

# METHODOLOGICAL PROBLEMS CONCERNING THE ANALYSIS OF TECHNICAL-ECONOMIC RESULTS OBTAINED IN BEEKEEPING

## PROBLEME METODOLOGICE PRIVIND ANALIZA REZULTATELOR TEHNICO-ECONOMICE OBTINUTE ÎN APICULTURĂ

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**Abstract.** *The paper presents the main methodology elements regarding the quantitative and qualitative evaluation of the apiarian production factors in Romania. The first stage in implementing the project PN II n0. 51-058/2007, called „The elaboration and implementation of models of viable apiarian exploitations in the european economic context” (APIMODEL) has as a main objective the organization of the research infrastructure and the evaluation of the apiarian potential in Romania. This phase consists in establishing the research methods, quantification of the research materials and equipments which will be used for the development of the project.*

**Key words:** beekeeping, evaluation, factors, method

**Rezumat.** *Lucrarea prezintă principalele elemente de metodologie privind evaluarea cantitativă și calitativă a factorilor de producție apicola din România. Prima etapă de implementarea a proiectului PN II nr. 51-058/2007, având ca denumire „Elaborarea și implementarea unor modele de exploatații apicole viabile în contextul economic european” (APIMODEL) are ca obiectiv central organizarea infrastructurii de cercetare și evaluarea potențialului apicol din România. Această fază a presupus stabilirea metodelor de cercetare, cuantificarea necesarului de materiale și a echipamentelor care vor folosi pentru derularea proiectului.*

**Cuvinte cheie :** apicultură, evaluare, factori, metodă

## INTRODUCTION

The complex diagnosis of the technical-economical results obtained in the Romanian apiculture involves following the next stages:

- establishing the methodology that makes possible the passing from analytical to synthetical information;
- defining the indicators aggregation algorithm and comparing the results with the scales method (above average, average, below the values average);
- choosing the utilized standard for measuring the performances;
- presenting the problems in the development of the apiarian sector. [2]

## MATERIAL AND METHOD

The methodology of the technical-economical diagnosis is conceived to highlight and characterize the present situation through the utilization of the methods based on direct observation (non-economic enquiry based on questionnaire and interview). The data

base is constituted of apiarian units considered etalon and statistical data published at national level.

## RESULTS AND DISCUSSIONS

1. Establishing the methodology that makes possible the passing from analytical to synthetical information has at the base the operational distinction between indicators that express situations and indicators that express resources. The utility of such a distinction is present considering the plan of the research direction because it expresses:

- the information that characterizes the situation of the apiculture and mainly concerns the evaluation of the level of development.
- the information which represents the resources to indicate the development policies and the commercialization ways as efficiently as possible of the specific potential of every area.

Depending on the importance that the indicators and criteria hold in the analysis, these can be integrated in the algorithm of calculus with different integration values. As a result of the mathematical aggregation operations, the apiarian exploitations are distributed on a relative extended scale. The minimum and maximum values of the new series of indexes, as they resulted from calculations, don't coincide in any case with the minimum and maximum hypothetical values determined for the situation in which a exploitation accumulates the maximum score possible and another the minimum score possible. The lack of coincidence between the two minimums and the two maximums signifies that in Romania there are no apiarian areas that hold just positive phenomena and others with just negative phenomena. In this purpose a conclusion can be drawn with a methodological value from the manifestation of the development policies: on the other hand, the fact that any apiarian area, as underdeveloped as it is, holds positive aspects in its development, as developed it is.

In phase 1, there are four operations:

- a. the selection of relevant indicators for constituting the index of aggregated criteria;
- b. establishing the share of each indicator, respectively each indicator, in the calculations of the index of aggregated criteria;
- c. the evaluation of the intensity of the behavior of indicators depending on the scale established for each indicator;
- d. the computerization of the obtained score by each criteria for indicator/criteria;

2. The definition of area with the help of criteria based on the aggregation algorithm and their integration into three categories. For two of these criteria: demographic and social depending on the characteristic indicators for the respective phenomenon exists intermediate aggregations: after the situation and potential (resources) indicators. In this case a global aggregation regarding the mentioned aspects must be achieved. Through the correlation of the characteristics of the apiarian zones with those of each county it has been established the structure of the sample group from a spatial point of view, formed from 21 counties (fig. 1). In every county, it was necessary the sampling of bee hives after group sizes of the bee

families for the dimension intervals: 0-50 families, 50-100 families and over 100 bee families.

This grouping has been realized according to the cotes procedure care assumes following two steps:

- the construction of a reduced mode of the population looked up by the research;
- establishing subjects cotes for each operator.

The model is defined by the sizes of the bee hives and their share in each group. The second stage is represented by the distribution of subject models per operators. [1] Once established the characteristics of the population in the sample group we proceeded to realize the enquiry plan which holds the interview technique, the type of interview, the moment, the interview guide and the means through which this is realized. The interview guide has been thoroughly checked in a pre-enquiry realized on a reduced number of subjects with the purpose of discovering the possible inadvertencies, the completion and modelation of question in report with the way in which this was perceived by the interviewed population and the measured in which in offered the proposed results.

### 3. Choosing the standard utilized for measuring the performances

When the scale of distribution for the values of aggregated indexes with which performance through criteria is measured, there are two options for answering this question: "what kind of standard will be utilized for measuring the performance?"

- the construction of a scale which has a hypothetical minimum and maximum or
- the construction of a scale which has as a maximum and minimum the actual values obtained from the calculated indexes. The difference between these two procedures is substantial and has a significant importance from many reference points:
- first of all, the scale helps us appreciate the way in which it is positioned in comparison with the maximum possible for the respective criteria (searching the highest level possible);
- second of all, the scale helps us appreciate the position of the apiarian area in comparison with a relative good level, searched during the analysis.

It is considered that the second solution is preferable because it is preferable to compare one apiarian area to another, to compare each apiarian area with itself during the analysis and not with an ideal situation that might be differently built. The processing and interpretation of data presumes the ordination stage and the classification after the criteria they have been collected and their placement in the data base to make possible their interpretation. It must be mentioned the fact that in the calculation of the average of phenomena it shall not be determined always the simple arithmetical average, but the average of their evolution in comparison with the share of the respective categories. The determination of these indicators permits a clear evaluation of the development level of the apiculture in the studied area in objective of identification of the unfavorable elements, the possible organizational and administrative lacks and also the ways of amelioration of the profitability and of the socio-economic efficiency of this activity. Utilizing the methodological scheme presented above, we proceeded to dividing the national territory in six favorability areas.



**Fig. 1.** The structure of the sampling group per counties

#### 4. The presentation of the development problems of the apiarian sector

The results of the aggregated information shows that the apiarian area vary regarding their size and development degree, areas with adequate development base and areas with low development perspectives being identified. The final diagnosis represents a synthesis of the characteristics of apiculture that leads to its zonification by the variation degree of the variables considered as a multi-criterial system. The zonation of apiculture is the starting point for the formulation of principles, policies and strategic principles for apiarian development.

## CONCLUSIONS

1. The complex diagnosis of the technical-economical results obtained in the Romanian apiculture implicates following the next stages:

- establishing the methodology that makes possible the passing from analytical to synthetical information;
- the definition of the aggregation algorithm of indicators and the comparison of results with the scales method (above average, average, below the values average);
- choosing the standard utilized for measuring performances;
- the presentation of problems in the development of the apiarian sector;

2. The field research has at the base the sociological interview technique realized on a representative sampling group on the basis of the main characteristics of the apiarian exploitations: the bee families, the average productions and the average melliferous potential.

## REFERENCES

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