

## METHODOLOGICAL MODEL OF SOCIO-ECONOMIC RESEARCH IN APICULTURE

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*The first stage of project implementation n° 51-058/2007, called „ The elaboration and implementation of bee-keeping exploitations models in the european economic context” (APIMODEL) has as a main objective the organization of a research infrastructure and the evaluation of the bee-keeping potential in Romania. This first stage is extremely important because under a logistical aspect it permits the clarification of research methods, the quantification of the need of materials and equipments that will be used for the conduction of the project and under a scientific aspect the qualitative and quantitative evaluation of the bee-keeping production factors in Romania is being realized, strict elements for the foundation of the research directions in this project.*

**Keywords:** socio-economic research, melliferous potential, methodology.

Under a methodological aspect the current situation analysis regarding apiculture, the evaluation of taken action for the modernization of the bee-keeping sector and its` adaptation to the European Unions` demands have allowed us to establish the main research methods and techniques for the projects realization, of which we mention: the statistical research of apiculture, the zoning of apiculture, the study of the melliferous potential, the technical and economical evaluation of apiculture, the selective analysis of the bee-keeping exploitations on productions areas, field research, the elaboration of schematics and practice models of performance bee-keeping, market studies for apiculture products, the elaboration of a practical guide for the efficient growth of bees a.o. [1,3,] .The entire project is being realized using information and bibliographical research in specialty papers, field research through direct observation, interviews on questionnaires basis, the monitoring of standard farms, the design of new models of bee-keeping exploitations and through the elaboration of information, documentation and dissemination papers of the obtained results for the promotion of model bee-keeping exploitations, compatible with the European Unions` requirements [2,4].

### MATERIAL AND METHOD

The research method used in this paper is based on the territorial analysis of the technical-economical indicators studied and with the zoning of bee-keeping production offers sufficient information's for the elaboration of the good practices guide to the

efficiency of bee-hives. In this phase the following technical-economical indicators have been analyzed:

- The bee families hers in counties.
- The families density on 100 ha total surface.
- The number of bee-keeping exploitations.
- The dimension of bee-keeping exploitations.
- The total production of honey on counties.
- The average production of honey on a family.
- The framing of counties in bee-keeping production areas.

## **RESULTS AND DISCUSSIONS**

The research methods utilized during the study have been structured depending on the steps taken, from the drawing of the plan for the conduction of the analysis to the forming of conclusions and the elaborations of proposed solutions for this area of activity.

During the drawing of the research development plan, it has held into account the overall level of development of Romanian bee-keeping in the studied perimeter and of the strategic priorities of this branch of activity in the european structures integration context and of the economic efficiency amelioration necessity. In the formulation of hypotheses, it has held into account the information sources credibility that have been accessed. In this respect, have been consulted data bases in our country (ex. The National Statistics Institute) and those available internationally (F.A.O.S.T.A.T. and E.U.R.O.S.T.A.T.), works with Scientifics character and official documents that regulates bee growth in our country.

With this primary information foundation the main hypotheses have been elaborated that refers to the techniques and processes utilized, the level of technical endowment, that of capitalization, the diversification of production, the economic and specialized training, the political- economical conjuncture in which the available resources evolve, completed by the availability of adopting solutions specific to this period. These hypotheses have a dynamic character depending on the research results, following to be adapted to the field researches and the results derived from this.

The information material establishing stage reveals the fact that for the research area there aren't sufficient data nor in the specialty literature nor in the profile research bodies data bases. For this reason, the research method will be doubled by a sociological type field research to ensure the quality and quantity of information's necessary.

In consequence, to utilize the information's existent in present has been used the documentation technique specific to social sciences that consists in the consultation of existent statistical works, official archives and existent document at the organisms related to apiculture. Between them, we will enumerate: The General Directions for Agriculture and Rural Development, The County Offices for Agricultural Consultancy, The County Sanitary Veterinary Directions, The Commerce and Agriculture Chambers, etc. . Last but not least it has been imposed

the need for consultation of scientific publications in the scientific demonstrations of the higher education institutions and of research.

So are obtained information's from statistical yearbooks, official bulletins, scientific papers, rural production reports, official reports, operative documents, etc.

The detailed information's regarding the technical-economical results of bee-keepers, the techniques utilized, the marketing methods utilized, etc., have been obtained through sociological field research methods and techniques. Of these, it has been considered the most efficient for this study the sociological interview technique due to the fact that it presents the following advantages:

For the beginning it was called the areas type sampling that consists in dividing the targeted space in different sectors after a certain characteristic. Romania's territory has been divided in six specific areas for a bee-keeping point of view called bio apicultural zones (*fig. 1*). This are differentiated after the relief, altitude and longitude – determining elements for the volume and distribution of the melliferous potential. Thus will be able to obtain information's on the differences in maintenance systems, obtained productions, the level of expenses, their structure, etc .

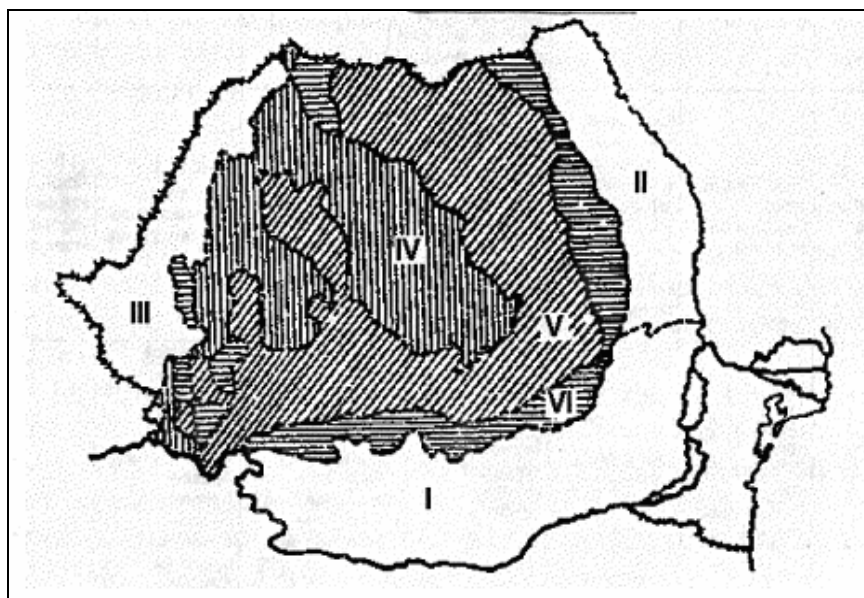


Figure 1 The bio apicultural zones in Romania

In every county it was necessary the sampling of bee hives after the group sizes of the bee families hers as follows:

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$$I = \begin{pmatrix} 0 & 1 \\ -1 & 0 \end{pmatrix}, \quad J = \begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}, \quad K = \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}$$

keepers are gone in pastoral that's why April was considered the optimal period to realize the interview.

It must be emphasized that during the move to the bee-keepers home the observation method must also be used to complete the interview. This presupposes the perception and planned registration of phenomenon's, objects, events and individuals depending on a determined situation.

In this respect is necessary to realize an observation structure on interest elements care regard both the individuals' attitude on the interview in progress, as well as the aspects regarding the bee-keeping technique, the quality and type of equipment held, their maintenance, the prosperity of the household or its lack, etc. .Because the observed aspects cannot be totally the same and so cannot guarantee a sufficient degree of representative ness, these have been later reduced to a smaller number, common to all hives to strengthen mainly the answer given by the bee-keepers during the interview.

The sorting and verification of data collected is the stage in which will take place the detailed verification of the entire obtained material in terms of shape, fund and answers exactitivity. Later the data grouping on criteria must be realized in tables in electronic format to make possible their easy processing.

Also during this stage we shall proceed to the elaboration and implementation of verification keys in the completion of those utilized during the interview that will demonstrate the value of truth of the answers and their utility. In the case of invalid answers, it has chosen their completion with the material from the direct observations of the operator.

The processing and interpretation of data presupposes an ordering and classification stage after the criteria by which they were collected and their location in data bases to make possible their interpretation. The graphical interpretation is an important component of this stage because it emphasizes much better the registered tendencies, the comparisons between different phenomena, etc.

It should be noted that in calculating the average of phenomena will not be determined always the simple arithmetic average, but the average of their evolution through their weighting towards those respective categories.

The determinations of this indicators allows a clear evaluation of the apiculture development level in the studied area in order to identify adverse factors, eventual organizational and administrative lacks, as well as the ways to ameliorate the profitability and socio-economical efficiency of this activity.

## CONCLUSIONS

In realizing the socio-economic survey, it was followed to obtain relevant answers to the analyzed problematic during this research on research directions:

- the technological options regarding the multiplication and recovery system of the bee families herds, hiving prevention and combat techniques, honey and other apiculture products harvesting processes, prophylactic and therapeutic methods against diseases and harmful pests, winter passing processes of bee

families and the quantity of honey left at the disposal of the colony for the winter pass;

- work time, the number of workers that participate in the maintenance of the bee families and the family contribution in the works on the bee hives;
- The bee keeping inventory utilized to the size and structure of the capital of the bee keeping exploitation and the way of obtaining it (acquisition or own participation);
- The volume and structure of expenses;
- The volume and structure of production and the share of pollination services in this;
- The level, place and way of production recovery;
- The degree of production processing and methods utilized;
- The informational system utilized – specialty books, postage, internet, meetings in profile associations, etc;
- The economical efficiency growth ways adopted: the increase of the bee families herds, the association and availability of bee keepers for this, the specialization of diversification of production, integration, etc;
- Methods adopted regarding the organization of activities in the exploitations, the organization of bee hives and human resources;
- The attitude and actions taken regarding the opportunities or threats linked to the integration in the European Union.

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