CROP AND LIVESTOCK ENTERPRISES

The last two submenus of the **Data** menu, namely crop and livestock enterprises, are discussed in this chapter.

6.1 CROP ENTERPRISES *(Data | Crop enterprises)*

Three speed buttons appear at the top of this form, namely:

The irrigation speed button will jump to the irrigation system form.

The mechanisation speed button will jump to the mechanisation system form.

The operation speed button will jump to the operation database form.

The *Enterprise info* page lists the various crop enterprises. Each enterprise listed requires a maximum of six pages of input data. The first page contains the products that are produced by the specific enterprise. The monthly irrigation quantities and the operational data are entered on the next two pages. Distinction is made between inputs that are yield independent and variable on pages four and five, and must be entered accordingly. On the last page the additional labour, both permanent and temporary, must be entered.

6.1.1 ENTERPRISE INFO

All crop enterprises are entered if the model is run. A few or all enterprises can be included in the crop system. Different fields, prices, operations, etc. imply different crop enterprises in *FARMS*.

CROP ENTERPRISE

Each crop enterprise must have a unique name otherwise an error message appears, namely "key violation."

FIELD ID

Indicate on which field the specific crop is planted. Double-click in the column and once on the down arrow. Select a field by clicking on it once. These fields were entered under the data and land menu and submenu respectively.

SEASON

Indicates whether it is a perennial, winter or summer crop. Double-click on the cell and once on the down arrow. Make a choice by clicking on the word.

AREA (ha)

This refers to the planned field size for planting a specific crop enterprise. The area planted to the specific crop is entered in this column.

IRRIGATED?

Indicate whether the crop is irrigated. Double-click on the cell and once on the down arrow, as well as either on false or true.

IRRIGATION SYSTEM

Identify the irrigation system used to irrigate the specific crop. Double-click in the column and once on the down arrow. Choose an irrigation system by clicking on it once. This list of irrigation systems was entered under the irrigation system submenu in the data menu.

IRRIGATION (mm/ha)

The irrigation requirement of the specific crop.

6.1.2 PRODUCTS

The main and by-products of a crop enterprise are entered in this section.

MAIN PRODUCT

The program provides for only one main product. A main product has the largest gross income. Click on the down arrow next to the product name and select one by clicking once on the name. Enter a yield. Click on the down arrow next to the type of flow and select cash or credit by clicking once on the specific name. If the main product is harvested during one month enter one month, in the distribution of production table. Double-click in the month column and once on the down arrow. Total production is automatically calculated in the green cell. Two months with 50% each implies half is harvested during every month.

BY-PRODUCTS

All the other products are entered in this section.

PRODUCT NAME

Each product should have a unique name. Double-click in the column and double-click the specific product in the list. This list was compiled in the general menu under product prices. The unit is entered automatically

UNIT

The unit is entered automatically. To edit the unit go to the product prices submenu in the general menu.

PRICE/UNIT (R)

The price per unit is entered automatically. To edit the price, go to the product prices submenu in the general menu*.*

YIELD (unit/ha)

Enter the yield per hectare.

MONTH

The month during which the money for the by-product is received. Double-click in the column and once on the down arrow and the month to select a particular month.

TYPE OF FLOW

Select cash or credit in this instance.

6.1.3 IRRIGATION

In this section the irrigation under enterprise info is divided between the different months.

MONTH

Select the first month of irrigation. (The second month can be selected after the mm quantity is entered.) Double-click in the column and once on the down arrow and the month to select a particular month.

MM/HA

Enter the quantity irrigated per hectare. If the irrigation quantities of the various months do not sum up to the irrigation quantity provided under enterprise info, an error message appears.

DISTRIBUTION (%)

The program automatically calculates the distribution percentages in the green field.

6.1.4   OPERATIONS

Operation information of the specific enterprise is entered here and consists of two tables as well as their respective navigation bars. The first table on this page consists of a list of all the operations. After you have clicked on the post button to save the new data, or moved to the next record, the second table will be updated from the operation database. In other words the second table describes an entry in the first table. If two machine-implement combinations were given the same name in the operation database, both will appear in the table at the bottom.

6.1.4.1   ACTIVITY TABLE

OPERATION

To enter an operation double-click in the column. Select an operation by double-clicking on it.

MONTH

Enter the month during which the operation takes place by double-clicking in the column and once on the down arrow and the specific month.

% OF AREA (%)

Enter 100 if the operation is performed for the whole area. Less than 100 can also be entered. Enter 200 if the operation is performed twice in one month.

The working hours per hectare have to be provided by means of an input box which appears if hour was chosen as the cost calculation base. Users have to confirm whether or not the operation is yield dependent if the cost calculation basis is kilometres. Subsequently the

number of kilometres per trip/load is required by means of an input box that appears automatically if the operation is yield independent.

AREA (ha)
The program calculates the area of the operation.

6.1.4.2   OPERATION TABLE
The table is automatically compiled as operations are entered in the activity table. Small differences that did not justify separate entries in the operation database *(Data | Operation Database)* can be entered here.

MACHINE AS WELL AS IMPLEMENT 1 AND 2
Double-click in the column and on a machine to make changes.

COST CALCULATION BASE
Double-click in the column and once on the down arrow and either on width, hour or kilometre to alter the cost calculation base.

WORKING HRS/HA
The working hours are calculated automatically.

% OF AREA (%)
This percentage is 100 if only one machine/implement combination is available for an operation. Otherwise these percentages are calculated so that both machine implement combinations start and finish simultaneously. Enter values to overwrite the calculated percentages.

KW-SIZE (kW)
Sizes are imported and can be edited.

MAXIMUM LOAD (t)
Likewise maximum load can be overwritten.

WIDTH (m)
The imported width can be overwritten.

SPEED (km/h)
The speed at which operations are carried out is imported and can be altered.

WORK LOAD (%)

Work load percentages are imported from the operation database and can be edited.

FIELD EFFICIENCY (%)

The imported percentages can be changed.

WORKING HOURS/FIELD HOUR

These hours are entered automatically, but can be modified.

LABOUR HOURS/WORKING HOUR

Likewise these hours can be changed.

FUEL/HOUR (l/h)

The user can overwrite the calculated value.

WORK TEMPO (ha/h)

This calculated value can be overwritten.

6.1.5   YIELD INDEPENDENT INPUTS (PRE-HARVEST COST)

Pre-harvest cost is mainly accounted for in this section. However, contract harvesting paid per hectare also falls under yield independent inputs.

INPUT DESCRIPTION

To enter a new input item or to edit an existing input item double-click in the column. Double-click on the specific input.

UNIT

The unit is automatically imported from input prices *(General | Input Prices).*

MONTH

Double-click in the column applied and once on the down arrow and specific month.

TYPE OF FLOW

Double-click in the column and once on the down arrow. Subsequently click on cash or credit.

QUANTITY OF UNITS/HA

The quantity of input units used per yield unit should be entered.

6.1.6 YIELD VARIABLE INPUTS

Yield dependent harvest costs are accounted for in this section, for example contract harvesting paid per ton.

INPUT DESCRIPTION

Double-click in the column and subsequently on the input to make an entry.

UNIT

The unit appears as soon as the input description is imported.

% OF YIELD

Two entries are made if the crop is harvested during two months. Fifty is entered for both months if exactly the same quantity of product is harvested.

MONTH

The month during which the input is applied. Double-click in the column and once on the down arrow and specific month.

TYPE OF FLOW

Double-click in the column and once on the down arrow. Subsequently click on cash or credit.

QUANTITY OF UNITS/PRODUCT OF UNIT

The quantity of units used of the input item per hectare for a specific month.

6.1.7 ADDITIONAL LABOUR

In addition to the labour needed for mechanisation operations, additional labour may be needed in a specific enterprise. This additional labour can either be permanent or temporary. The difference between permanent and temporary labour is that permanent labourers receive a fixed payment at the end of the month by means of a salary and temporary labourers are paid per hour. Two entries have to be made if both permanent and temporary additional labour are needed during the same month.

MONTH

Click in the column and on the down arrow as well as the specific month.

MAN-HOURS

Enter the number of man-hours.

PERMANENT LABOUR? (NO/YES)

Double-click in the column and once on the down arrow as well as on either no or yes.

6.2 LIVESTOCK ENTERPRISES *(Data | Livestock enterprises)*

The enterprise info page lists the different livestock enterprises. Each enterprise requires seven pages of data. Products are managed on the first page and crop enterprises utilised on the second. Production independent and variable inputs are required on page three and four respectively. Stock flow receives attention on page five and insurance on page six. Finally labour is managed.

6.2.1 ENTERPRISE INFO

Among others all the livestock enterprises have to be listed on this page.

LIVESTOCK ENTERPRISE

Each livestock enterprise must have a unique name, otherwise an error message appears, namely "key violation."

UTILISATION OF BUILDINGS (%)

Enter 100 if only one enterprise utilises all the buildings specifically built for livestock.

UTILISATION OF EQUIPMENT (%)

Enter 100 if only one enterprise utilises all the equipment specifically bought for livestock.

6.2.2 PRODUCTS

Livestock products are divided into main and by-products.

MAIN PRODUCT

The program provides for only one main product. A main product has the largest gross income. Click on the down arrow next to product name and select one by clicking once on the name. Enter the production. Click on the down arrow next to type of flow and select cash or credit by clicking once on the specific name. If the main product is sold during one month, enter one month in the distribution of production table. Double-click in the month column and once on the down arrow and total production is automatically calculated in the green cell. Two months with 50% each implies half is sold during every month.

BY-PRODUCTS

All other products are entered in this section.

PRODUCT NAME

Each product should have a unique name. Double-click in the column and double-click the specific product in the list. This list were compiled in the general menu under product prices.

UNIT

Is entered when the product is selected.

PRICE/UNIT (R)

Price per unit is also automatically entered together with the product. This price can be changed under product prices in the general menu.

PRODUCTION (Number of units)

Enter the number of units.

MONTH

Double-click in the column and once on the down arrow as well as the specific month to select the time of sale.

TYPE OF FLOW

Double-click in the column and once on the down arrow. Click on either cash or credit to complete an entry.

CROP ENTERPRISE UTILISED

This page manages livestock enterprises that use the products of crop enterprises as inputs.

CROP ENTERPRISE

Click in the column and on the down arrow as well as the specific crop enterprise to make an entry.

UTILISATION (%)

Enter 20 if the livestock enterprise uses 20% of the product of the crop enterprise.

6.2.3 PRODUCTION INDEPENDENT INPUTS

Inputs that do not vary with the quantity of the main product are entered in this section.

INPUT DESCRIPTION

Double-click in the column and on the input to start a new entry.

UNIT

The unit is automatically entered with the input item.

MONTH

Double-click in the column and once on the down arrow as well as the specific month to enter this parameter.

TYPE OF FLOW

Double-click in the column and once on the down arrow as well as on either cash or credit.

QUANTITY OF UNITS/ENTERPRISE

Enter the quantity of input units used for the specific livestock enterprise.

6.2.4 PRODUCTION VARIABLE INPUTS

Inputs that vary with the quantity of the main product have to be entered on this page, for example the dosing of calves in a wean calf production system.

Double-click in the column and on the input to enter an input description.

UNIT

The input appears automatically if the input description is completed.

% OF PRODUCTION (%)

Enter 50 if the input is used for half of the main product. For example, elastics that are only used for bull calves.

MONTH

Double-click in the column and once on the down arrow as well as the specific month.

TYPE OF FLOW

Double-click in the column. Subsequently click on the down arrow and on either cash or credit.

QUANTITY OF UNITS/PRODUCT UNIT

Enter the quantity of input units used per product.

6.2.5 STOCK FLOW

The livestock structure is required in this section.

DESCRIPTION

Enter a unique name for each of the different livestock groups in the enterprise.

INITIAL AND FINAL QUANTITY

The number of animals in each group at the beginning and end of the analysis.

INITIAL AND FINAL MARKET VALUE/HEAD (R)

Enter the market value per head at the beginning and end of the analysis.

6.2.6 INSURANCE

Livestock insurance is attended to in this section.

DESCRIPTION

The descriptions from the stock flow page appear in this column. Type unique names for each group of animals if the stock flow section was not completed.

INSURANCE RATE (%)

The insurance is calculated automatically.

MONTH

Double-click in the column to select a month. Subsequently click on the down arrow and the specific month.

TYPE OF FLOW

Double-click in the column and once on the down arrow as well as on either cash or credit.

INSURANCE/YEAR (R)

Annual insurance is calculated automatically in the green column.

6.2.7 LABOUR

The number of man-hours needed in the specific livestock enterprise must be entered on the last page. These labourers can either be permanent or temporary. The difference between permanent and temporary labour is that permanent labourers receive a fixed payment at the end of the month by means of a salary and temporary labourers are paid per hour. Two entries must be made if permanent and temporary labourers are needed during the same month.

MONTH

Double-click in the column and once on the down arrow as well as the specific month.

MAN-HOURS

Enter the number of man-hours.

PERMANENT LABOUR? (NO/YES)

Double-click in the column and once on the down arrow as well as on either no or yes.