

*Demo
prepared by :*



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WELCOME
to
The Land Use Database :

Demo-7 : Query

Shown is how to carry out a Query

Emphasis is put on the following software aspects :

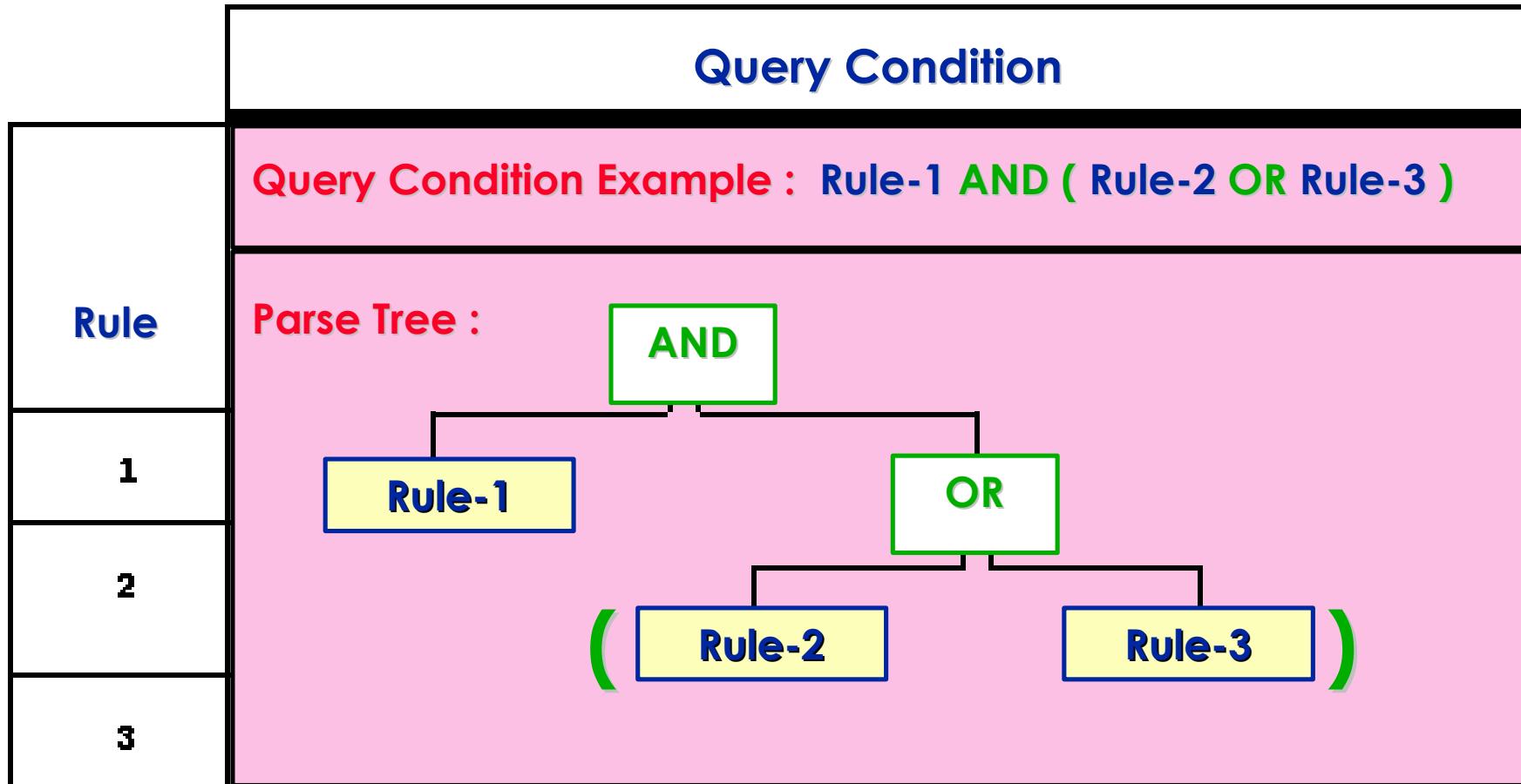
- 1 Select a query and define query settings.**
- 2 The functionality of the Approval File concept.**
- 3 How to define a query Condition.**
- 4 How to define query Output Fields.**
- 5 Run the query to get the required data.**

First some basic query info in a nutshell :

Query Condition			
Rule	Field Name	Criterion	
		Operator	Value
1	Administrative area	is equal to	Zimbabwe
2	Plot size	is larger than	0.5 hectares
3	Material input	is equal to	urea

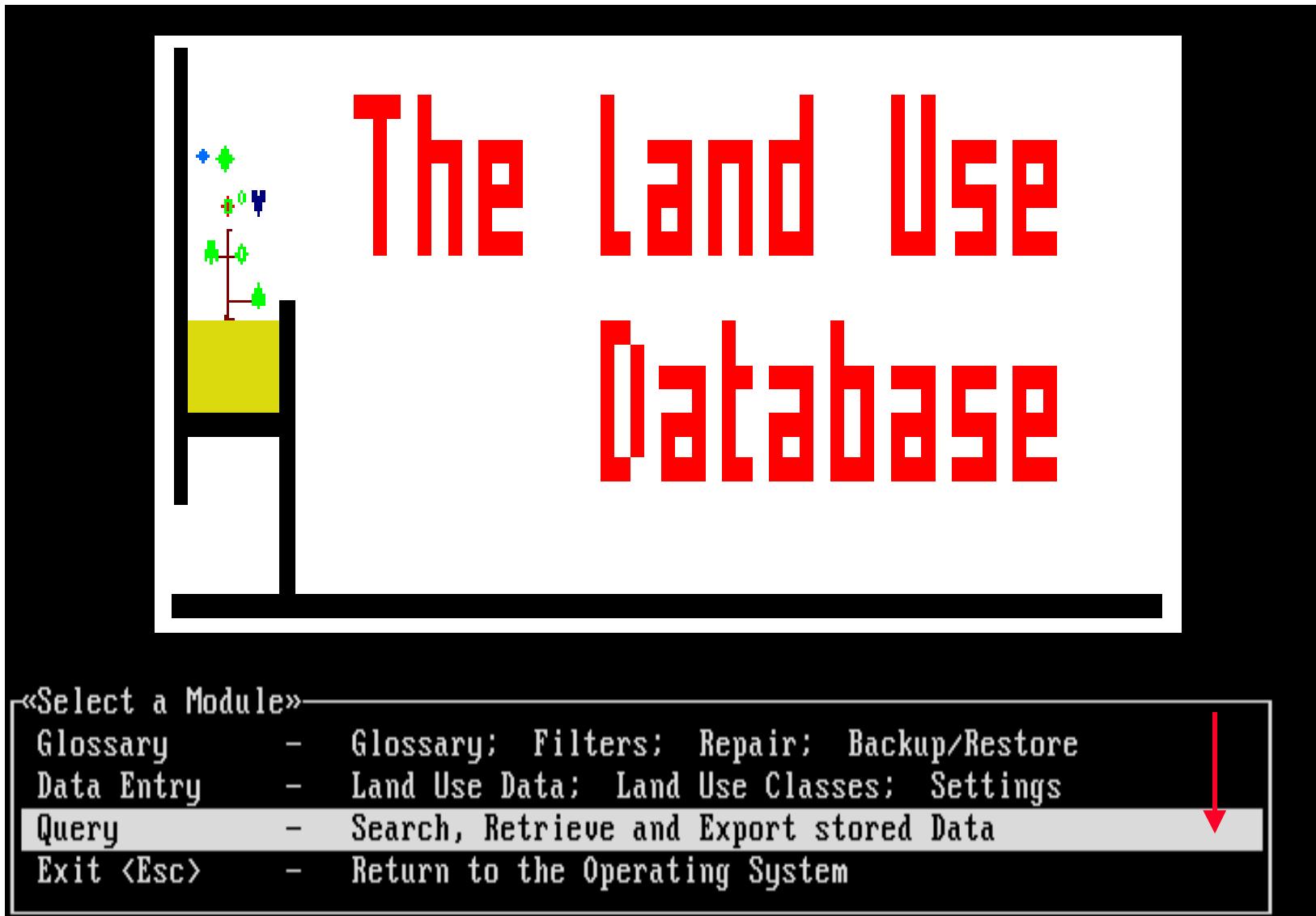
Keywords used to define a **Query Condition**
are : **Rule, Field Name, Criterion,**
Operator and Value.

Rules of one query can be combined using **AND**, **OR**, and **()**:



Besides the **Query Condition**, the selected fields to include in the query output must be selected; they are called : **Output Fields**.

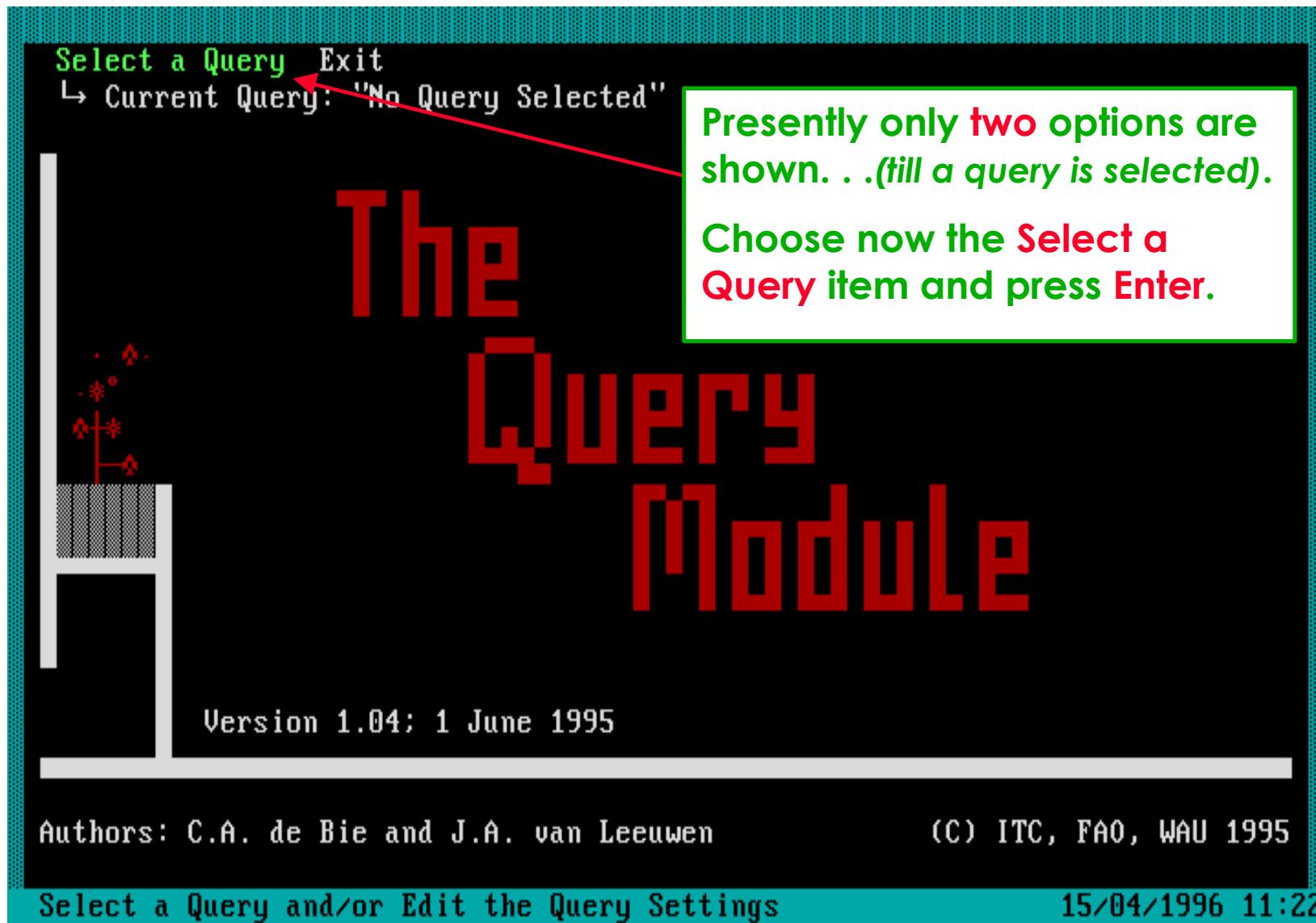
Now back to the software: select **Query** of the **Main Menu**.



Software aspect no.-1:

- 1 **Select a query and define query settings.**
- 2 **The functionality of the Approval File concept.**
- 3 **How to define a query Condition.**
- 4 **How to define query Output Fields.**
- 5 **Run the query to get the required data.**

Accordingly the **first** Main Menu of the **Query Module** will be shown.

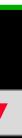


The **Queries** picklist shows that no queries were previously defined.

«**Queries**»
«**0**»

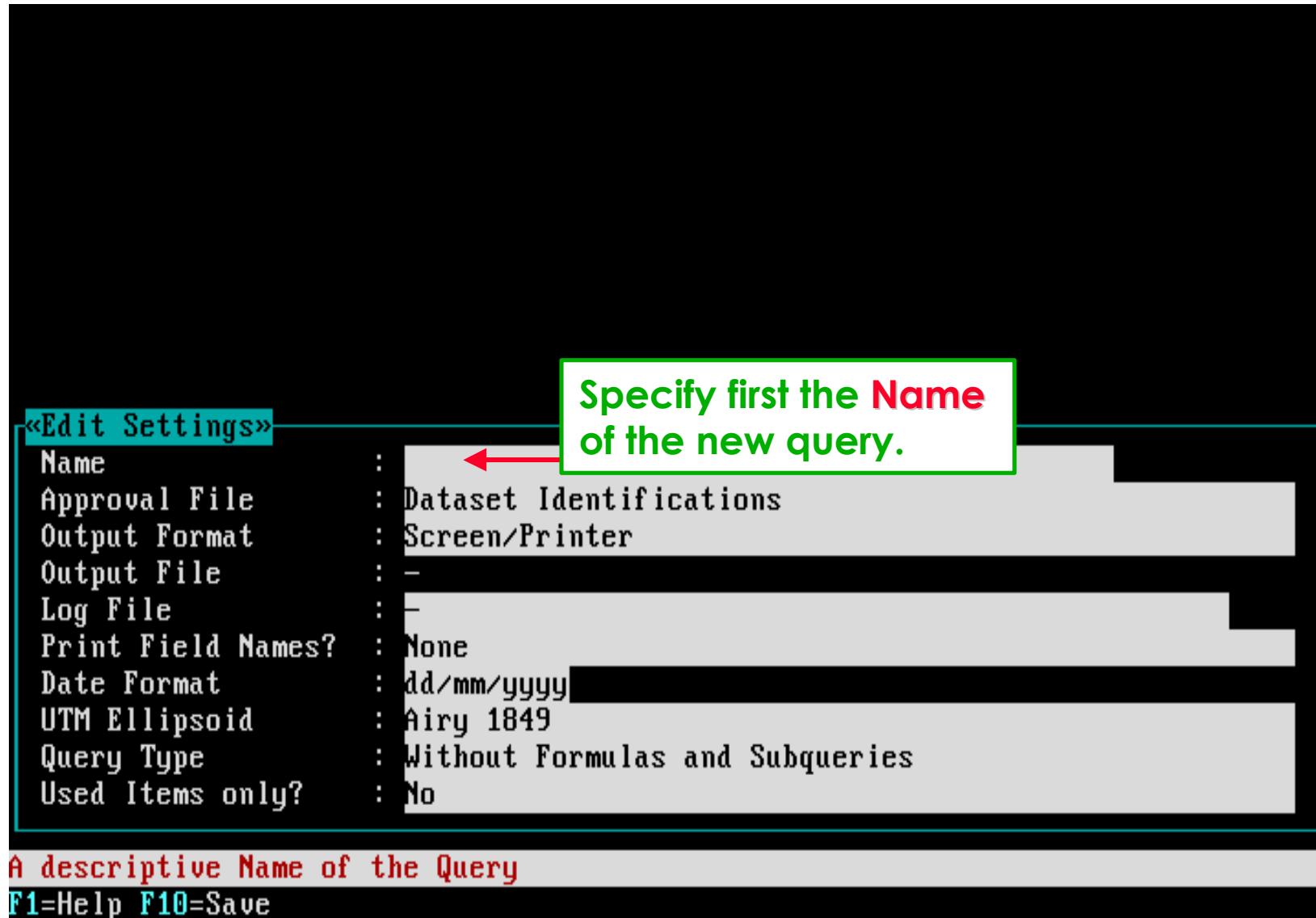
Before you can retrieve data, an existing query **must** be selected or a new one **added** . . .

To add a new
Query press **Ins.**

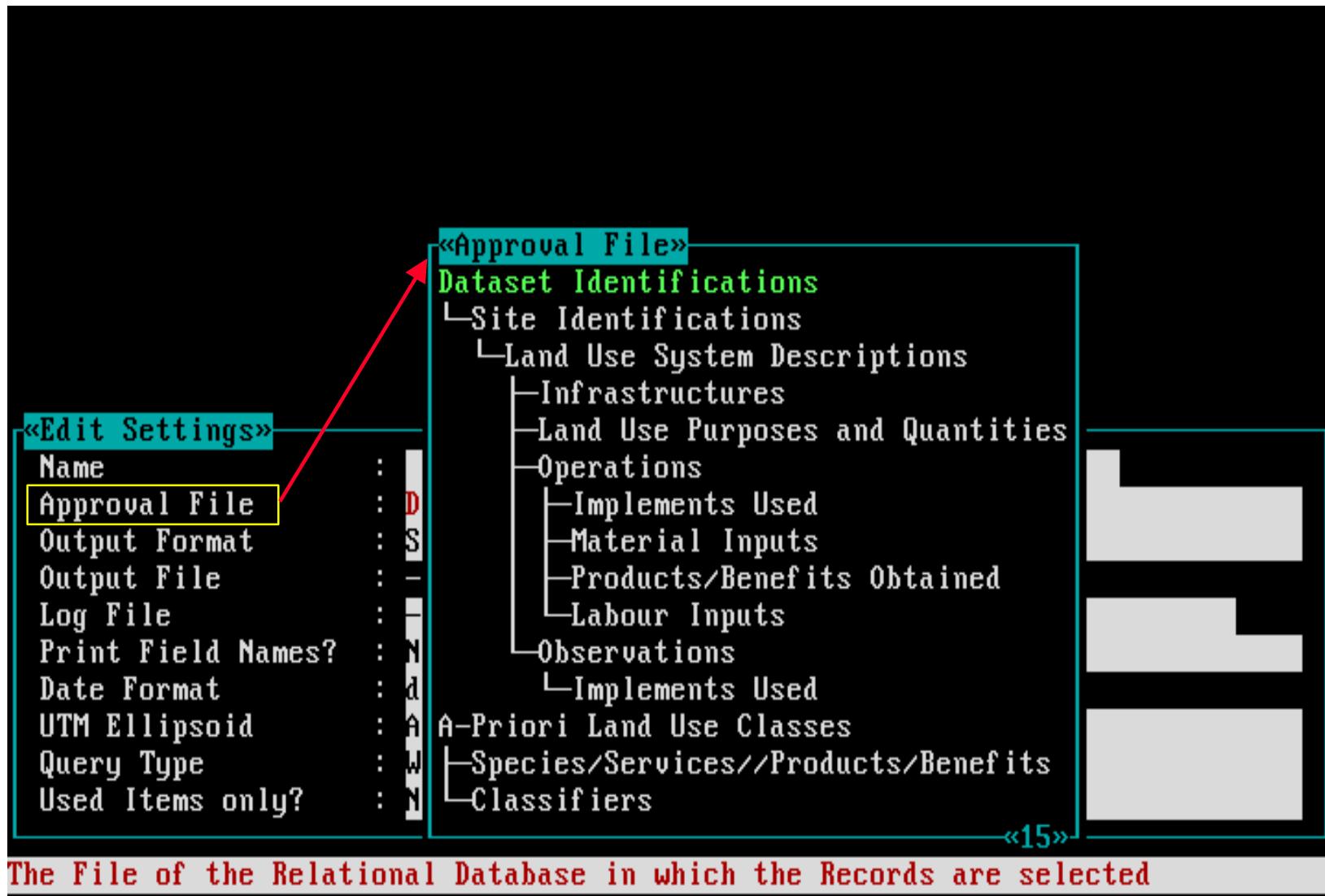


F1=Help **Ins**=Add

Then the **Edit Settings** screen will allow you to start defining a new query. Later the query rules and output fields must be specified.



Then the **Approval File** must be selected.



«15»

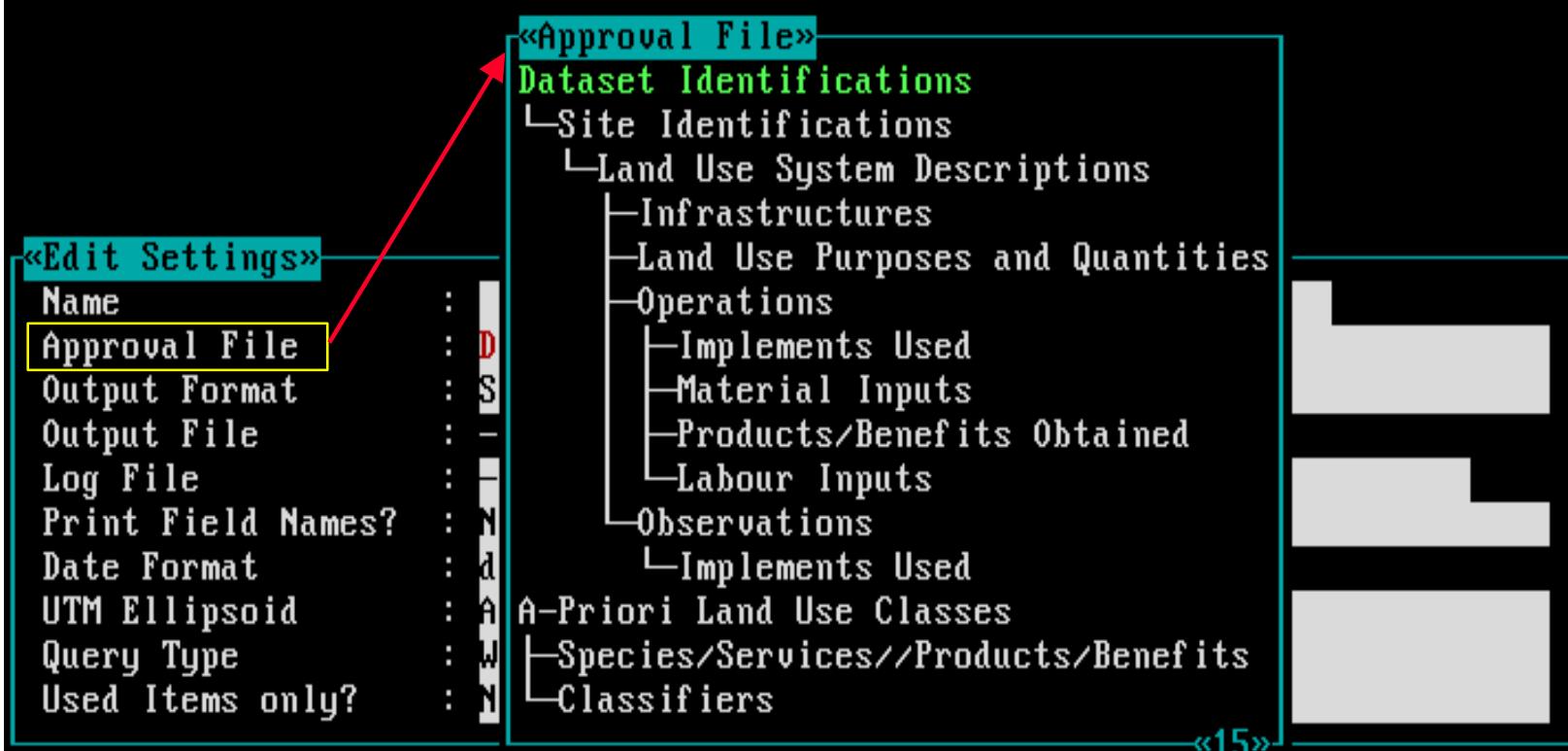
The File of the Relational Database in which the Records are selected
F1=Help

As intermezzo: Software aspect no.-2:

- 1 **Select a query and define query settings.**
- 2 **The functionality of the Approval File concept.**
- 3 **How to define a query Condition.**
- 4 **How to define query Output Fields.**
- 5 **Run the query to get the required data.**

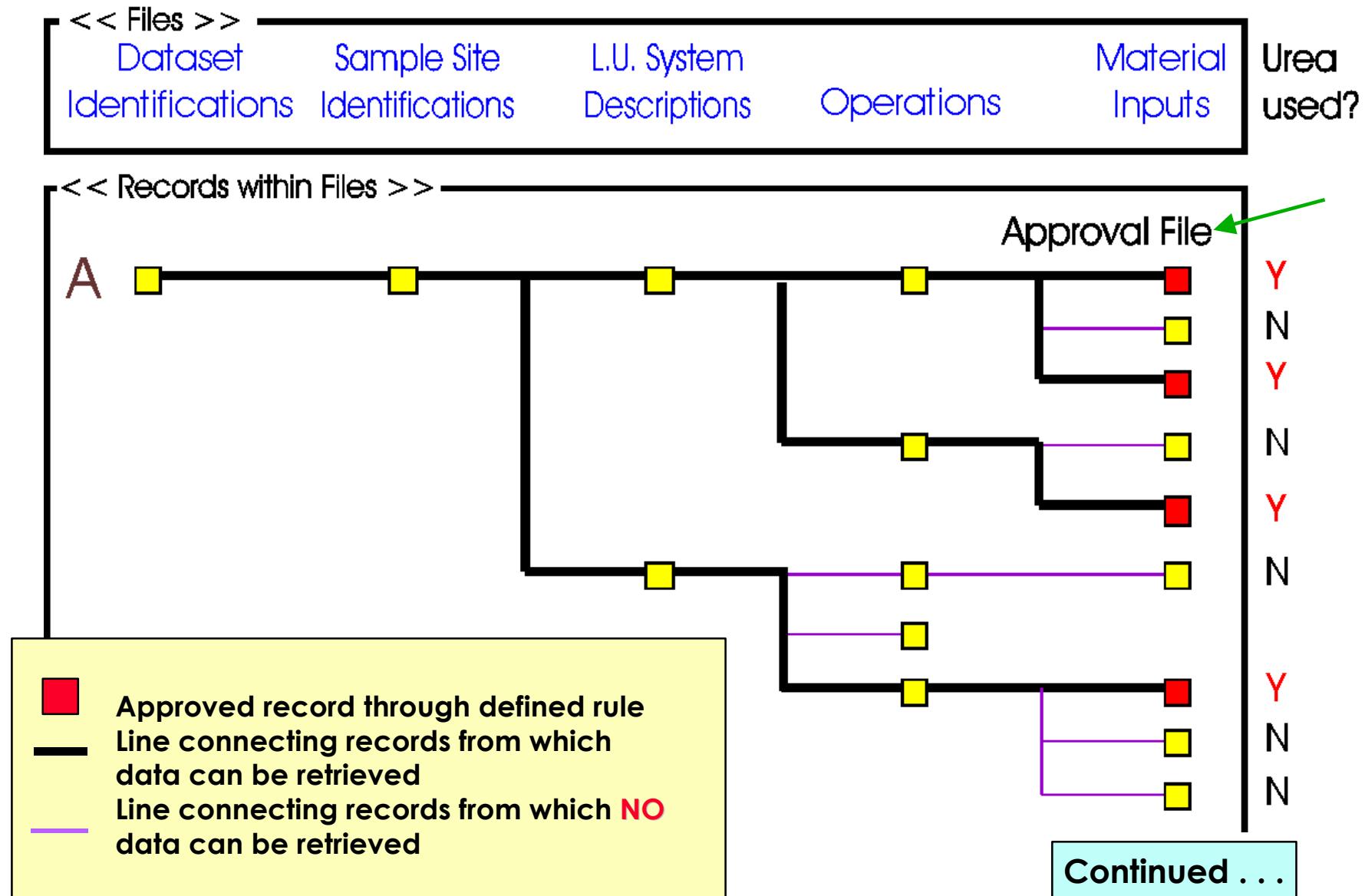
The relational structure of all database files is shown in order to select one of these files.

The next three examples will start providing background on the Approval File concept . . .

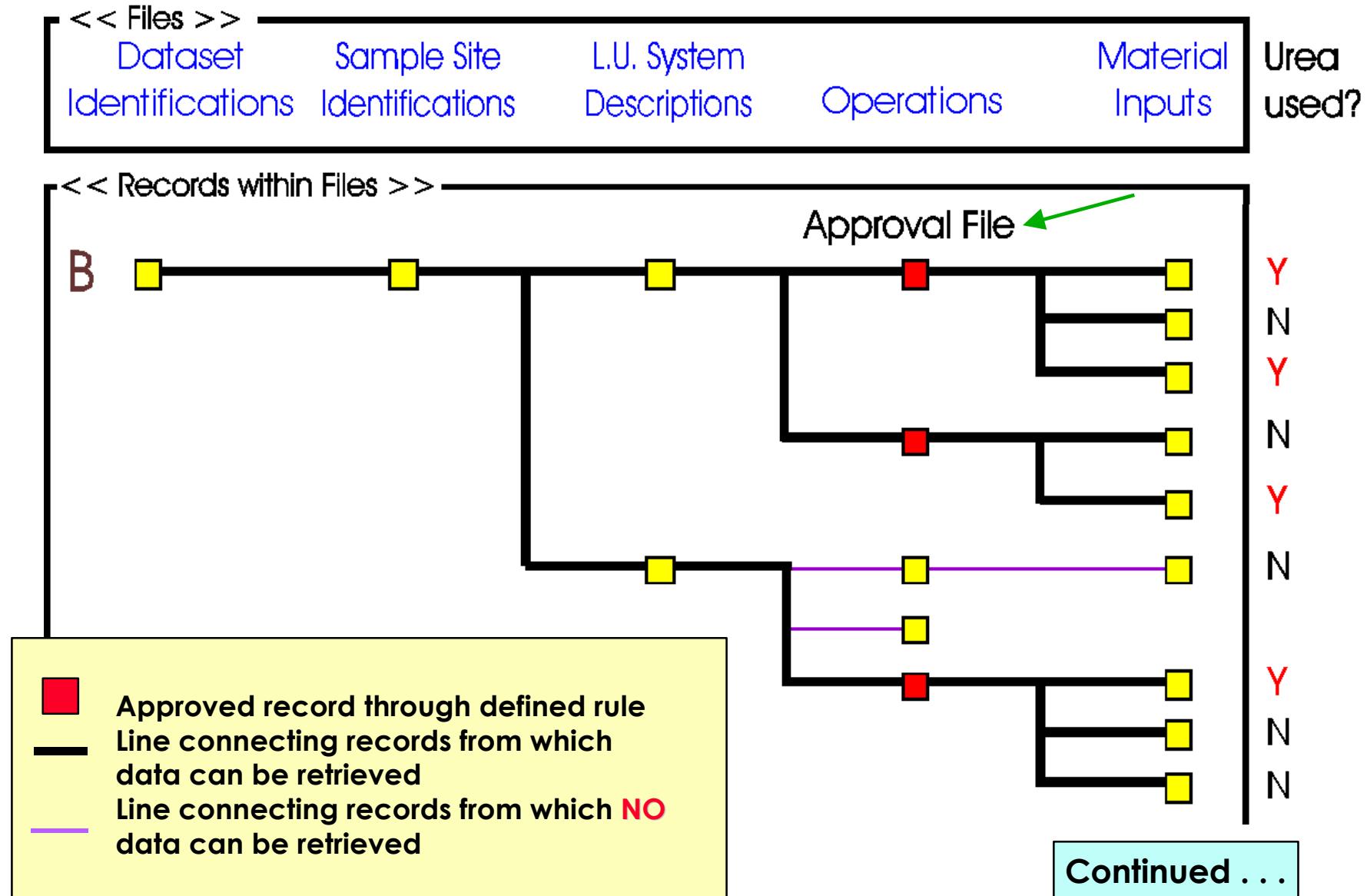


The File of the Relational Database in which the Records are selected
F1=Help

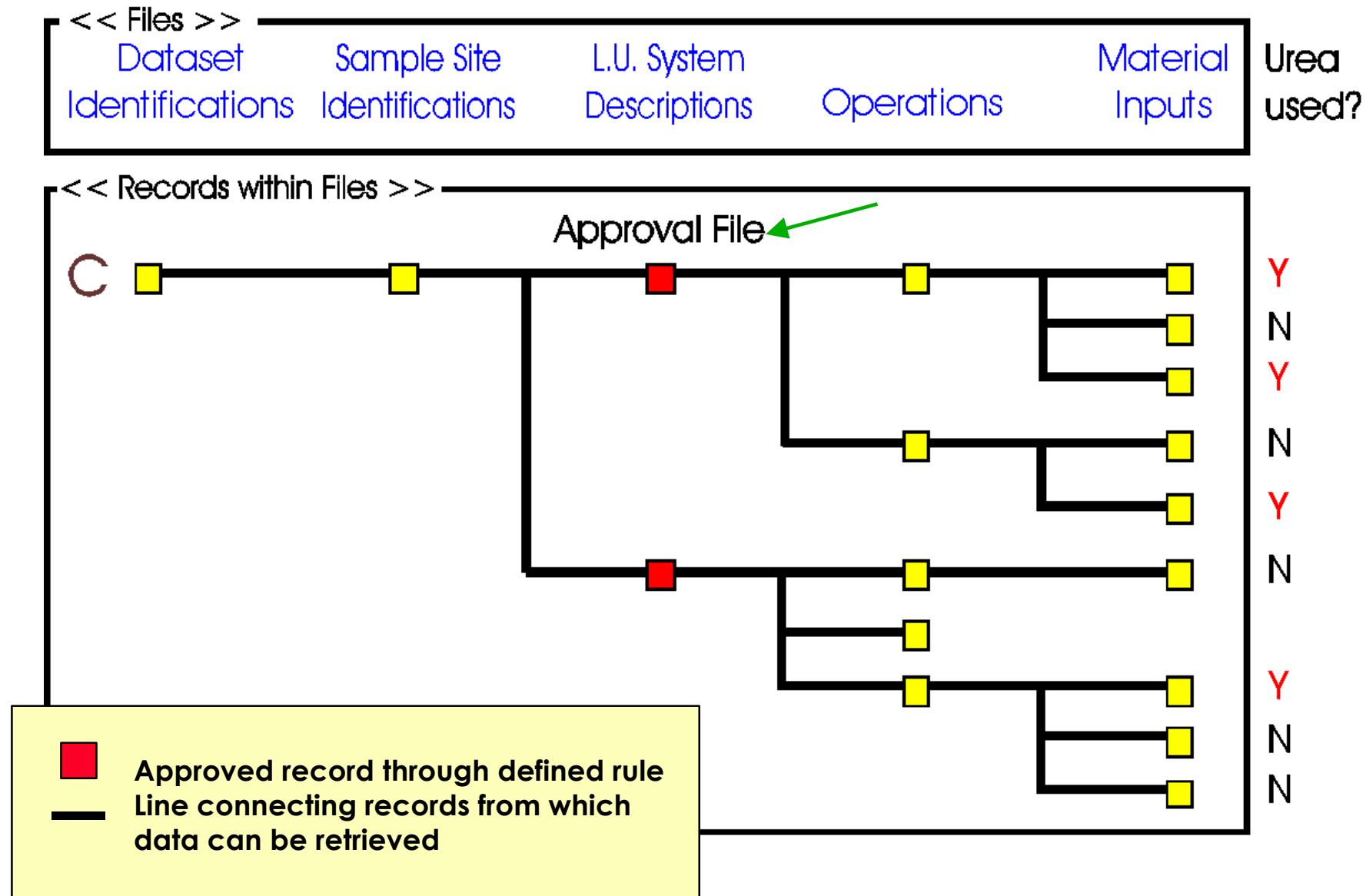
Example-A: The Approval File selected is Material Inputs.



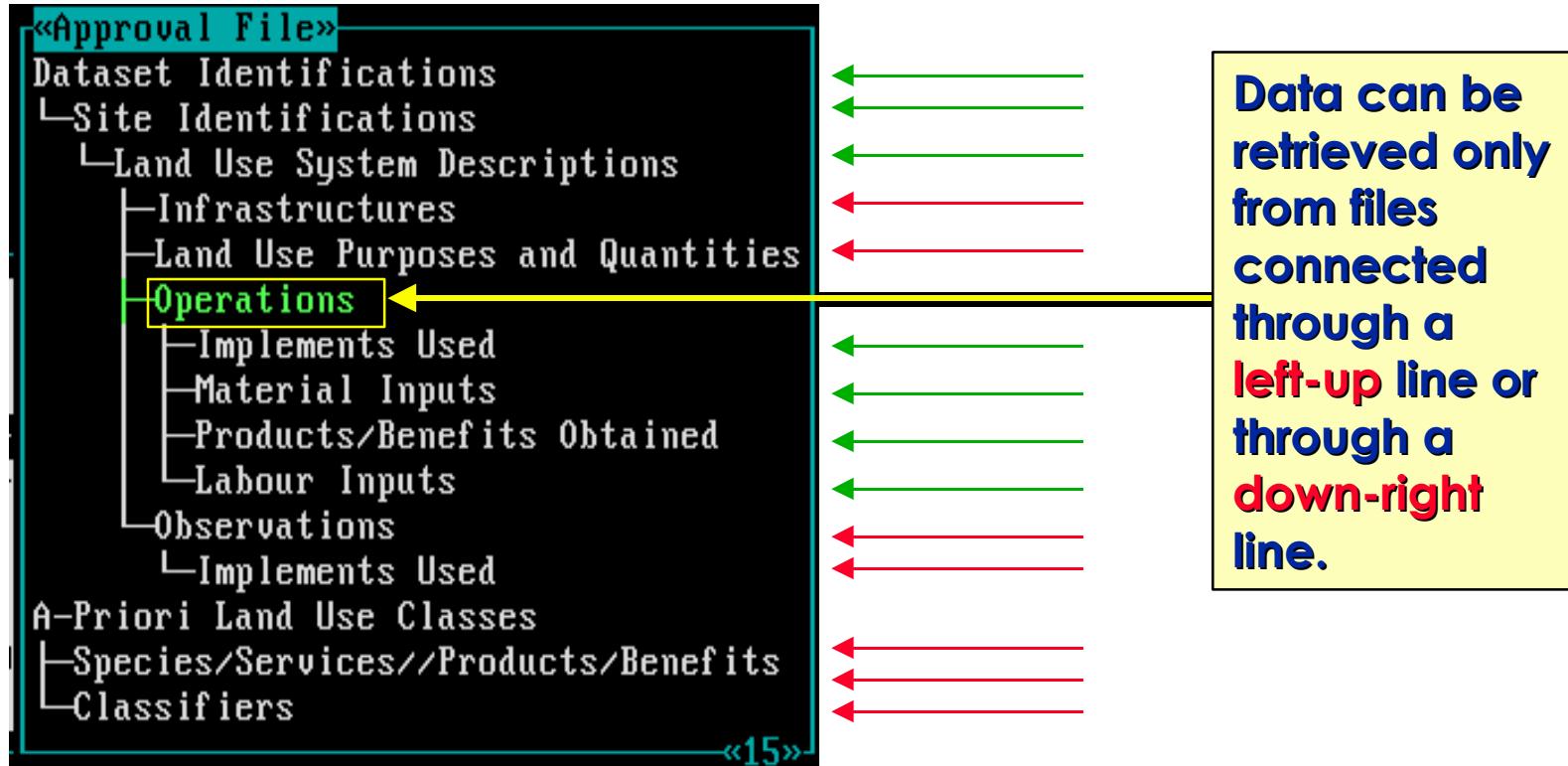
Example-B: The Approval File selected is Operations.



Example-C: The Approval File selected is L.U.System Descriptions.



If the selected Approval File is Operations, then . . .



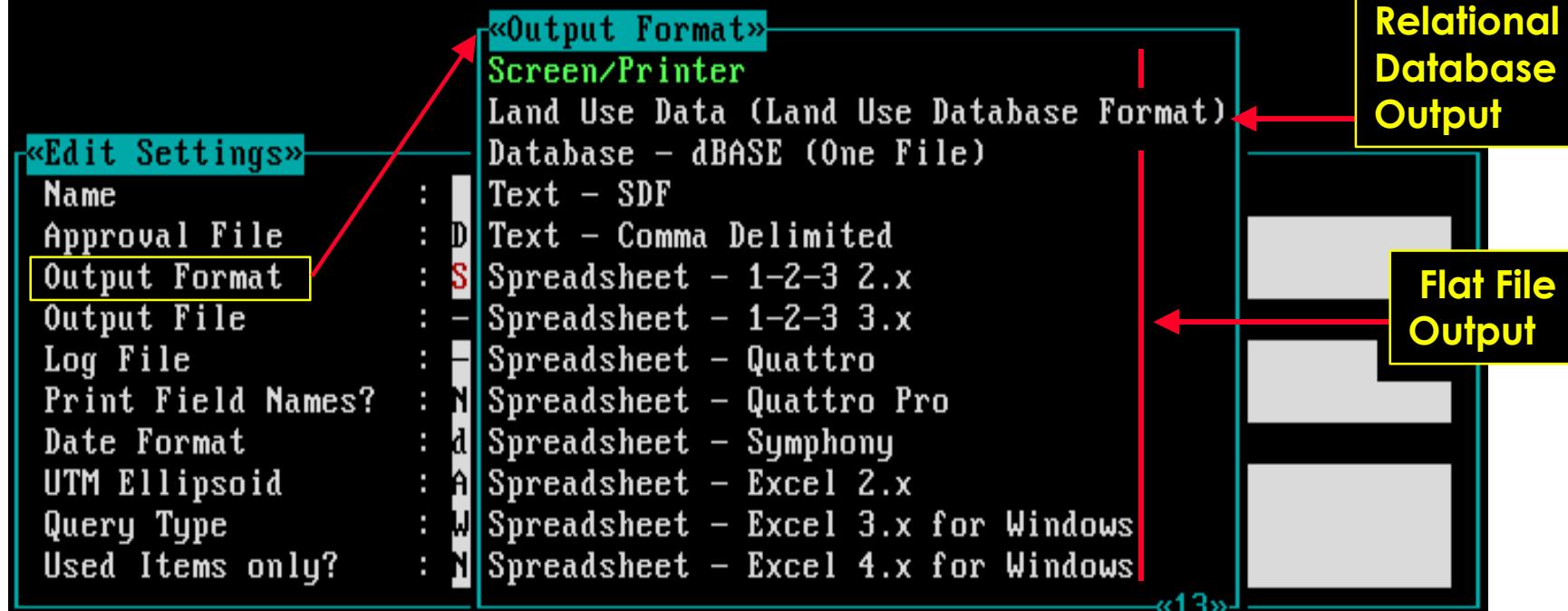
- ← Files from which data can be retrieved (define the fields later in **Output Fields**), and from which fields can be used to define query rules.
- ← Files from which **NO** data can be retrieved, and from which **NO** fields can be selected to define query rules (except when defining a sub-query using **having**).

Continuation of software aspect no.-1:

- 1 Select a query and define query settings.**
- 2 The functionality of the Approval File concept.**
- 3 How to define a query Condition.**
- 4 How to define query Output Fields.**
- 5 Run the query to get the required data.**

Next the Output Format must be selected.

Presently 13 Output Format options are made available.

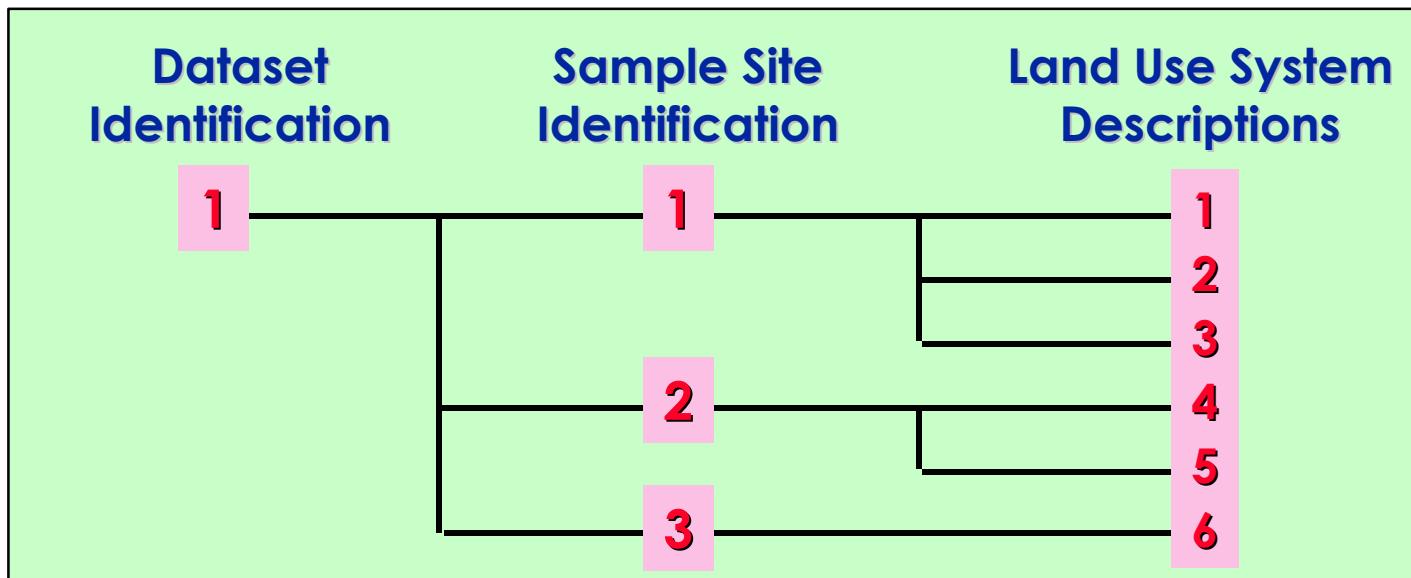


The Format in which the Output is generated
F1=Help

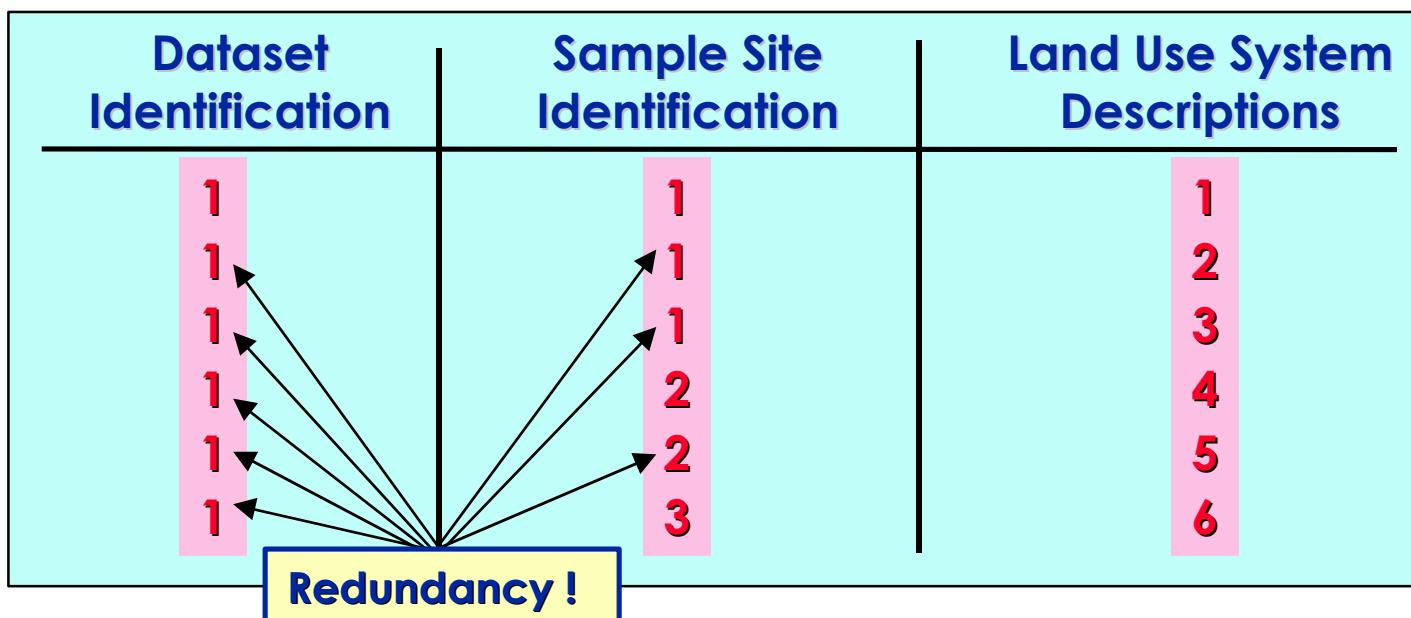
The Flat File output formats are explained next . . .

Converting Relational Files to a single Flat File output format :

Records in
Files of a
Relational
Database

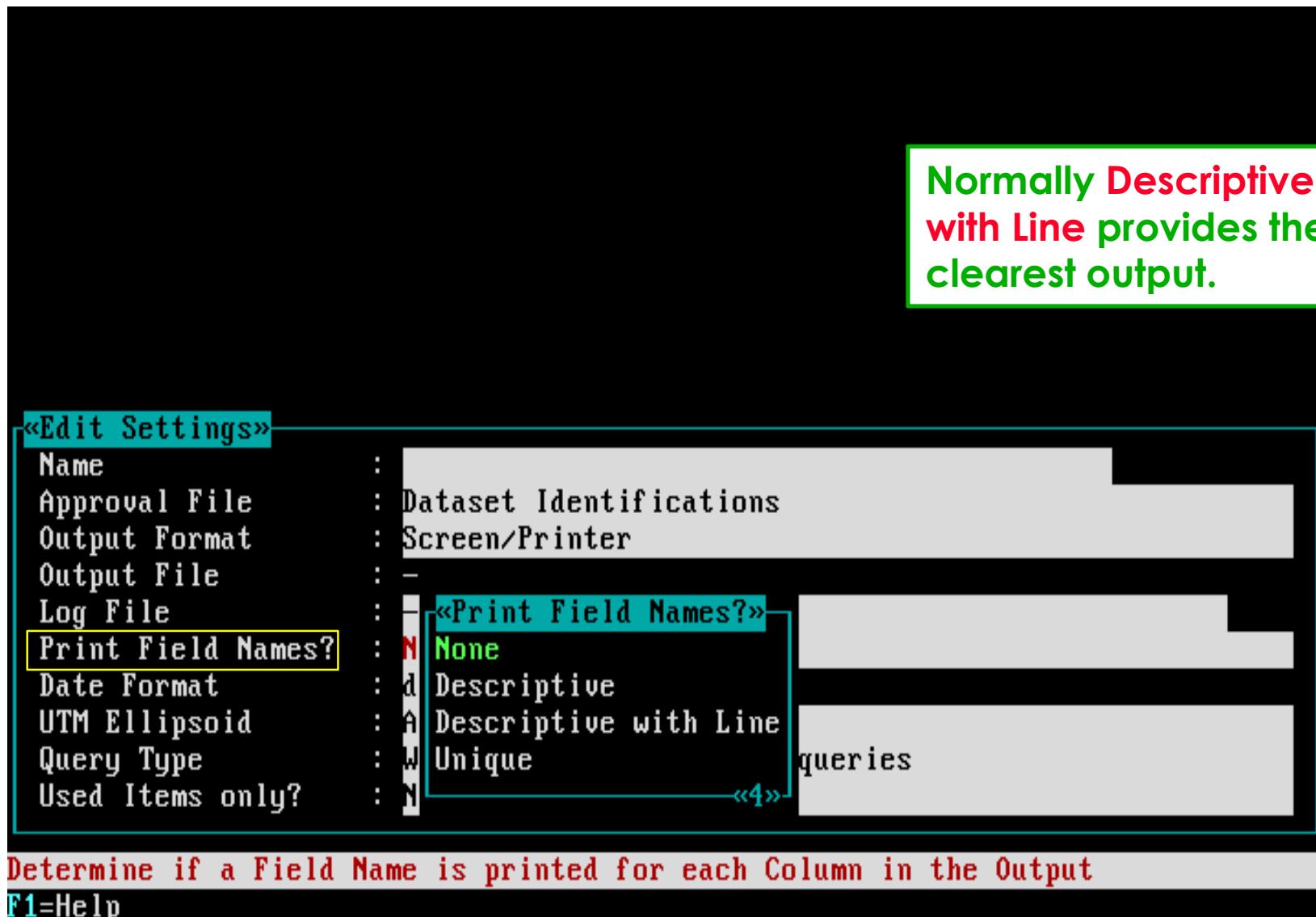


Flat File
with rows
and
columns



Redundancy !

Next the Column Headings of the flat file must be specified.



See the manual for the other settings (Section 7.3).

Now all settings
for Test Query are
specified.

Press F10 to save
the new query.

«Edit Settings»

Name	:	test query
Approval File	:	Dataset Identifications
Output Format	:	Screen/Printer
Output File	:	-
Log File	:	-
Print Field Names?	:	Descriptive with Line
Date Format	:	dd/mm/yyyy
UTM Ellipsoid	:	Airy 1849
Query Type	:	Without Formulas and Subqueries
Used Items only?	:	No

Determine if a Field Name is printed for each Column in the Output
F1=Help F10=Save Enter=Select

The **Queries** picklist includes now the new query : **test query**.

```
«Queries»
test query
«1»
```

Now you can select this query and specify all other query details like: the condition and the output fields

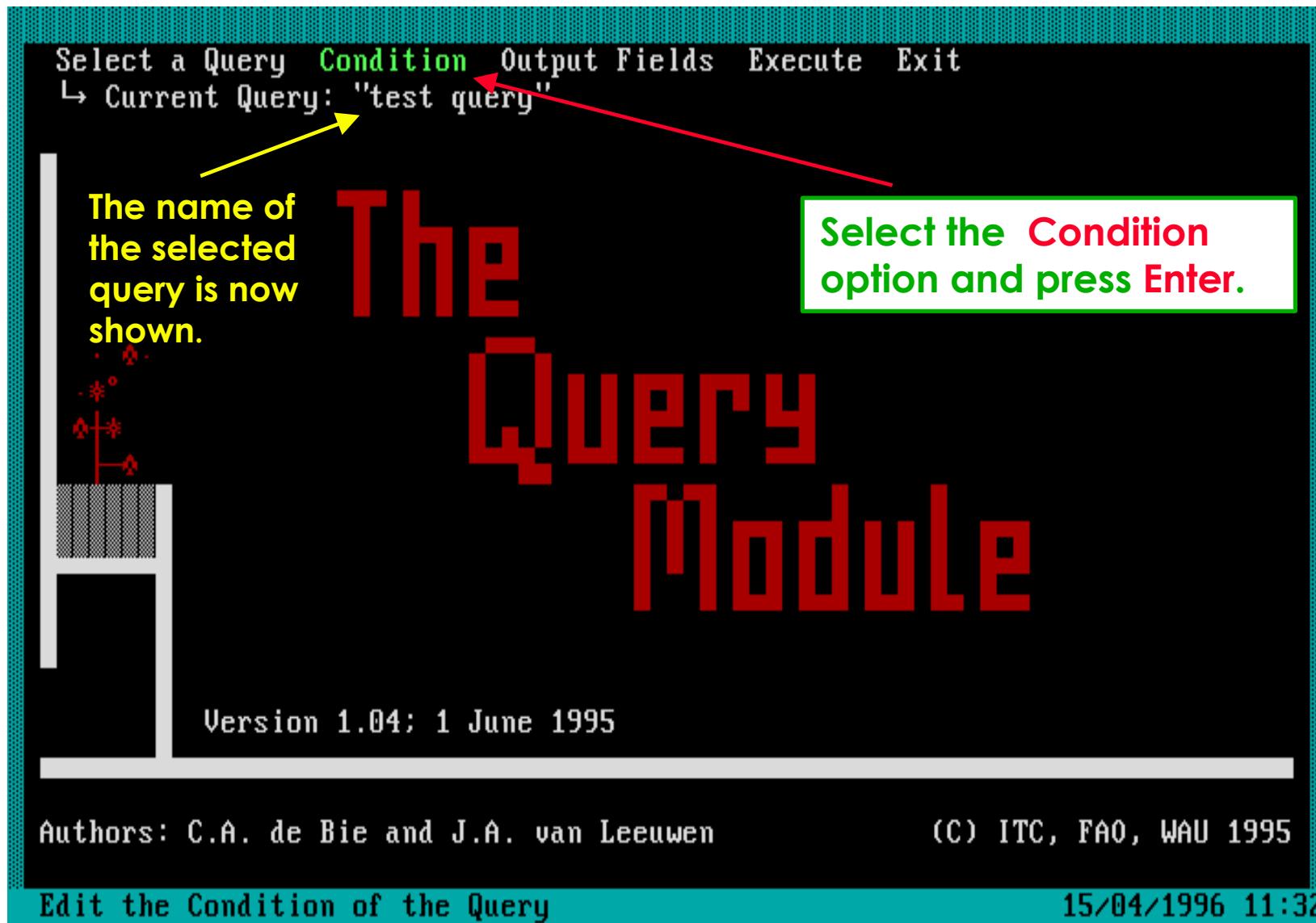
To select the new Query press **Enter**.

F1=Help F3=Print F5=Copy F10=Edit Settings Enter=Select Ins=Add Del=Delete

Software aspect no.-3:

- 1 **Select a query and define query settings.**
- 2 **The functionality of the Approval File concept.**
- 3 **How to define a query Condition.**
- 4 **How to define query Output Fields.**
- 5 **Run the query to get the required data.**

After selecting **test query**, the second Main Menu is shown which now includes the **Condition** and **Output Fields** options.



The **Query Condition** picklist shows that so far no **rules** are defined.

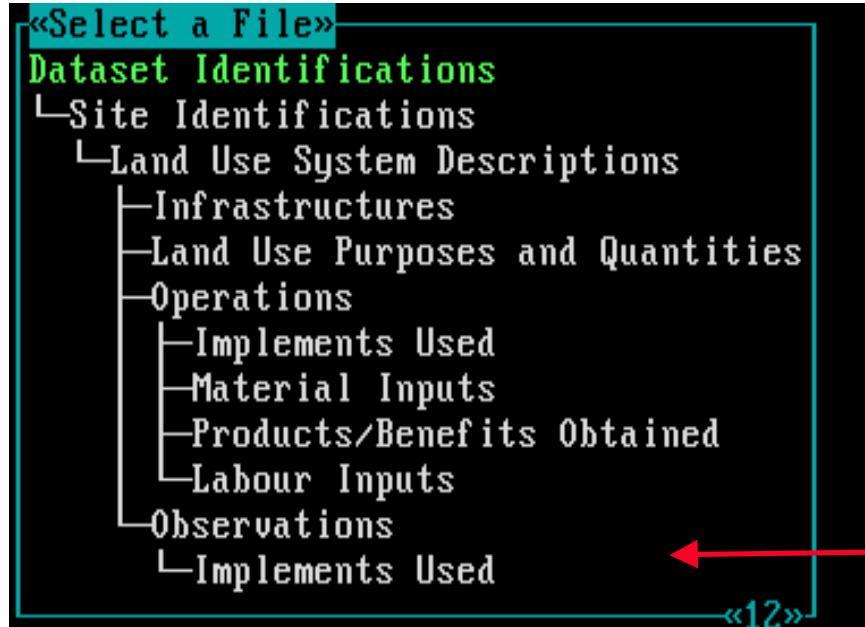
«Query Condition»
«»

Remember that a Condition consists of Rules, and that each rule consists of a [Field Name, an Operator and a Value].

Press **Ins** to add a rule.

F1=Help **Ins**=Add

To start preparing a rule, first select a File from the relational structure.



Select any of the shown Files.

Only the files are shown from which fields can be used to define a rule; this depends on the selected Approval File.

Next in sequence a **Field Name** must be selected . . .

File: Dataset Identifications

«Select a Field»

- A Unique Dataset ID
- Administrative Area
- Project
- Dataset Number
- Dataset Type
- Enumeration Date
- Enumerator's Name
- Respondent's Name
- Holder's Name
- Holding Latitude
- Holding Longitude
- Holding UTM Zone
- Holding UTM Northing
- Holding UTM Easting
- Minimum Holding Size
- Maximum Holding Size
- Average Holding Size
 - └ Holding Size Unit
 - └ Holding Size Info Source
- Dataset Comments

«20»

The name of the selected File.

Select any of the shown Field Names.

All field names of the selected file are shown plus ■ fields that either represent calculated averages or the record no. within the database file.

Next in sequence the **Operator** must be selected . . .

File: Dataset Identifications
└ Field: Administrative Area
 └ «Select an Operator»
 is equal to
 is not equal to
 is unspecified
 is specified
 «4»

The name of the selected Field.

Select any of the shown Operators.

The list of operators differs from one selected field to another one; only applicable operators are listed.

Finally the **Value** of the rule must be selected . . .

File: Dataset Identifications
└ Field: Administrative Area
 is equal to ←
 «Administrative Areas»
 5 Africa
 10 Asia
 15 Australasia; SW-Pacific
 20 Europe
 25 North,Centr America; W Indies
 30 Near-East
 35 S-America

The name of the selected Operator.

Select any of the shown Glossary Items.

Only for the fields linked with the glossary, the applicable glossary trees will be shown.

After selecting the **Value**, the **Rule** is added to the **Query Condition**.

«Query Condition»
Administrative Area is equal to Africa
«1»

Press **Ins** again if you
want to specify an
additional rule.

F1=Help F5=Copy Ins=Add Del=Delete

After pressing **Ins**, select again a **File** from the relational structure.

«Select a File»

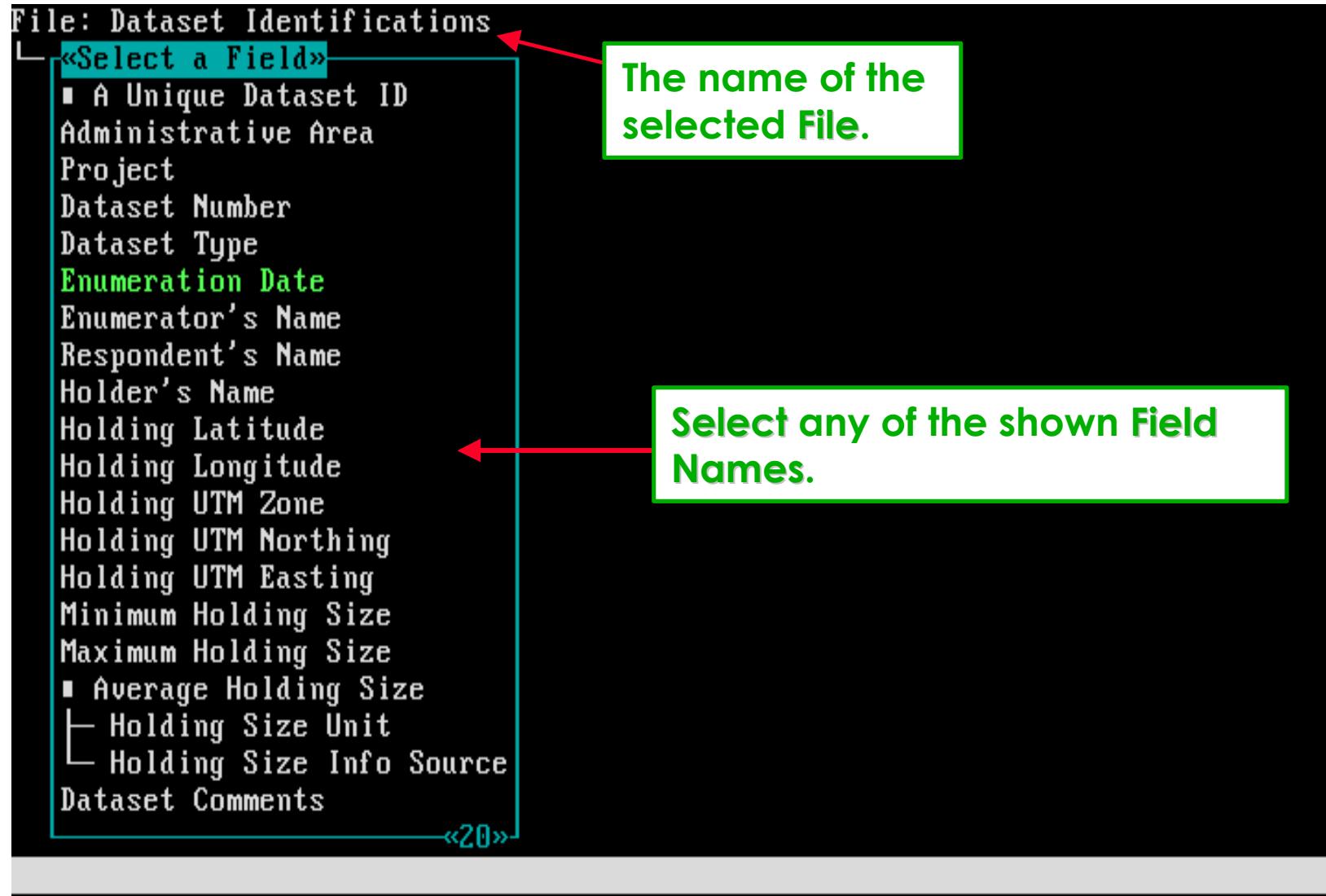
Dataset Identifications

- └ Site Identifications
 - └ Land Use System Descriptions
 - └ Infrastructures
 - └ Land Use Purposes and Quantities
 - └ Operations
 - └ Implements Used
 - └ Material Inputs
 - └ Products/Benefits Obtained
 - └ Labour Inputs
 - └ Observations
 - └ Implements Used

«12»

Select any of the shown Files.
This list is as shown before (same Approval File).

Again, next in sequence a **Field Name** must be selected . . .



Again, next in sequence the Operator must be selected . . .

File: Dataset Identifications

└ Field: Enumeration Date

 «Select an Operator»

 is equal to
 is not equal to
 is smaller than
 is smaller than or equal to
 is larger than
 is larger than or equal to
 is between
 is not between
 is unspecified
 is specified

The name of the selected Field.

Select any of the shown Operators.

The list of operators indeed differs from one shown before (different field selection).

«10»

And again, finally the **Value** of the rule must be selected . . .

File: Dataset Identifications
└ Field: Enumeration Date
is larger than

The name of the selected Operator.

The selected fields is not linked with the Glossary.

As in the Data Entry Module, an edit screen is shown in which the required Value for the field must be entered.

Enumeration Date : -

(dd/mm/yyyy)

F1=Help F6=Unspecified F8=Calendar F10=Save

After selecting the Value, the Rule is added to the Query Condition.

«Query Condition»
Administrative Area is equal to Africa
and
Enumeration Date is larger than 01/01/1990
«3»

Between the two rules, automatically an AND boolean is placed.

Press Ins again if you want to specify a third rule.

Additional functions keys are now made available in order to modify the condition.

F1=Help F5=Copy Ins=Add Del=Delete ()=Parentheses Alt-A=And Alt-M=Move Alt-0=Or

Again Ins is pressed. Now as example a subquery will be shown . . .

File: Land Use System Descriptions
└ Field: A-Priori LU Class
 └ «Select an Operator»
 is equal to
 is not equal to
 is unspecified
 is specified
 having ←
 not having
 └ «6»

The names of the selected File and Field.

Select Having from the list of shown Operators.

Again the list of operators differs from ones shown before.

The operators Having and Not Having relate to a temporary shift of Approval File selection !!

Since now a subquery is initiated, an empty **Query Condition** picklist is shown, the subquery behaves fully like a normal query . . .

File: Land Use System Descriptions

└ Field: A-Priori LU Class

└ «Query Condition»
└ «»

Other subqueries can be initiated by selecting the Having operators for the A Unique **xxx -Id** fields.

To assess the Having operators, as Query Type setting the option With Formulas and Subqueries must be selected.

Press **Ins** to add a rule.

F1=Help **Ins=Add**

Once more, to start preparing a rule, first select a **File** from the relational structure.

File: Land Use System Descriptions
└ Field: A-Priori LU Class
 └ «Select a File»
 A-Priori Land Use Classes
 └ Species/Services//Products/Benefits
 └ Classifiers
 «3»

Presently only those files are shown that relate to **A-Priori Land Use Classes** as **Approval File**.

Note: the field: **A-Priori LU Class** and the file: **A-Priori Land Use Classes** have a 1:1 relation.

Once the rule is specified (as shown before), it will be included in the Query Condition picklist of the subquery.

```
File: Land Use System Descriptions
└ Field: A-Priori LU Class
  «Query Condition»
  Species/Service is equal to Plants, Cereals
  «1»
```

Press now Esc to
return to the
original query.

F1=Help F5=Copy Ins=Add Del=Delete

The **Query Condition** picklist of the original query will now include the subquery.

```
«Query Condition»
Administrative Area is equal to Africa
and
Enumeration Date is larger than 01/01/1990
and
A-Priori LU Class having (
    Species/Service is equal to Plants, Cereals
)
«?»
```

Rule embedded
in the subquery.

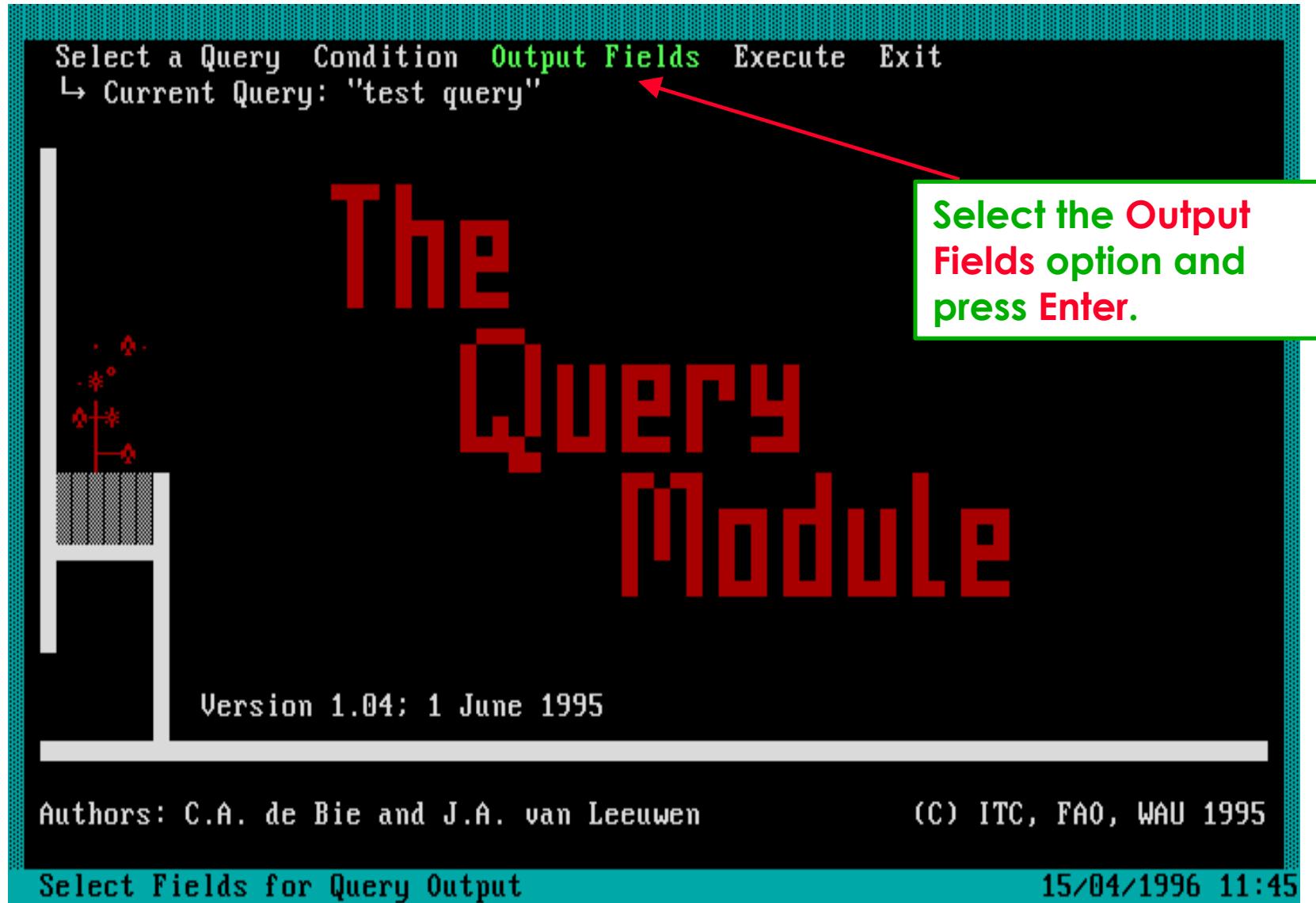
Note: if the A-Priori LU Class is defined on the basis
of cereal production, the A-Priori LU Class record is
approved, and successively the Dataset
Identification record is approved.

Press now **Esc** to return
to second Main Menu
of the Query Module.

Software aspect no.-4:

- 1 **Select a query and define query settings.**
- 2 **The functionality of the Approval File concept.**
- 3 **How to define a query Condition.**
- 4 **How to define query Output Fields.**
- 5 **Run the query to get the required data.**

After defining the **Query Condition** you must specify one or more **Output Fields**.



The **Output Fields** picklist shows that so far no **fields** are selected.

«Output Fields»
«»

Realize that the **Query Condition** defines which section of the database will be available for data retrieval. Now, for *that* section, you must define the **Output Fields** (parameters) for which data retrieval is *actually* required.

Press **Ins** to add a field.

F1=Help **Ins**=Add

Before selecting an Output Field, first select a File from the relational structure.

«Select a File»

- Dataset Identifications
- └ Site Identifications
 - └ Land Use System Descriptions
 - └ Infrastructures
 - └ Land Use Purposes and Quantities
 - └ Operations
 - └ Implements Used
 - └ Material Inputs
 - └ Products/Benefits Obtained
 - └ Labour Inputs
 - └ Observations
 - └ Implements Used

«12»

Select any of the shown Files.

Only the files are shown from which Output Fields can be selected; this again depends on the selected Approval File.

Next in sequence, an **Output Field** must be selected . . .

File: Land Use System Descriptions
«Select a Field»
■ A Unique LUS Description ID
Plot Latitude
Plot Longitude
Plot UTM Zone
Plot UTM Northing
Plot UTM Easting
Minimum Plot Size
Maximum Plot Size
■ Average Plot Size
└ Plot Size Unit
└ Plot Size Info Source
└ Plot Size Boundaries
Soil Sample-ID
Start Operation Sequence Period
End Operation Sequence Period
A-Priori LU Class
LUS Comments
»17»

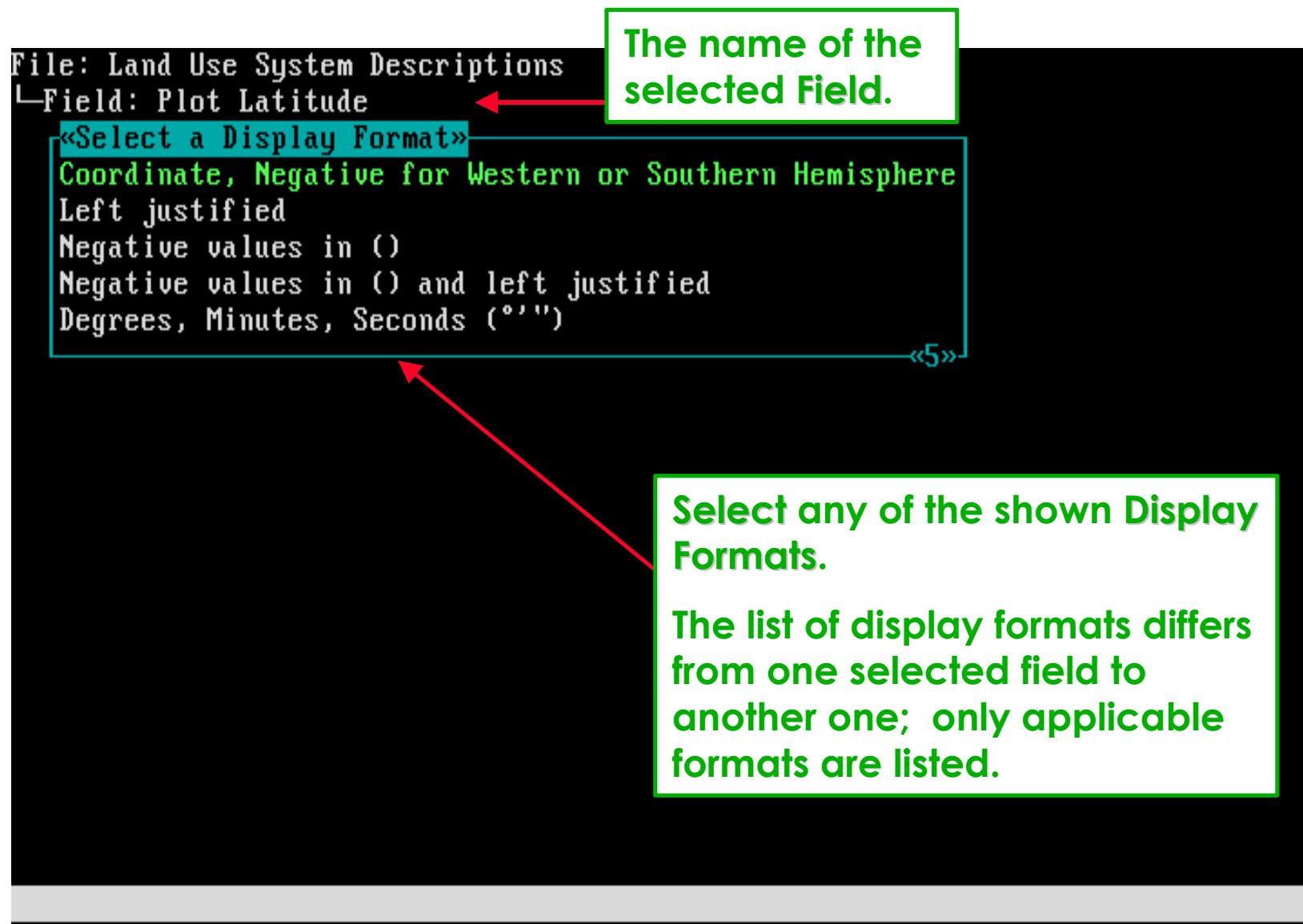
The name of the selected File.

Select any of the shown Field Names.

All field names of the selected file are shown plus ■ fields that either represent calculated averages or the record no. within the database file.

F1=Help Enter=Select

After selecting the **Output Field**, a **Display Format** must be selected.



F1=Help Enter=Select

Next, for Flat File output formats, the Column Width and Number of Decimals for the selected Output Column must be specified.

File: Land Use System Descriptions

└ Field: Plot Latitude

 └ Display Format: Coordinate, Negative for Western or Southern Hemisphere

The selected
Display Format.

Note:

shown below is the
format 123.56789

Default values will be provided,
only change them when
required.

Press F10 to accept the
specified values.

Column Width :
Number of Decimals :

The maximum width for this Column

F1=Help F8=Calc F10=Save

If, within the Flat File the selected Output Column must be sorted, then select one of the provided options.

File: Land Use System Descriptions

└ Field: Plot Latitude

 └ Display Format: Coordinate, Negative for Western or Southern Hemisphere

 └ Column Width: 9; Decimals: 5

 «Record Sort Order»

 None

 0-9,A-Z,a-z

 z-a,Z-A,9-0

 0-9,Aa-Zz

 2z-Aa,9-0

The specified
Column statistics.

«5»

Select any of the shown
Record Sort Order options.

Then, you will return to the **Output Fields** picklist, that includes now summarized information on the **field selected**.

«Output Fields (Parameters)	Display Format	Width	Sort Order	SPr»
Plot Latitude	Coordinate, Negative	9:5		«1»

No sort option was specified.

Press **Ins** to add another field.

F1=Help F5=Copy F10=Edit Ins=Add Del=Delete

Presently three **Output Fields** are included in the picklist. You may want to change the **order** in which they appear in the final report.

«Output Fields (Parameters)	Display Format	Width	Sort Order	SPr»
Plot Latitude	Coordinate, Negative	9:5		
Plot Longitude	Coordinate, Negative	10:5		
Dataset Number	As entered	4		

You may want **Dataset Number** as **first column** in your Flat File.

Press **Alt-M** to move the selected field to a different place.

F1=Help F5=Copy F10=Edit Ins=Add Del=Delete Alt-M=Move

After pressing **Alt-M**, a **Move Output Field** picklist will appear on top of the **Output Fields** picklist.

«Output Fields (Parameters)	Display Format	Width	Sort Order	SPr»
«Move Output Field»				
Plot Latitude	Coordinate, Negative	9:5		
Plot Longitude	Coordinate, Negative	10:5		
Dataset Number	As entered	4		
				«3»



Highlight now the field that must later appear below the field just selected.

Note:

If not the last field was selected to move, a **<Last Item>** option will be placed in the picklist to allow moving an item to the very end.

Press **Enter** after you made a selection.



Give new Position of selected Item
F1=Help Enter=New Position Esc=Exit

Plot Latitude was selected in the Move Output Field picklist, and Dataset Number will thus appear on top in the picklist.

«Output Fields (Parameters)	Display Format	Width	Sort Order	SPr»
Dataset Number	As entered	4		
Plot Latitude	Coordinate, Negative	9:5		
Plot Longitude	Coordinate, Negative	10:5		«3»

Note that more options are made available to you.

F1=Help F5=Copy F10=Edit Ins=Add Del=Delete Alt-M=Move

Software aspect no.-5:

- 1 **Select a query and define query settings.**
- 2 **The functionality of the Approval File concept.**
- 3 **How to define a query Condition.**
- 4 **How to define query Output Fields.**
- 5 **Run the query to get the required data.**

Select a Query Condition Output Fields **Execute** Exit
↳ Current Query: "test query"

Select the **Execute** option and press **Enter**.

The Query Module

Version 1.04: 1 June 1995

Authors: C.A. de Bie and J.A. van Leeuwen

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Create the Output for the Query

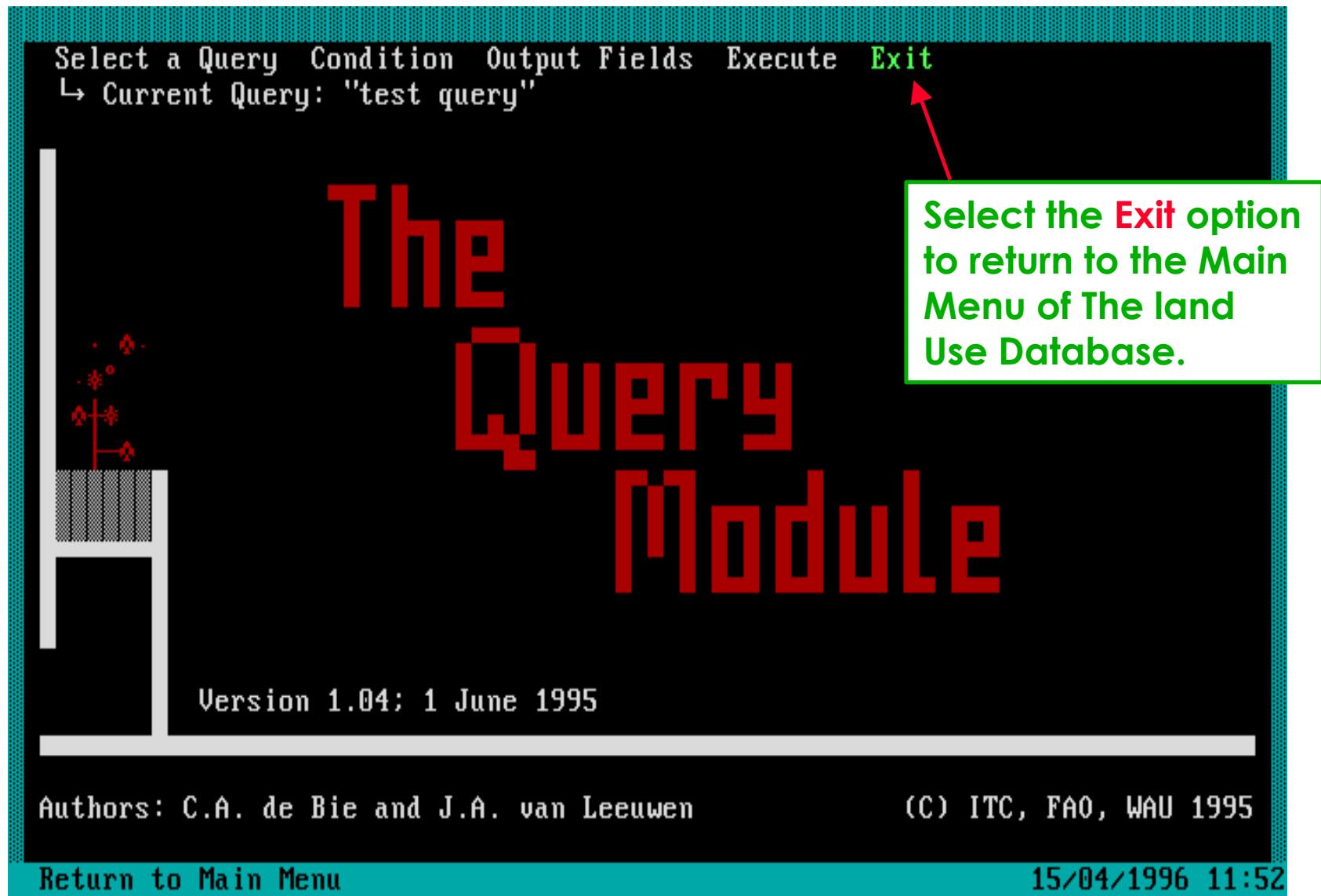
15/04/1996 11:48

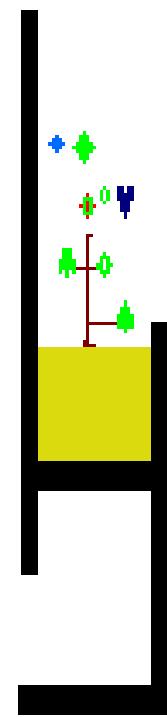
After a series of flash-messages at the bottom of the screen, the required query results are generated.

Dataset Number	Plot Latitude	Plot Longitude
1	-18.40972	29.11750
2	-18.40833	29.12083
3	-18.35639	29.11000
5	-18.35333	29.11278
7	-18.41000	29.08917
8	-18.40250	29.09000
9	-18.35722	29.09389
10	-18.36111	29.09472
11	-18.36417	29.09639
12	-18.40083	29.17333
13	-18.39889	29.17472
15	-18.39333	29.17472
16	-18.39556	29.17722
17	-18.38556	29.14944
19	-18.38639	29.14750
21	-18.39528	29.20444
22	-18.40139	29.20778
24	-18.39528	29.20722
25	-18.39417	29.20861
27	-18.40222	29.21639
29	-18.38694	29.21583

As selected in the Query Settings, the query results will be printed, shown on the screen, or placed in a file in the required format.

All important options and features of the Quary Module are presently shown. See the User's Reference Manual for further details.





The Land Use Database

End of Demo-7 Thank You

