

# Development of Software for the Farms Accounting

Dimosthenis Mpoutakidis<sup>1</sup>, Alexandra Pavloudi<sup>2</sup>, Stamatis Aggelopoulos<sup>3</sup>, Maria Rapti<sup>4</sup>

<sup>1</sup>Department of Agriculture Technology, Direction of Agricultural Economy, Alexander Technology Educational Institute of Thessaloniki, Greece, e-mail: dboutak@farm.teithe.gr

<sup>2</sup>Department of Agriculture Technology, Direction of Agricultural Economy, Alexander Technology Educational Institute of Thessaloniki, Greece, e-mail: stalex@farm.teithe.gr

<sup>3</sup>Department of Agriculture Technology, Direction of Agricultural Economy, Alexander Technology Educational Institute of Thessaloniki, Greece, e-mail: stamagg@farm.teithe.gr

<sup>4</sup>Department of Agriculture Technology, Direction of Agricultural Economy, Alexander Technology Educational Institute of Thessaloniki, Greece, e-mail: ma\_rpt@yahoo.gr

**Abstract.** This is an application, which contributes to the improvement of the economy in a farm through the systematic recording and organization of economic and technical data. Initially, given some useful general information on a theoretical level, which relate to the way in which agricultural enterprises are organized. Then, there is the way in which was created “Agrologic”, such as the setting up of the tables and the creation of the template. Here's a guide for the application, allowing the user to be able to enter the details of the agricultural enterprise and to manage them. The "Agrologic" is a user friendly application, which can be used by everyone, without a special financial or accounting knowledge. It aims to help farmer in a position to manage the economics of the agricultural unit, because the application can produce the overall results automatically, without the need to calculate.

**Keywords:** Agricultural accounts, Application, Agrologic

## 1 Introduction

The competitive environment within which agricultural activity is developed makes necessary the modernization of agricultural holdings and the adoption of new technologies to improve effectiveness and productivity. Farmers are being urged by their advisors to use accounting as a means of survival in an industry dominated by corporations yet find their calculations and plans nullified as corporations raise the costs of their inputs and lower the prices obtainable for their outputs. (Jack, 2007)

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## **2 Conceptual Description Conditions**

### **2.1 Agricultural Accounting**

There are very few studies on the subject of agricultural accounting. The field of academic agricultural management research lacks both qualitative empirical studies and sociological interpretations (Argiles & Slof, 2001 and Juchau & Hill, 2000), whilst the agriculture and food industries are largely absent from studies in management and accounting generally (Argiles & Slof, 2001).

Accounting for spatial heterogeneity is, however, a key step in the integrated assessment of agricultural production systems (Antle and Stoorsvogel, 2006 and Antle et al., 2006).

#### **Inventory:**

Keeping inventory is the process by which the producer categorizes the assets of a holding, the counting and the records in physical units and economic value. The inventory shall be drawn up at the beginning and at the end of each financial year and the balance sheet of the agricultural holding (Kitsopanidis, 1993).

#### **Ways of agricultural accounting**

According to Kitsopanidis, (1993), there are three ways to keep the accounting of farm: Monitoring the accounts of the farm as a whole, Accounting farm per categories of like industries and Accounting farm per industries.

In the light of the rational organization of agricultural holdings, which the farmer uses the limited resources factors of production in industries which contribute most to improving the income of the accounting is essential.

#### **The use of electronic computers in agriculture**

The computers are used in agriculture to resolve problems of rural economy, because it helps in quick decision-making. Given the substantial growth in computer hardware and software functionality, it would be helpful the agricultural software vendors, farm consultants, state and federal agricultural agencies, agribusinesses to determine what computer technology producers now own and how they use it. (Flanagan, 1995).

Software applications frequently mentioned in computer use studies about financial administration, taxes, accounting, business planning, budgeting, livestock management, crop management, and market analysis or decision making. (Ascough et al, 1999)

Use of computers makes it possible to process large amounts of data order to try out new methods of mathematical Programming, simulation, the econometric models, advanced methods of forecasting etc. (Manos, 1995).

The use of computers in Greek agriculture has helped considerably to measure and check the various figured to increase the productivity and services available to factors of production, to exert effective agricultural policy and to provide new growth. (Grammatikou, 2008).

## 2.2 Objectives and Characteristics of "Agrologic"

In particular, the application "Agrologic" intends to help farmers and producers, to record and edit quickly and easily the economics of their farms. The application "Agrologic" gives the possibility even for non-specialists to use it.

"Agrologic" is a software application that is addressed to the modern farmer for the management of agricultural holdings. With this software the farmer/grower has the capability to store all the data of agricultural holding, keeping full calendar of all cultivation of work, comply with the department of supplies, keep budget and monitoring of the progress of implementation, detailed monitoring the cost of each crop at the working level and individual rates and a full picture of the economic effect of the holding, recording and storing information, helping to keep the configuration integrated in the management.

Based on data from previous periods you will be in able to decide on the crops and to make specific estimates of production, price and cost. The aim is to protect yourself and the production from residues of substances through the warnings for permissible times and re-harvest. Observing the traceability in terms of batches and harvest, you will be able to have easier access to markets that require tracking (Aiello et al 2015).

### Stages of implementation and connections

Below are the stages of the application "Agrologic".

Initially, it was an empty database with the application Access 2007 Microsoft, called "Agrologic".

On this basis were three electronic books accounting, the book Accounting farms as a whole, the book Accounting Floral Park Farm as a whole, and the paper Accounting Agricultural Holdings - greenhouses (Martica-Bakirtzi & Dimitriadou, 2007).

Having designed all the forms for each workshop, placed in groups.

The basic books are:

**Manual monitoring' accounting system rural operating as single total**

**Manual of accounting of a greenhouse holding (vegetables) and**

**Manual monitoring' accounting system of a floral farm operating as single total**

The groups who belong in every book are separated:

- A. Composition of the farm and family
- B. Inventory and assessment of the value of assets of the holding
- C. Data Processing of holding

The books are differentiated in groups of Single account of production plan. Each group separated in the book in subgroups: Production planning, composition of the farm and family, Experience and the training of the leader or the members of the family, Work available for the family and permanent workers (hours/ month), Inventory and assessment of the value of assets of the holding, field, areas in improvements, equipment of buildings and constructions, census perennials lands (vegetables section), machinery and tools, logs referred to in forms fixed and variable capital, Calculation depreciation permanent capital and annual expenditure, Capital structure of the holding, Financial results.

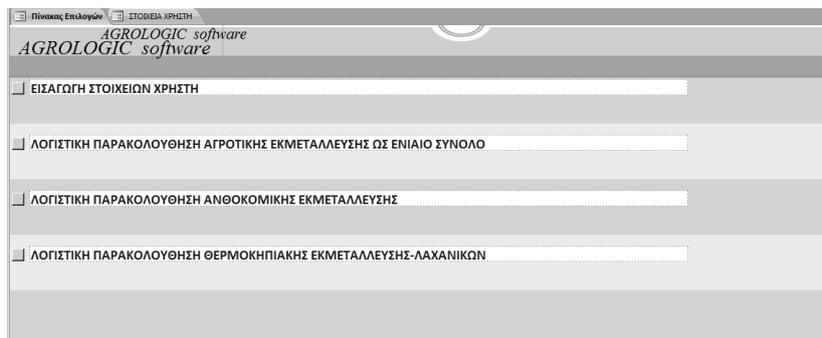
Finally, according to the book the groups include the subgroups Single account of production plan (calendar physical or technical and economic data), Account tractor:

tractor type, horsepower, age, technical specifications, Requirements of project production in hours of human or/and mechanical work per month and per acre, Inventory machinery and tools, Inventory ground, Inventory areas improvements, Inventory agricultural construction, Inventory machinery, Inventory loans referred to in forms fixed and variable capital, Calculation depreciation permanent capital, Calculation annual expenditure, Capital structure of the holding, Technical and financial data per unit production sectors Account industry: calendar physical or technical and economic data of the industry, calendar harvest, account means of transport: type means of transport, power, age, technical specifications, General payments and receipts of the holding, Technical and financial data per unit production sectors, Requirements of industries in working hours per month: human labor, mechanical work, Variable cost industries, Gross annuity industries, Gross profit industries, Productive expenditure of exploitation and participation of the entire coefficient, Financial results

### **THE APPLICATION "AGROLOGIC": Application Guide**

#### **Description of the implementation: platform development and implementation; tools, application requirements in hardware etc.**

Start the application "Agrologic", which was created and designed exclusively for a specific task. With the opening of the application, the first image that the user sees is figure (1).



**Fig 1.** Start the application "Agrologic"

In the beginning, the user has the option to choose the group, in which he wants to enter the data. Initially, it will be necessary to start with group A, for the recording of the composition of the holding of the user-producer and then to continue with the other groups.

Selecting the first form the user automatically enters into the PROJECT production form.

The following (figure2) shows the introduction of three random entries, as an example for the user.

| Α/Α     | ΚΛΑΔΟΣ ΠΑΡΑΓΩΓΗΣ | ΕΚΤΑΣΗ (ΣΤΡΕΜΜΑΤΑ) | ΕΚΤΑΣΗ (%) |
|---------|------------------|--------------------|------------|
| 1       | ΣΙΤΑΡΙ ΣΚΛΗΡΟ    | 30                 | 27,27%     |
| 2       | ΚΑΛΑΜΠΟΚΙ        | 80                 | 72,73%     |
| Σύνολο: |                  | 110                |            |

**Fig. 2** Example recordings

In the industry the user can choose the exploitation that he is interested in. The field AREA enters the number of acres which grows and the system automatically determines the area in percentage (%) that uses for the farm in relation to the total acres of production. The green fields in all forms that are displayed automatically by the system the fields shown here, as can be seen in this form (figure 2), are set by the system.

**Fig. 3** Select accounting

Initially a list is presented with options prompts for the user to enter the first data when required to supplement the name, the access name (username) and password (password), given to him by the designer of the application. Then the user selects the accounting category wishing to introduce the data as exploitation as a whole, floricultural exploitation and greenhouse vegetable exploitation.

The user of the application has the ability to control the total number of records entered, to move from the first record to the next (and vice versa) and of course, to introduce a new recording, with the corresponding button located on the status bar.

Furthermore, on the right side of the template there are three command buttons. The first button prints, the lower section of the template (the secondary form), with the total records, to allow the user of the application to print a form with the aggregated data of the holding. The second button closes the current form and inform for the storage of data. The third button refreshes the entire form so as to make the overall results appear more quickly.

Another possible application is to filter the data in the form and be able to display the records with specific criteria (Figure 4).

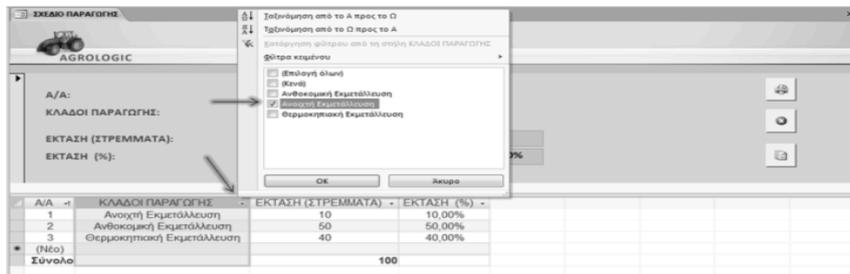


Fig. 4. Filtering data search

### 3 Summary and Conclusions

The characteristics of the application "Agrologic", as presented above, are simple and intend to be easily accessible to the farmer, who has no accounting knowledge. The tables and the forms are distinct and include everything the non-specialist user, will need in order to organize an agricultural enterprise.

An application such as "Agrologic" will relieve the farmer of the unnecessary and complex calculations which require monitoring of the company accounts

Through the application "Agrologic", the farmer is able to record all the data for a farm, to keep full calendar of cultivation work, to monitor his available saved stores, to draw up a budget and to monitor the progress and the cost of each crop, to record and store information, so as to comply with the requirements of an integrated company. The weakness of this is mainly related to the ongoing development of the technology. In other words, as the applications and computers constantly evolve in the future we will have likely upgrade "Agrologic" and to put on a new footing some economic data. However, the basic structure and the simple logic are in position to help a farmer keep control of his business, not only by managing the already existing financial data, but also by improving the productivity of his business in the future. In fact, having all the data in portable or fixed, the computer can remember all your work and other obligations, without learning out something.

With "Agrologic" you cash daily monitor the stocks and know exactly what is needed, verify the costs for the salaries and wages of the workers, record the work and inputs, have better communication with the Agronomist, in order to get the correct advice and to make correct estimates for the future of farming.

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