash flow calendar

The distribution table is displayed. We do the same for all crops.

| Code           | Année | Produit | Valeur |
|----------------|-------|---------|--------|
| vente blé orge | 2002  | Blé     | 15 300 |

|                 | 2004 | 2005 | 2006 | 2007 |
|-----------------|------|------|------|------|
| Blé             |      |      |      |      |
| Orge            |      |      |      |      |
| Mais            |      |      |      |      |
| Primes céréales |      |      |      |      |
| Prime mais      |      |      |      |      |

### 5.4.3. Cash Flow, Inputs

Introduce the distribution of **operational costs** and **fixed assets** corresponding to the distributed sales.

→ Do as for the outputs.

Modifié !

|                 | 2004           | 2005           | 2006           | 2007           | 2008           | 2009           | 2010           | 2011           | 2012           | 2013           |
|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Blé             | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge |
| Orge            | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge |
| Mais            | vente mais     | vente mais     | vente mais     | vente mais     | vente mais     | vente mais     | vente mais     | vente mais     | vente mais     | vente mais     |
| Primes céréales | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge | vente blé orge |
| Prime mais      | vente mais     | vente mais     | vente mais     | vente mais     | vente mais     | vente mais     | vente mais     | vente mais     | vente mais     | vente mais     |

The same cash flow calendar was used for all crops via the Distribution button

#### 5.4.4. Cash Flow, Herds

Introduce the distribution of the **purchases and sales of cattle** corresponding to the distributed sales.

→Do as for the outputs.

#### 5.4.5. Cash Flow, Miscellaneous

Introduce the distribution of the **Revenues** and **Expenses** corresponding to the distributed sales.

→Do as for the outputs.

#### 5.4.6. Cash Flow, Externalities

Introduce the distribution of the positive or negative **externalities** corresponding to the distributed sales.

→Do as for the outputs.

#### 5.4.7. Cash Flow, Fixed Assets

The table displays the monthly calendar of the **values** of selected fixed assets and small equipment in the form of graph.

#### 5.4.8. Cash Flow, Finances

The table displays the monthly calendar of the selected farm **finances** in the form of graph.

#### 5.4.9. Cash Flow, Private

Introduce the distribution of the Family **Revenues** and **Expenses** corresponding to the distributed sales.

→Do as for the outputs.

#### 5.4.10. Cash Flow, Current Accounts

The table displays the monthly calendar of the selected current accounts of the farm in the form of graph.

#### 5.4.11. Cash Flow, Results

**Monthly results** can be displayed in detailed, semi-detailed, synthetic format or by quantities.

The **results** button is used to obtain the “Output in value” table

**The total table** makes it possible to see whether the expenditure in a given month do not exceed the possible benefits or access to credit.

Results of the values and sales, or quantities (of products, costs, etc), can be displayed as table. For that, select the **Quantity** button in the bottom tool bar.

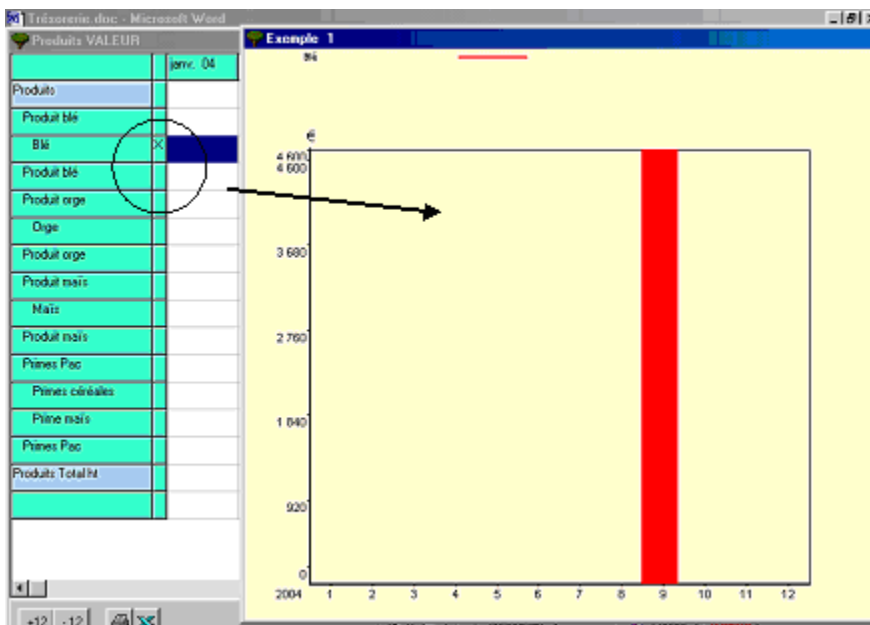


The following window is obtained:

| Produits VALEUR   | juil. 04 | août 04 | sept. 04 | oct. 04 | nov. 04 | déc. 04 | janv. 05 | févr. 05 | mars 05 | avr. 05 |
|-------------------|----------|---------|----------|---------|---------|---------|----------|----------|---------|---------|
| Produits          |          |         |          |         |         |         |          |          |         |         |
| Produit blé       |          |         |          |         |         |         |          |          |         |         |
| Blé               |          | 4 590   |          |         |         |         | 3 060    |          | 7 650   |         |
| Produit blé       |          | 4 590   |          |         |         |         | 3 060    |          | 7 650   |         |
| Produit orge      |          |         |          |         |         |         |          |          |         |         |
| Orge              |          | 3 960   |          |         |         |         | 2 640    |          | 6 600   |         |
| Produit orge      |          | 3 960   |          |         |         |         | 2 640    |          | 6 600   |         |
| Produit maïs      |          |         |          |         |         |         |          |          |         |         |
| Maïs              |          |         |          | 9 600   |         |         |          |          |         | 5 760   |
| Produit maïs      |          |         |          | 9 600   |         |         |          |          |         | 5 760   |
| Primes Pac        |          |         |          |         |         |         |          |          |         |         |
| Primes céréales   |          | 6 120   |          |         |         |         | 4 080    |          | 10 200  |         |
| Prime maïs        |          |         |          | 4 500   |         |         |          |          |         | 2 700   |
| Primes Pac        |          | 6 120   |          | 4 500   |         |         | 4 080    |          | 10 200  | 2 700   |
| Produits Total Ht |          | 14 670  |          | 14 100  |         |         | 9 780    |          | 24 450  | 8 460   |

This window has a “**Graph**” button to display the results in graphic form (lines or bars).

Select a line by clicking in one of the cells of the calendar corresponding to the product to display.



## 6. Management of animals

Two cases are possible: WITHOUT or WITH movement of animals within the livestock. Those two cases involve different type of managing the animals input and outputs.

### 6.1. Animals WITHOUT movement of the livestock

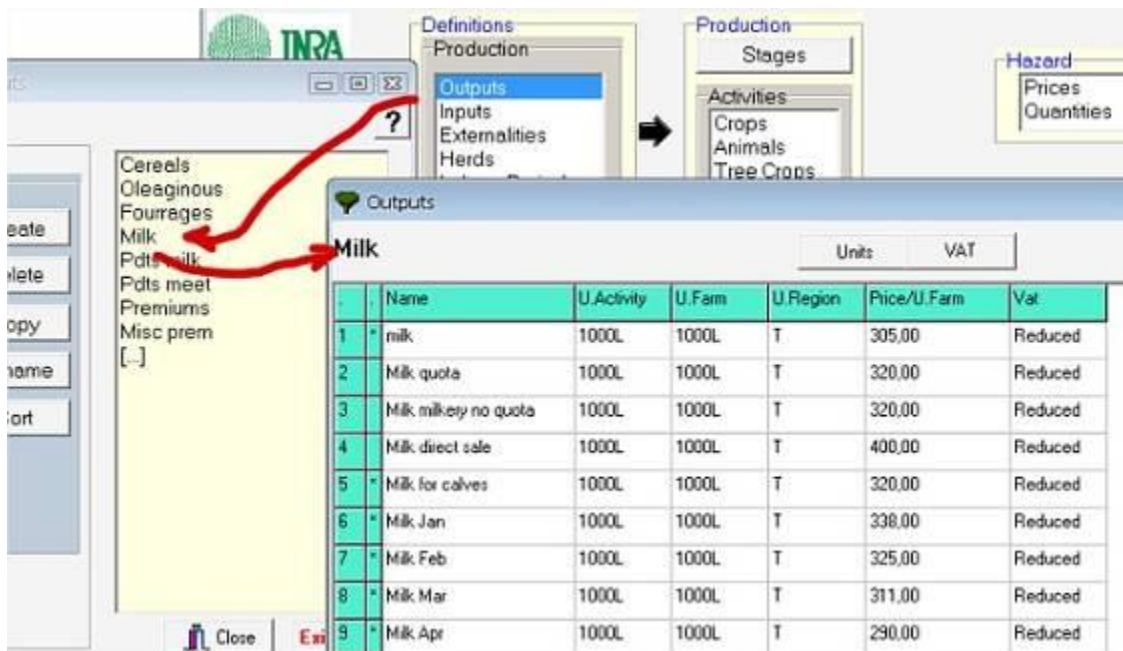
As there is no movement or evolution of animals within the herd (this last being constant), they can be managed like crops; i.e.: the description requires:

- Definitions of the outputs and inputs,
- Production workshop of animals,
- Farmer's production of animals.

The interest of this method is to present the livestock productions in a simple way by only considering the breeding systems.

#### 6.1.1. Definition of products, animals WITHOUT movement of the livestock

First, use the “**Definition → Products**” menu to describe the various products resulting from the breeding systems.

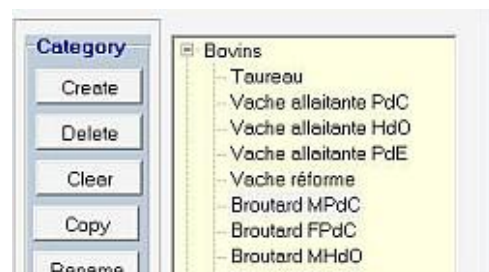


#### 6.1.2. Production Workshop of Animals Without movement of the livestock

After having defined all possible products, go to “**Production Workshops → Animals**”.

First, input the categories and sub-categories to describe.

Then, click on an existing sub-category or create a new one to open the corresponding “**Animal workshop**”.





Same presentation as crops with the various panels: Products, Costs, Costs related to quantity, externalities, labour, value of Fixed Assets.

### 6.1.3. Farmer, Production of animals without movement of the livestock

Go to the **Current Farmer** → **Productions** → **Animals**.

RESULTS CASH FLOW

ANIMALS

|   | NAME | Category | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|------|----------|------|------|------|------|------|
| 1 | Cow  | bovin    | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |

Click into the first empty "Name" cell or the cell you wish to modify and click on the **Animals** button. => The category depends on what was introduced in the Definitions.

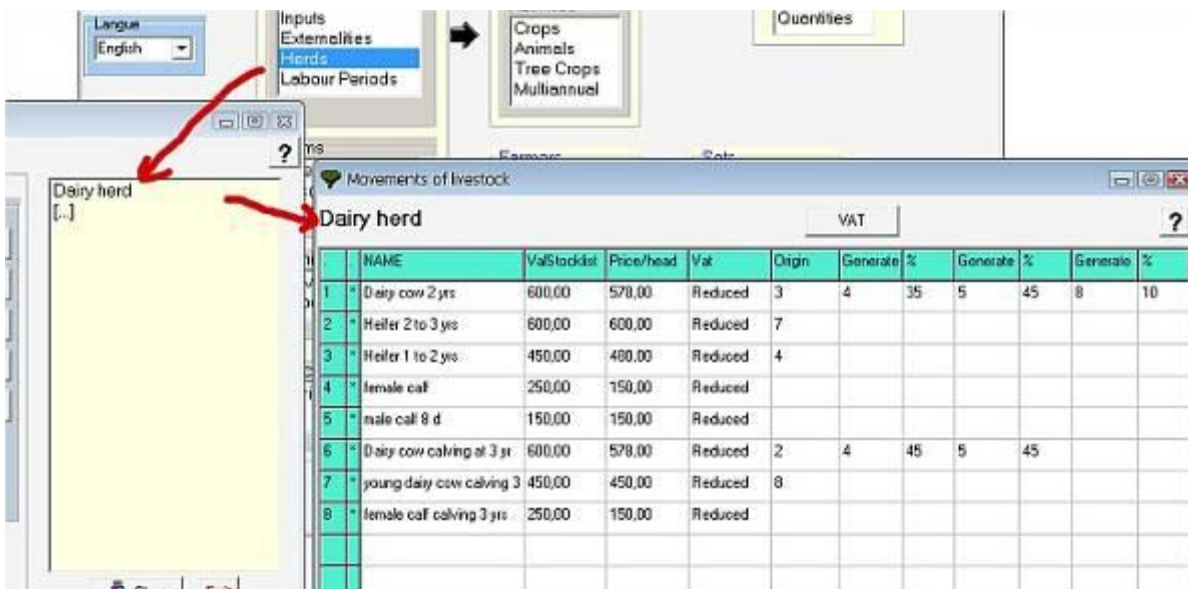
Input the **number** of animal(s) per year.

### 6.2. Herds, animals WITH movement of the livestock

In this case, the number of animals is changing; e.g. some animals can give birth, be sold or die. The herd module is used to manage the herd movements at the farm level, and adjust the outputs (products ...) and the inputs (operational costs ...).

#### 6.2.1. Definition of herds

First of all, it is necessary to create one or more herds. Click on **Definition** → **Herd** to open the list of available animal categories to describe. Then, click on an existing category or create a new one to open the table.



Create or select a category (example: dairy cows). This will open the definition table of the herds.

Then, Enter:

- The **Names** of the type of animals: All types of animals are considered as products: i.e. they can be bought, sold or be consumed in midterm. For example: dairy cows, cows, bulls, 1 year calf, 2 years calf, heifers 1 year, heifer 2 years etc.
- Their **stocktaking** values (from the accountant level)
- Their **prices** per capita of cattle
- Their rates of **VAT**
- Their **origin** compared to the animals of the herd listed in the lines below: typically, the dairy cows come from 2 year old heifers, which themselves comes from 1 year old heifers, etc.
- **Generate** and **%**:
  - Put the number of the line below corresponding to the animal generated. For example, the cow (line 1) generates (gives birth to) one female calf (line 4) with 35% of success AND generates a male calf (line 5) with 45% of success AND generates ...
  - The % of generated animals can be > 100% for rabbits or pigs, according to the reproduction cycle, etc

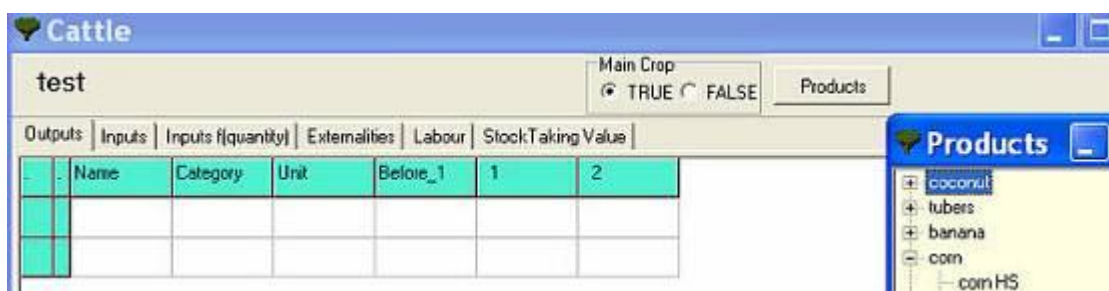
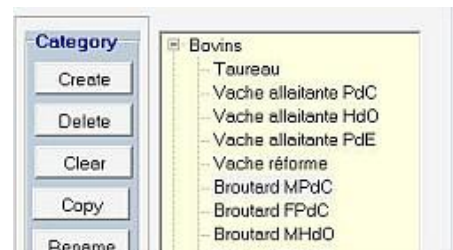
Repeat the procedure for Generate 2, Generate 3, etc.

### 6.2.2. Production Workshop for animals

Like crops, animals from a herd (or not) supply products, consume goods, expenses proportional to the quantity, and create positives or negatives externalities, need labour and have Fixed Asset values.

First, input the categories and sub-categories to describe.

Then, click on an existing sub-category or create a new one to open the corresponding "**Animal workshop**".



The Costs can be a function of the quantity produced. Use the panel **Costs = f (quantities)**. For example: the quantity of concentrate can be related to the production of milk.

The outputs and inputs created here will be "Inputs/Outputs" in the farmer's Herd module.



### 6.2.3. Current Farmer, Herds

In the Current Farmer → Production menu, click on **HERDS** to reach the following frames.

#### 6.2.3.1. Types of herds



#### 6.2.3.2. Herd, Maximum number of animals per category

For each type of animal in the herd, input the maximum number of animal. This will define the maximum threshold. Animals in excess will automatically be sold at the selling price fixed in the next panel.

#### 6.2.3.3. Herd, Average Selling Price

Put the average selling price of the animals to be sold. The selling prices indicated in Definition → Herd are indicated by default. But, it is possible to modify these prices yearly.

#### 6.2.3.4. Herd, Stocktaking value

In the “**Repro O/N**” box, input O (yes) if the animal is a breeder and N if the animal is not a breeder.

Next, put the stocktaking value of each animal. The software will automatically put the reproductive animals in fixed assets, while the other animals will be put in Stock.

#### 6.2.3.5. Herd, Purchase and Buying Price

Put the average buying price of the animals.

#### 6.2.3.6. Herd, Movement of animals

Input the numbers of animals at the beginning of the production year then click on **simulate**, so that the sales of animals are automatically displayed. The number of animals corresponds to the number at the closing date of the considered production year.

First, choose whether the number of animals is dynamic (with movement between lines) or constant throughout successive years.

| Nature                 | Maxi                 | Selling price | Stocktaking value | Purchase | Buying Price | Movement | inputs/outputs | Result |      |      |      |      |
|------------------------|----------------------|---------------|-------------------|----------|--------------|----------|----------------|--------|------|------|------|------|
| <b>animal Dynamic</b>  |                      |               |                   |          |              |          |                |        |      |      |      |      |
| Numbers at end of year |                      |               |                   |          |              |          |                |        |      |      |      |      |
|                        | Name                 | Beginning     | 2004              | 2005     | 2006         | 2007     | 2008           | 2009   | 2010 | 2011 | 2012 | 2013 |
| 1                      | Dairy cow 2 yrs      | 2             | 4                 | 6        | 55           | 65       | 75             | 75     | 75   | 75   | 75   | 75   |
| 2                      | Heifer 2 yrs         |               |                   |          | 5            | 5        | 5              | 5      | 5    | 5    | 5    | 5    |
| 3                      | Heifer 1 yr          |               |                   | 25       | 18           | 19       | 25             | 25     | 25   | 25   | 25   | 25   |
| 4                      | Veal female          |               | 1                 | 2        | 3            | 20       | 25             | 25     | 25   | 25   | 25   | 25   |
| 5                      | Veal male            |               | 1                 | 1        | 1            | 1        | 1              | 1      | 1    | 1    | 1    | 1    |
| 6                      | Cow vel 3 yrs        |               |                   |          |              | 10       | 5              | 5      | 5    | 5    | 5    | 5    |
| 7                      | Heifer 1 yr vel3yrs  |               |                   | 5        | 5            | 5        | 5              | 5      | 5    | 5    | 5    | 5    |
| 8                      | Veal female: vel3yrs |               | 1                 | 1        | 1            | 5        | 5              | 5      | 5    | 5    | 5    | 5    |

Number

Dynamic

Constant

Simulate

Clear Buy/Sale

Clear Mvt

Result

Number

- Purchase
- Sales

Value

- Purchase
- Sales
- Stocktaking

To **manually buy and sale** animals: click on the cell you wish to modify (type and year). This will open a window with the detail of the inputs, outputs, purchase, sales, birth, and death of the animal.

**Heifer 1 year**

|       |    |           |     |  |  |
|-------|----|-----------|-----|--|--|
|       |    | Sale      |     |  |  |
| Start | 19 | Number    | 15  |  |  |
| Sold  | 15 | PRICE     | 480 |  |  |
| Buy   | 16 | Purchase  |     |  |  |
| Born  | 0  | Number    | 16  |  |  |
| Dead  | 0  | PRICE     | 0   |  |  |
| In    | 40 | In        |     |  |  |
| Out   | 35 | Number    | 40  |  |  |
| End   | 25 | Origin    | 4   |  |  |
|       |    | Out       |     |  |  |
|       |    | Number    | 35  |  |  |
|       |    | Destinati | 1   |  |  |

Calculate

OK

1 VL velage 2 ans

2 Genisses 2 / 3 ans

3 Genisses 1 a 2 ans

4 Veaux femelles

5 Veaux males

6 VL velage 3 ans

7 genisses 1

Nbre of animals sold + price

Nbre of animals bought + price

Nbre of animals from line No

Nbre of animals to send to line

Then, press on the **Calculate** button, the software puts new results in the End cell.

Click on **OK** to confirm and update the figures in worksheet. The software recalculates the numbers in the following categories.

Use **Result** to display the results of the movement of animals purchased or bought in:

- Number,
- Value.

**Other menus at the bottom of the window:**

Set Buy / Sale values to zero.

Set movement of animal numbers to zero.

These data will be used in **Farmers → Results → Incomes & Expenses**.

**6.2.3.7. Herd, Products and Costs**

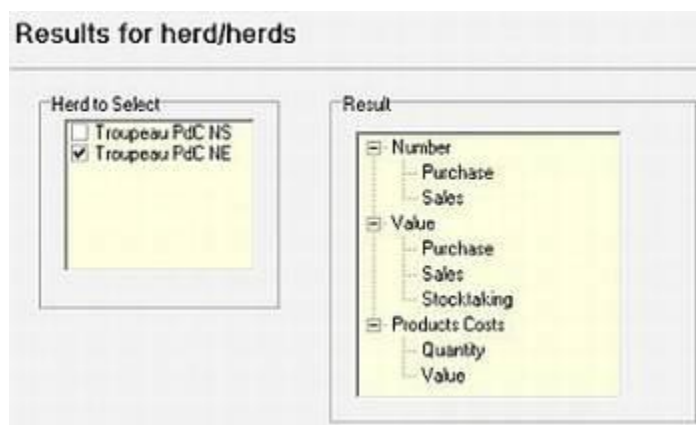
Place the cursor in the cell in the column of the year to input and the line of the animal to describe, click on the "**Products/Costs**" button and select the corresponding animal (as created in **Definitions → Herds**) and choose an Output or an input previously described in **Production Workshop → Animals**.

Use the button "**None**" to clear the content of a cell.

| Troupeau PdC       |               |              |               |                   |              |   |              |                                     |              |
|--------------------|---------------|--------------|---------------|-------------------|--------------|---|--------------|-------------------------------------|--------------|
| Nature             |               | Maxi         | Selling price | Stocktaking value | Purchase     | Buying Price                                    | Movement     | Inputs/Outputs                      | Result       |
| Inputs and Outputs |               |              |               |                   |              | <input type="button" value="Produits Charges"/> |              | <input type="button" value="None"/> |              |
|                    | NOM           | 2005         | 2006          | 2007              | 2008         | 2009  | 2010         | 2011                                |              |
| 1                  | taureau       | Taureau      | Taureau       | Taureau           | Taureau      | Taureau   | Taureau      | Taureau                             | Taureau      |
| 2                  | broutard MPdC | Broutard MPc | Broutard MPc  | Broutard MPc      | Broutard MPc | Broutard MPc                                    | Broutard MPc | Broutard MPc                        | Broutard MPc |
| 3                  | broutard FPdC | Broutard FPd | Broutard FPd  | Broutard FPd      | Broutard FPd | Broutard FPd                                    | Broutard FPd | Broutard FPd                        | Broutard FPc |

**6.2.3.8. Herd, Results**

This panel displays the number of animals bought and sold, their sales and purchases values, and the stock.



Click on the **name** of the herd you wish to view the result by checking the box, and then click on the desired results:

- **Number:** give the number of animals **sold** or **bought**
- **Value:** give the total value of each type of **sold** or **bought** animal and the selected herd **stocktaking** value.
- **Products/Costs:** give the products or costs related to the herd in **quantities** or **value**.

If a modification is done after having clicked on **Simulate** (*in the Movement tab*), it is necessary to click again on this button so that the software makes the necessary calculations and displays the final corresponding results.

#### 6.2.4. Note on the outputs generated from the herds

In Definition → Outputs, you should consider:

- The types of animals sold (sale of calves, bulls, dairy cow, etc.).
- The products; e.g. milk, cheeses, eggs
- The various possible premiums.

They are then considered in the **Production Workshop → Animals**.

It is thus possible to produce a product “A” in workshop “A” (Example: production of a light grazing calf), which will later be reintroduced as cost in workshop “B” (fattening) as a product “B” (the light bull calf).

In this case, and every time a product resulting from the farm is used as intermediate consumption in a new workshop:

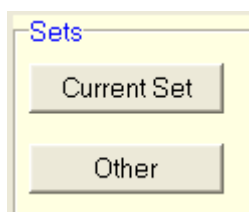
- you add up the total value of the products resulting from workshop A
- you introduce the product of A as costs in workshop B

The totality of the products per workshop is thus well considered and it is possible to compare the economic results of the various workshops (enter also all the costs, including self-consumed products). On the other hand, it does not modify the overall landlord’s treasury.

**PS:** Use the same easy way for all the self-consumed products within the farm. For example for the self-consumed cash crops (e.g. rice), you can develop the totality of the production in the rice production workshop and add the costs in the private account, at the same price, the actual self-consumed quantity (thus not sold).

## 7. Sets of Farmers

This module gives access to the production systems of one or more sets of farmers presenting the same selection criteria in order to make regional analyzes.

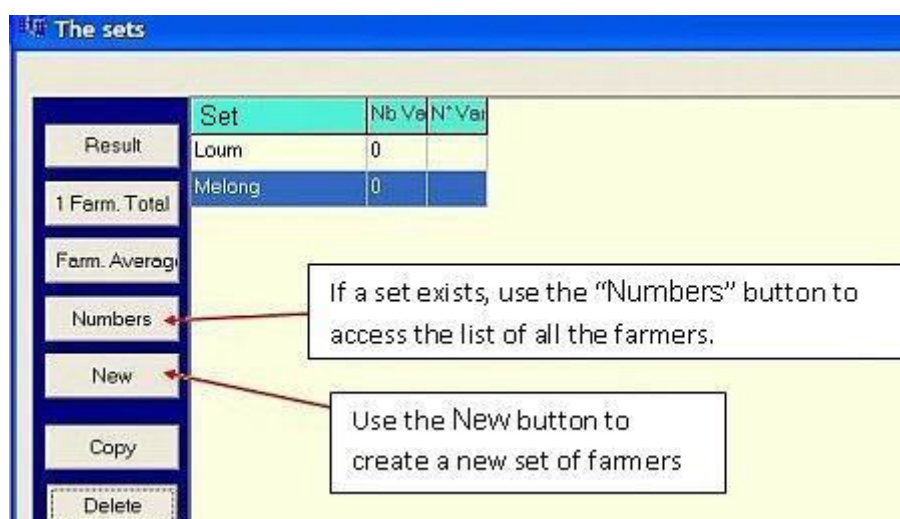


Access to the data of the last Set of farmers used.

Create or manage sets of farmers.

**Start with the other button** → **New** to create the Sets of farmers.

### 7.1. Sets of Farmers, New set



The first step will be to create a new set, click on New and give a name to the set.

If a set exists, you can manage the **numbers** of farmers in it.


Click on **Results** to go directly to the Farmer > Results module and display the results for all farms of the set.

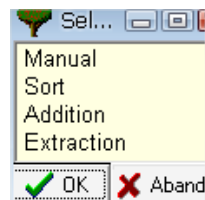
Sets of farmers can be managed as a single farm created from:

- The **sum** of data of all farms in the set
- The **average** of data of all farms in the set.

**Important notice:** Clicking on **1 Farm. Total** or on **1 Farm. Average** will create a new farms representing the group of farms. This new farm is added to the "**Farmers > Other**" table.

→ The resulting farms are managed like regular farms.

There are four options to create or add farmers. 



**Manual:** Click on manual and OK. Then, check the farmers to add in the set.

my set nb types= 2

| Farmer               | N° Var | typologie | zone | 2009 | 2010 | 2011 | 2012 |
|----------------------|--------|-----------|------|------|------|------|------|
| Total                |        |           |      |      |      |      |      |
| Chirac Frère         | 1      | D         | BRL  |      |      |      |      |
| Chirac Frère SCV1 Ir | 112    | D         | BRL  |      |      |      |      |

Click OK to fill the table. A TOTAL line is added first.

If a typology was defined prior to use sets, the titles of the columns correspond to the items defined as **Classification keys**.

Imerimandroso n° types= 3

| Farmer            | N° Var | typologie | zone | village         | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|-------------------|--------|-----------|------|-----------------|------|------|------|------|------|------|------|
| Total             |        |           |      | Added by Olympe |      | 100  | 100  | 100  | 100  | 100  | 100  |
| Chirac Frère      | 1      | D         | BRL  | DDD             | 100  | 80   | 60   | 50   | 30   | 10   |      |
| Chirac Frère SCV1 | 11     | D         | BRL  | DDD             |      | 10   | 30   | 30   | 30   | 50   | 50   |
| Chirac Frère SCV2 | 12     | D         | BRL  | DDD             |      | 10   | 10   | 20   | 40   | 40   | 50   |

A farmer represents himself, but also a type of farmer.

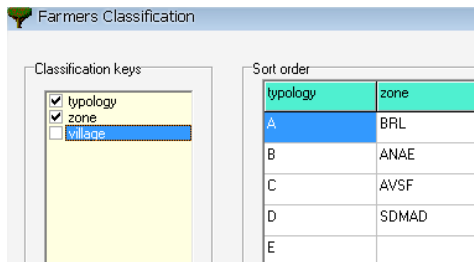
**To manage farmers, input:**

- The **number** of farmers corresponding to the farmer's type.
- Then, click on **SUM (Σ)** to fill the first (total) line.

**Sort:** is used to add farmers in a set using the classification categories.

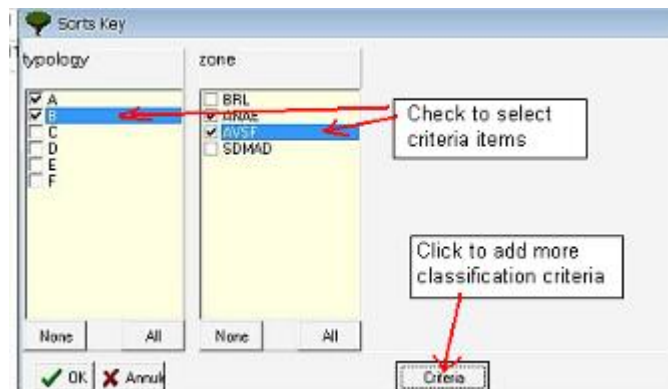
To add new farmers:

- Click on  to add classification keys.
- Check the classification keys to use. *The list of items is displayed in right window.*



Then, select items in the columns

Farmers corresponding to these items will be added.



**Addition:** is used to add all farmers included in one or more existing sets.

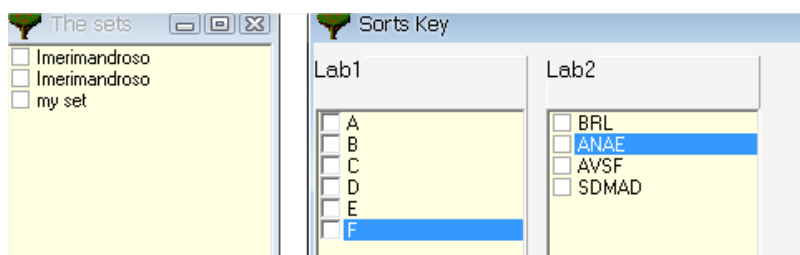
Click OK and check the set of farmers.



→ All farmers of the set(s) are added.

**Extraction:** is a combination of Addition and Sort.

Only farmers included in one or more sets **and** with specific classification options are added.







## 8. Hazards

Hazards are used to draw up prospective scenarios based on **Prices** or **Quantities**, etc.



The “hazards” module allows to:

- Reconstruct the past of a farm;
- Test the robustness of various technical itineraries in a farm.
- Test climatic hazards. Example: Could the farm support «*El Niño*» during 2 years?
- Could the farm stand a crisis on two major products during X subsequent years?

It is possible to integrate risks:

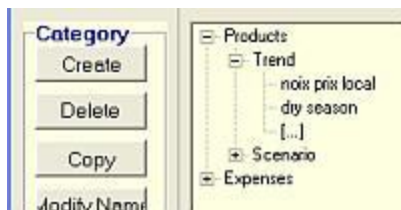
- **On prices:** e.g.
  - Output prices (e.g. impact of the volatility of international or local market prices)
  - Inputs prices (study of the uncertainty effect of fertilizer prices)
- **On quantities:** e.g.
  - Impact of climatic risks (dryness, floods, “*el Niño*”).
  - Externalities

Several risks can be combined. But, adding several risks can bring complexity thus preventing correct interpretation. It is thus necessary to focus on what is really expected to possibly show any induced modification. For example: a rise in the manure price implies a lower consumption of manure BUT also with a fall of yields. **THUS**, the use of a risk on manure price should actually be associated with a lower output.

After having defined the risks, you should create a copy of the selected farm (either copy it or create a variant). Then, use the comparison module to compare the farms **WITH** and **WITHOUT** risks to evaluate the impact of the risk.

### 8.1. Hazards on Price

Hazards on Price can be introduced on **Products** or **Expenses** in a form of **Trend** or **Scenario**.



Note that the columns headings are different when in **Trend** or **scenario**.

- **Trend:** For each year, input the product price or its evolution in value or percentage.

| PRICE: TREND: Product   |           |          |        |      |      |      |      |      |      |      |          |
|---|-----------|----------|--------|------|------|------|------|------|------|------|----------|
| dry season  |           |          |        |      |      |      |      |      |      |      | Products |
| <input checked="" type="radio"/> pcent <input type="radio"/> valeur |           |          |        |      |      |      |      |      |      |      |          |
|   | PRODUCT   | Category | Basis  | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006     |
| 1   | tomato HS | tomato   | 100.00 | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100      |

- **Scenario:** A scenario allows the definition of the product price or its evolution percentage for a series of annual type of A to J compare to the basis price. The types of years are defined in Farmers → Definition.

| PRICE: SCENARIO: Product  |                          |          |       |     |     |     |     |     |     |     |          |
|---|--------------------------|----------|-------|-----|-----|-----|-----|-----|-----|-----|----------|
| clim  |                          |          |       |     |     |     |     |     |     |     | Products |
| <input checked="" type="radio"/> pcent <input type="radio"/> valeur |                          |          |       |     |     |     |     |     |     |     |          |
|   | PRODUCT                  | Category | Basis | A   | B   | C   | D   | E   | F   | G   | H        |
| 1   | dry multlocal processors | coconut  | 0     | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100      |


Choose the product in the list. The whole line is filled with default values. But, each cell can be modified.

Choose whether data must be entered in Percentage or in Value.

## How to use

Select the **product** in the list: This will fill the 10 first columns. Each cell can be modified.

Choose if you wish to display the data in % or Value.

Use the button  to automatically fill the columns with increasing (decreasing) values.

Precision of data can be displayed with 0 or 2 decimals.

## 8.2. Hazards on Quantity

Hazards on Quantities can be introduced on **Products** or **Expenses** or **Externalities** in a form of **Trend** or **Scenario**.



Note that the columns headings are different when in **trend** or **scenario**.

- **Trend:** For each year, input the product price or its evolution in value or percentage.

| PRICE: TREND: Product |           |          |        |      |      |      |      |      |      |      |   |
|-----------------------|-----------|----------|--------|------|------|------|------|------|------|------|---|
| dry season            |           |          |        |      |      |      |      |      |      |      | Products  |
|                       |           |          |        |      |      |      |      |      |      |      | <input checked="" type="radio"/> pcent <input type="radio"/> valeur |
|                       | PRODUCT   | Category | Basis  | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006  |
| 1                     | tomato HS | tomato   | 100.00 | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   |

- **Scenario:** A scenario allows the definition of the product price or its evolution percentage for a series of annual type of A to J compare to the basis price. The types of years are defined in Farmers → Definition.


| PRICE: SCENARIO: Product |                         |          |       |     |     |     |     |     |     |     |   |
|--------------------------|-------------------------|----------|-------|-----|-----|-----|-----|-----|-----|-----|---|
| clim                     |                         |          |       |     |     |     |     |     |     |     | Products  |
|                          |                         |          |       |     |     |     |     |     |     |     | <input checked="" type="radio"/> pcent <input type="radio"/> valeur |
|                          | PRODUCT                 | Category | Basis | A   | B   | C   | D   | E   | F   | G   | H   |
| 1                        | dry nutlocal processors | coconut  | 0     | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100   |

Choose the product in the list by clicking on the **Product** button. The whole line is filled with default values, but, each cell can be modified. Then, choose whether data must be entered in Percentage or in Value.

### How to use

Select the **product** in the list; this will fill the 10 first columns. Each cell can be modified.

Choose if you wish to display the data in % or Value.

Use the button  to automatically fill the columns with increasing (decreasing) values.

Precision of data can be displayed with 0 or 2 decimals.

## 8.3. Hazards, Examples

### 8.3.1. Hazards, rubber trees

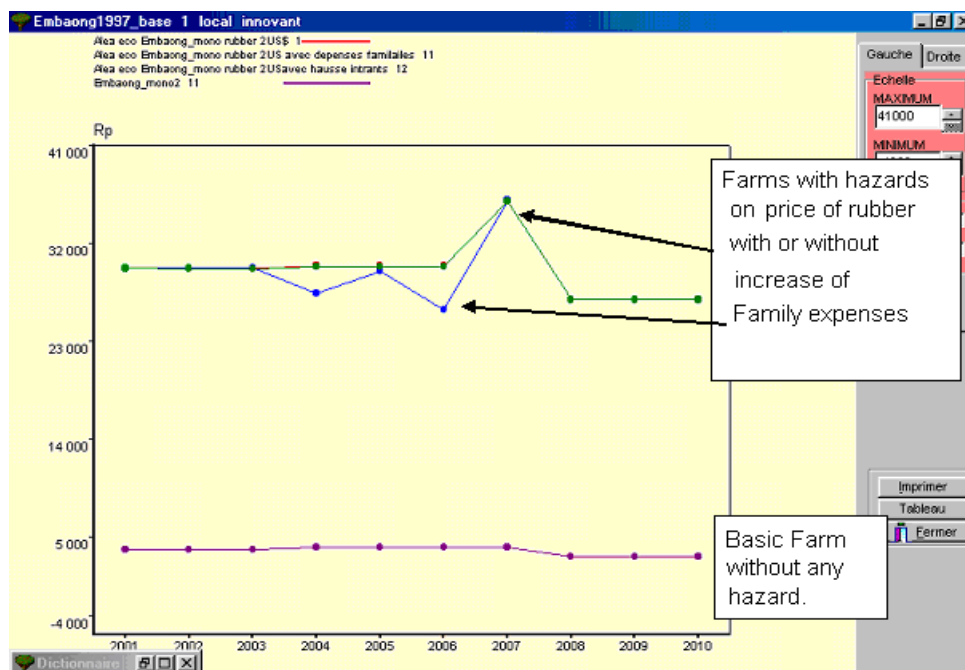
A basic farm was created (with rubber trees only) and their alternatives with one or more other crop, farming systems (palm tree with oil palm and clone rubber, improved Agroforestry system).

Farms with and without risks are created to facilitate comparison.

To display the results of the comparison: go to the farmers' module and choose one of them. Then, go to **“Result”** → **“Comparison”**.

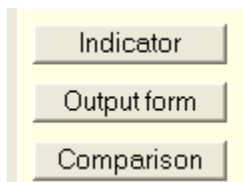
### 8.3.2. Hazards, Example of comparison on the balance

Balance = (Net margin - family expenditure)



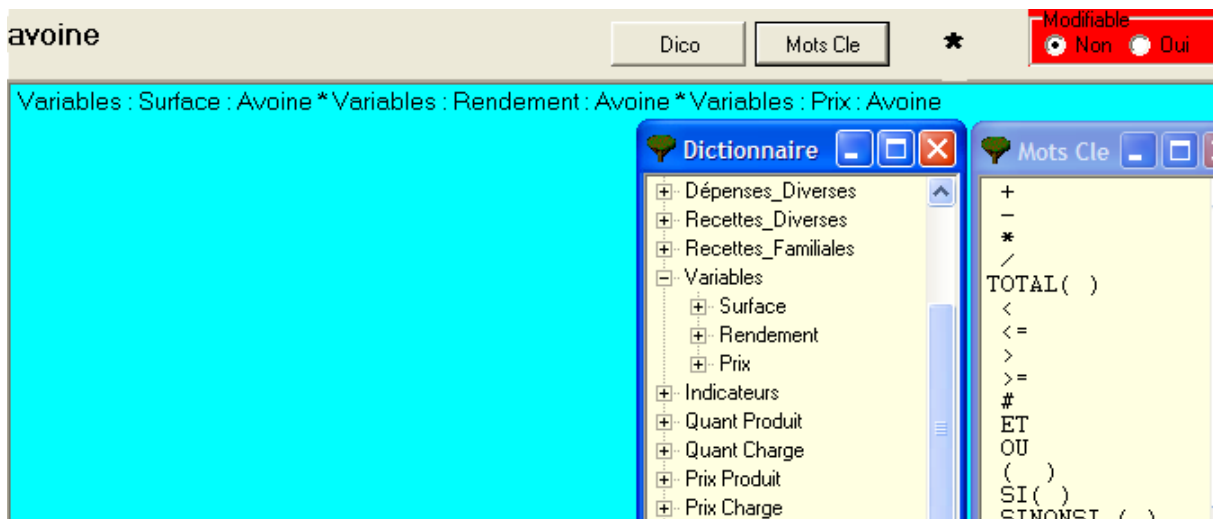
In this case, the impact of an increase of price of the rubber of US \$ 0.5 to 2, with or without increase in the family expenditure is evident.

## 9. Customizations



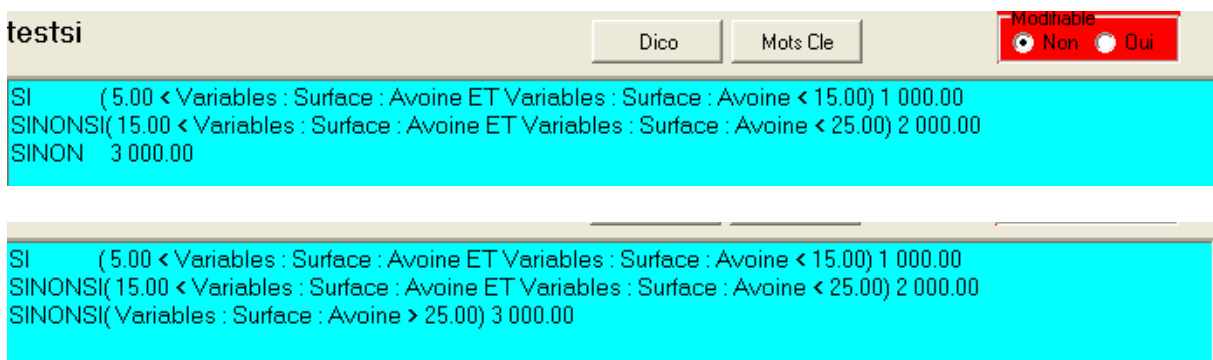
### 9.1. Indicators

This module is used to build your own indicators (i.e. specific calculation items to describe the farm, custom ratios, etc.), not provided by Olympe, but useful and significant for the user.



Use the keywords and the definitions from the dictionary to write formulas.

Examples of indicators:



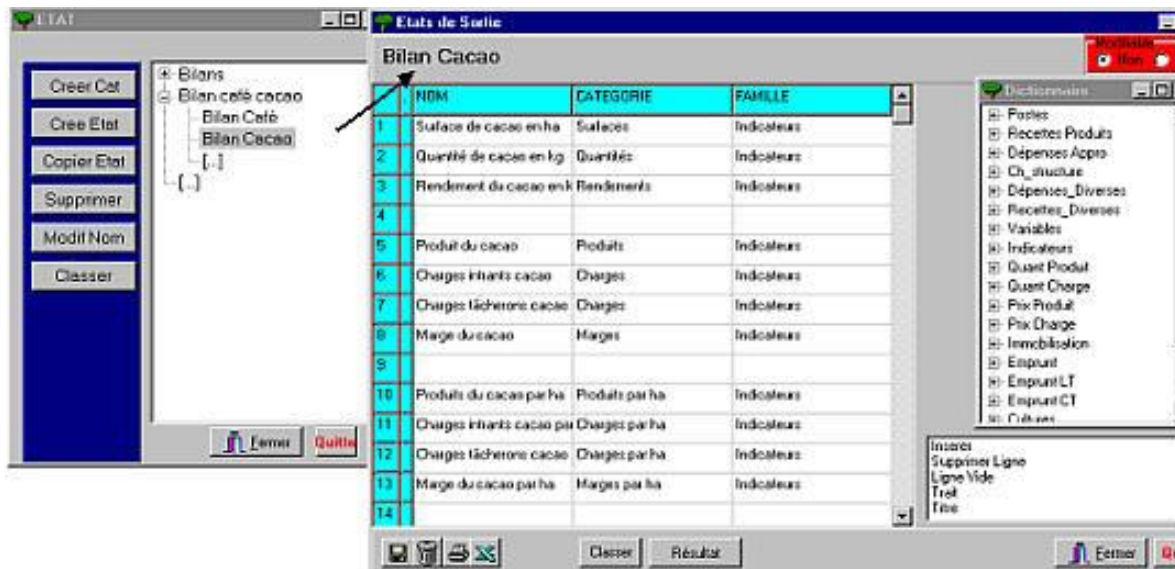
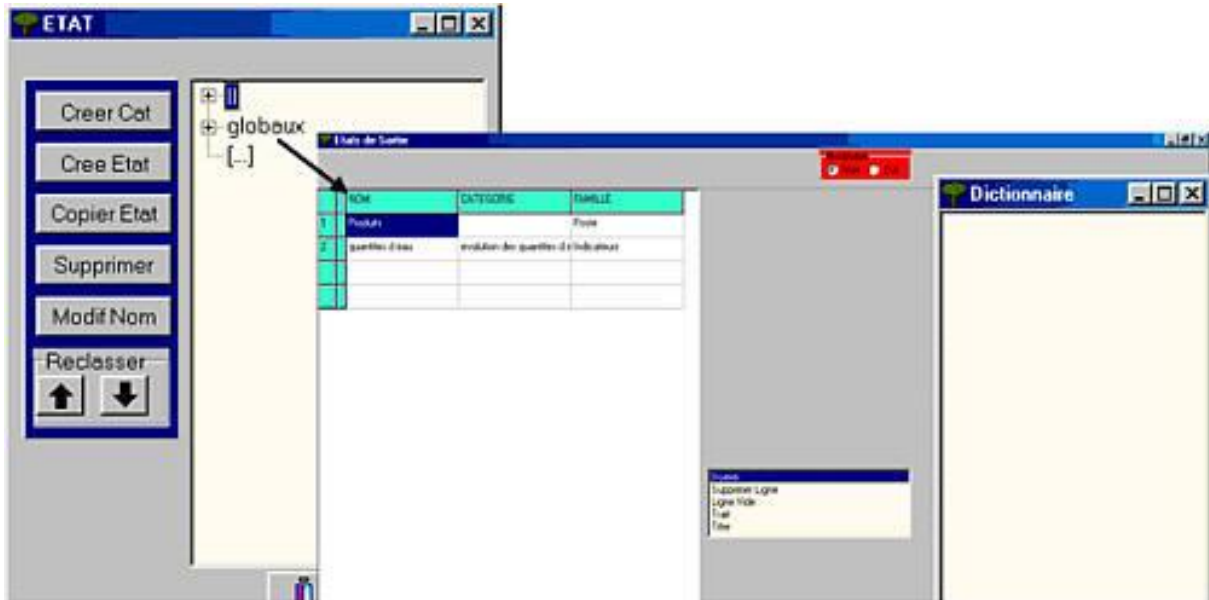
An indicator can use another indicator defined earlier.

In the event of more complex calculations, it might be more convenient to use Ms Excel.

## 9.2. Output Forms

Custom output forms can use custom indicators or data. They are used in Farmer → Results.  
Then: → Standard → Output Form.  
→ Comparison → One Item

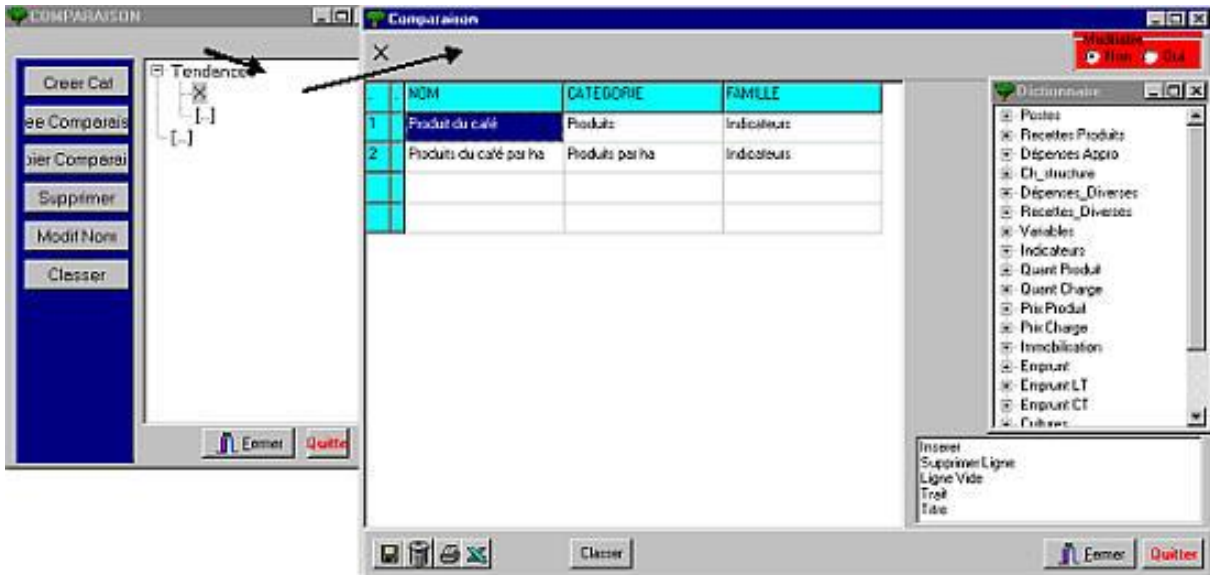
### Construction of output form:



### 9.3. Comparison Forms

Comparison Forms are used to compare different variants, different farmers among themselves, applying a same production hazards for a group of farmers. This allows observing the evolution of each farmer in view of the unexpected.

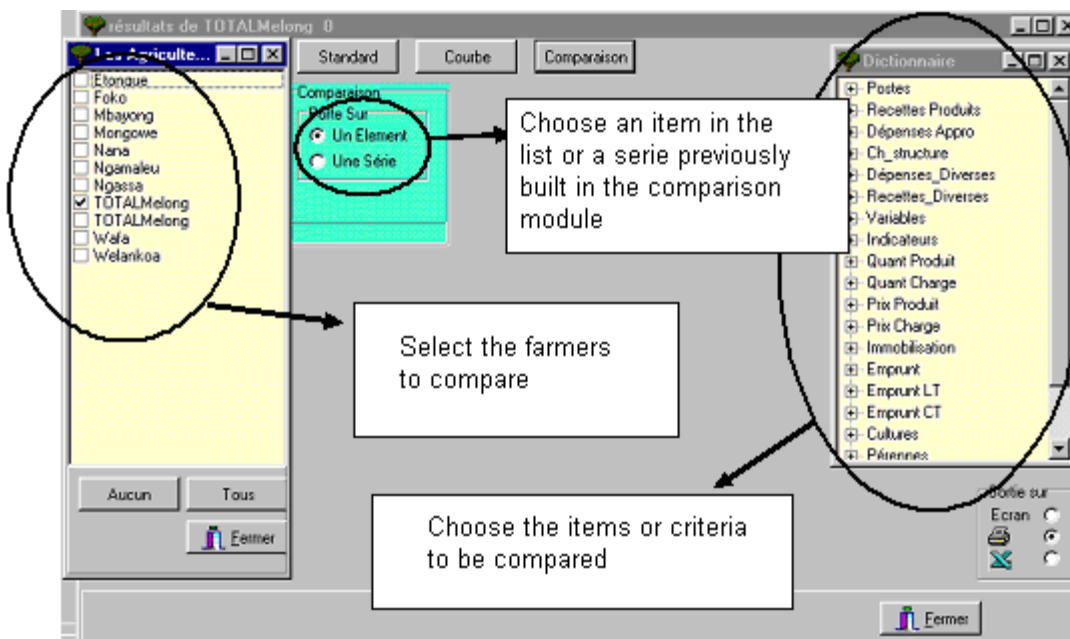
#### Construction of Comparison Forms:



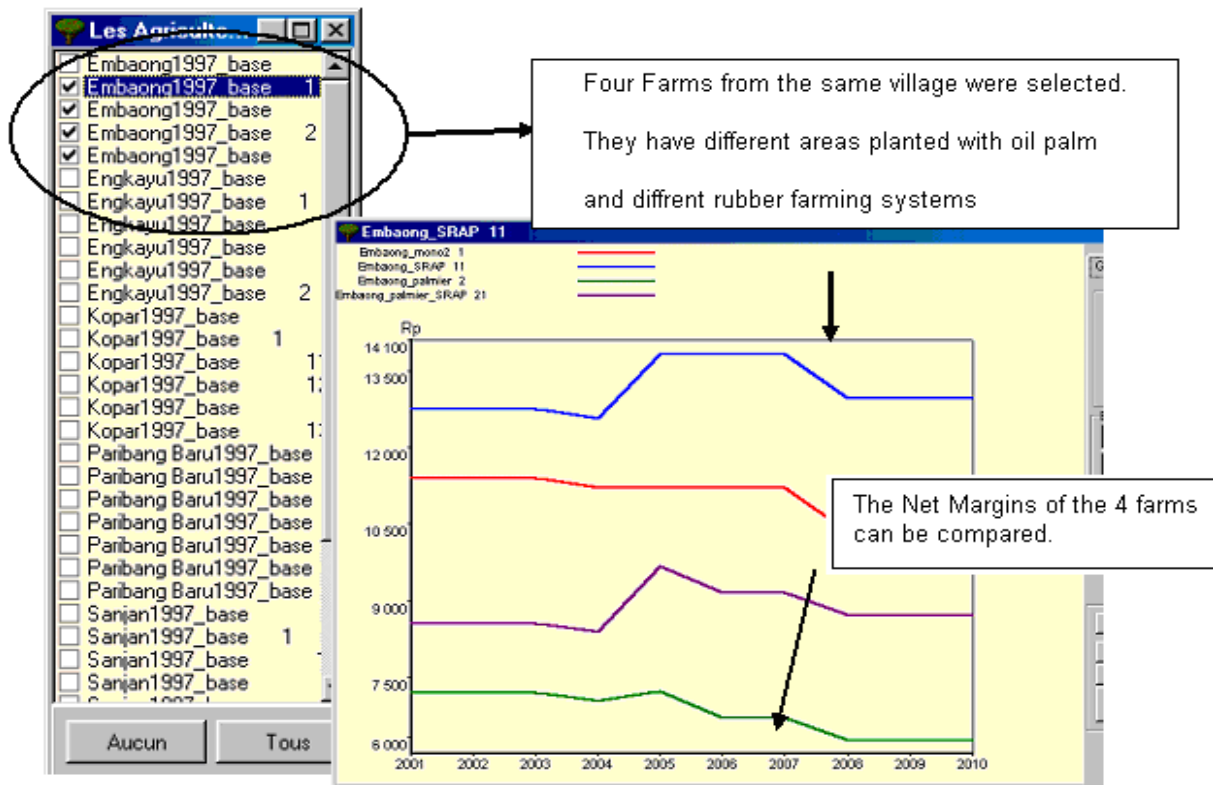
These series will be later used directly in «farmers» then «results» then comparison with the choice of «series».

Or else, we compare the farmers on one item!

#### Comparison between farmers:



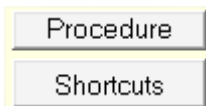
Example of comparison of several types of farmers in a same village: we can compare also from «Farmer» → «Results» → «Comparison».



**Note:** Farmers can double their production by moving from “traditional jungle rubber” to “super innovative” i.e. by adopting palm oil clone systems.



## 10. Other modules

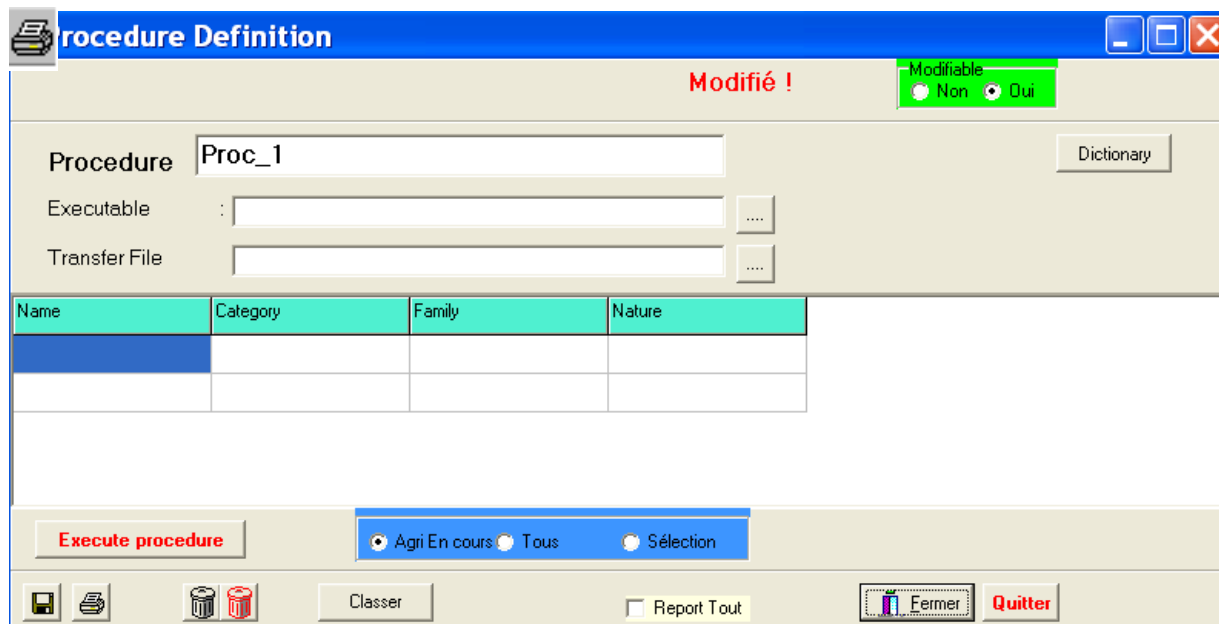


### 10.1. Procedure, module for interactivity

One of the objectives is to enable each farmer to introduce rather simple decision rules, which would include custom conditions or solutions.

The decision rules can be related to a certain number of financial items or possible actions, such as the family expenditure, investments (related to the accrued capital, etc.), on cropping plans, loans, and modifications of the crop replacement ...

In addition of manual simulation decision mechanisms, it would enable making more complex modelling; e.g. with conditions (if... then.).



The screenshot shows the 'Procedure Definition' window. At the top, there is a blue title bar with the text 'Procedure Definition' and standard window control buttons. Below the title bar, a red status indicator 'Modifié !' is visible. To the right, there is a 'Modifiable' section with radio buttons for 'Non' and 'Dui', where 'Dui' is selected. The main area contains a 'Procedure' field with the value 'Proc\_1' and a 'Dictionary' button. Below this are fields for 'Executable' and 'Transfer File', each with a dropdown arrow. A table with four columns: 'Name', 'Category', 'Family', and 'Nature' is present, with the first row highlighted in blue. At the bottom, there is a 'Execute procedure' button and a selection area with radio buttons for 'Agri En cours', 'Tous', and 'Sélection', where 'Agri En cours' is selected. The footer contains several icons and buttons: a save icon, a print icon, a trash icon, a 'Classer' button, a 'Report Tout' checkbox, a 'Fermer' button, and a 'Quitter' button.

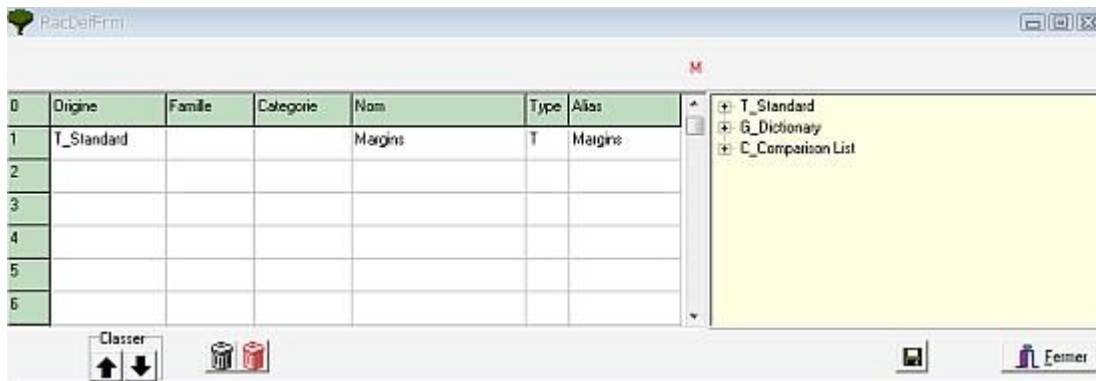
This module allows some interactivity with other software giving it more comprehensive modelling. Specific modules will be developed with researchers on request.


## 10.2. Shortcuts

This module is used to create shortcuts in the "**Farm -> Result**" window in order to reduce the number of mouse clicks required when doing comparisons of farms.

Three types of shortcuts can be programmed:

- Standard tables,
- Standard graphs,
- Custom tables (done using the comparison form module).



Once finished creating the list of shortcuts, click on the . This will save the shortcuts into a new file named "Raccourcis.csv".

Then, shortcuts can be used in the "**Farm -> Result**" module.



**Important notice:** The "Raccourcis.csv" file must be deleted before using a new or different .oly file.