

THE OUTSOURCING OR INTERNALISATION OF ACTIVITIES IN APIARIES IN ROMANIA

Dan BODESCU¹, Gavril ȘTEFAN¹, Maria MĂGDICI², Codrin PAVELIUC OLARIU¹

¹University of Agricultural Sciences and Veterinary Medicine "Ion Ionescu de la Brad", Iasi
3 Mihail Sadoveanu, 700490, Iasi, Romania, Phone: +40 232 40 75 18, +40 744 70 81 73, E-mail: dbodescu@univagro-iasi.ro

²Research and Development Institute for Beekeeping, București, 12, Ficusului, 705218, Phone. 021.232.50.60, Email:maria_magdici@yahoo.com

Key words: *internalization, outsourcing, beekeeping*

Abstract

The research presented has been the result of the necessity of the growing performances of apiaries in Romania on the basis of increasing the level of fructification of the used resources. The most important activities that may be subject to the outsourcing process are: honey extraction, transport, the primary processing of apiarian products, packaging, bottling and labeling, marketing of bee products, financial-accounting records, the analysis the technical-economic projection, juridical assistance, promotion of apiarian products and services. The fructification of the mobility of certain activities in apiaries can be achieved by the following steps: the quantification of the level of usage of the available resources in the exploitation, the identification of alternatives to their own activities and the comparison of costs of alternatives with those of their own activities.

INTRODUCTION

In the activity of apiarian exploitations, in the same apiarian year or from one year to another, beekeepers are faced with a dilemma regarding to the volume and structure of works needed to be realized. A part of these activities that must be realized for obtaining the apiarian production or for its commercialization can be transferred to other economic units (third parties) as: the transport of bee families in pastoral, apiaries security, the honey extraction, product commercialization, bottling, packaging, labeling technical-economic design etc.

The beekeepers must decide what are the activities that will be realized through their own efforts and that will be transferred to other units. [3]

MATERIAL AND METHOD

The research method utilized was the case study realized at an apiarian exploitation in the Iasi County with a 60 bee families effective, a mixt maintenance system (stationary and pastoral on small distances)

whose main production is honey and secondary – wax.

The utilized information is specific to 2009 and the external factors values are established as county averages.

RESULTS AND DISCUSSIONS

The outsourcing consists in the decision to transfer, per charge, some own activities of the apiarian exploitation in favor of a third person. Par example: beekeepers that maintain bee families in the pastoral system have the possibility to transport the bee families with their own transport vehicles. Many times, these own small sized vehicles and must make many trips to move the entire apiary. In these cases, outsourcing the transport activity consist in utilizing specialized transport services.

The internalization of activities in apiarian exploitation consists in realizing through own efforts of some activities that, until that time, have been realized by third parties. Par example: some beekeepers transport hives in pastoral until a certain time soliciting specialized transport services. In some situations in which the distance to the pastoral

hearth is small, they decide to transport the bee families with their own vehicles although they have to do more trips. In this situation, they have internalized the bee families transport activity.

The objectives of the internalization or outsourcing decision of the transport activities:

- Improving the level of usage of own resources;
- Improving the economic efficiency of the apiarian exploitation;
- Insuring some technological demands;

The improvement of the level of usage of owns resources require the realization of a technological flow adapted to the specific resources of the apiarian exploitation such as work force, capital, and meliferous potential.

According to this principle, beekeepers must organize the activities in their exploitation thus that the work force should be occupied the entire year and every day of work, the production means to be utilized in a greater measure and the meliferous potential to be completely fructified. Thus, beekeepers must determine the level of usage of available resources and identify the activities that can lead to its increase.

For the example of the transport in pastoral, beekeepers that own vehicles that are indispensable for the apiarian exploitation will realize the trips with the own vehicles to utilize this means as much as possible.

In the apiarian exploitation at which the case study has been conducted, the following calculation can be realized:

If the own vehicle is used:

- Apiary size = 60 hives;
- Transport distance (round-trip) = 100 km;
- Fuel consumption = 7,5 l/100 km;
- Salary costs = 90 lei/day;
- Work consumption = 4 hours/transport or 0,5 days/transport;
- The vehicle has the capacity of 20 hives;

Than the costs will be:

- Fuel costs = 3 transports x 7,5 l fuel x 3,5 lei/l fuel = 78,5 lei;
- Salary costs = 3 transports x 0,5 days x 90 lei/day = 135,0 lei;
- Total transport costs with own vehicle = **213, 5 lei.**

If transport services are utilized:

- Same distance = 100 km
- Fare = 2,5 lei/km
- Total costs with transport services = **250, 0 lei.**

This simple calculation shows that the transport services is more expensive than the transport costs with the own vehicle. In this case, the beekeeper will utilize its own vehicle and its degree of usage will increase.

We mention that, for the given situation, we won't take into consideration the own fix costs because the vehicle is necessary to the apiarian exploitation and the beekeeper cannot dispense of it.

Still, if the sum of fuel and work force costs will be higher than the fare of the transport services the following principle must be pursued.

The improvement of the apiarian exploitation lucrativeness is the criterion that imposes the substantiation of the technological flow structure on economic efficiency principles. The beekeepers will outsource the activities that require superior expenses with external services and will internalize the activities that determine smaller costs to the costs with acquisitioning these services.

There can be cases in which the sum of all fixed and variable costs determined through the utilization of the own vehicle to transport the apiary in pastoral in the entire apiarian season is superior to the expenses with the acquisition of transport services for the similar period. Than the outsourcing of the transport in pastoral will be necessary and the use of the vehicle in other purposes. If this is used for other activities also in the exploitation, the realization of an economic analysis is imposed in which the expenses and incomes specific to these activities must be included.

A calculus model has the following form:

If the own vehicle is used for transporting the hives in pastoral and for the beekeepers transport to realize work in the apiary:

- Apiary size = 60 hives;
- Transport distance (round-trip) = 300 km – distance from the hearth of wintering at two picks with a distance of 100 km each and the trip back to the hearth of wintering;
- Number of trips of the beekeeper to work in the apiary = 12;
- Fuel consumption = 7,5 l/100 km;
- Workforce costs = 90 lei/day;
- Work consumption = 4 hours/transport or 0,5 days/transport;
- The vehicle has the capacity of 20 hives;

Then the costs will be:

- Fuel costs at hives transport = 9 transports x 100 km x 7,5 l/100km fuel x 3,5 lei/l fuel = 235,5 lei;
- Fuel consumption at beekeeper transport = 12 transports x 100 km x 7,5 l/100km fuel x 3,5 lei/l fuel = 314,0 lei;
- Salary costs = 9 transports x 0,5 days x 90 lei/day = 405,0 lei;
- Other fixed costs (insurance, road tax, repairs, maintenance amortization) = 1430 lei/year;
- Total transport costs with own vehicle = **2384, 5 lei/year**.

If differentiated transport serviced – hives -> beekeeper are utilized:

- Same distance for the hives transport = 300 km;
- Fare hives transport = 2,5 lei/km;
- Distance for beekeeper transport = 12 x 100 km;
- Fare beekeeper transport = 1,0 lei/km;

Then the expenses with the acquisition of transport services will be:

- Costs with hives transport = 300 km x 2,5 lei/km = 750,0 lei;
- Costs with beekeeper transport = 12 x 100 km x 1,0 lei/km = 1200,0 lei
- Total costs with transport services = **1950, 0 lei/year**.

Consequently, the beekeeper that is in this hypothetical situation will spend more with 434,5 lei/year if he will realize its transport and of the hives with its own vehicle. In this situation, it is indicated the outsourcing of the transport service.

This analysis is necessary also in the case in which for keeping the own vehicle for transport there are other motivations such as those of technological or personal nature to know the cost of compliance with these considerations.

In some situations, some alternatives can determine to obtain supplementary incomes. In this case, the previous analysis will be completed with the determination of the supplementary benefit determined by choosing this alternative. These are determined with the following relation:

$$B_s = V_s - C_{h_s} \quad \text{where:}$$

B_s – supplementary benefic determined by choosing the analyzed alternative

V_s – supplementary income determined by choosing the analyzed alternative

C_{h_s} – supplementary costs determined by choosing the analyzed alternative

In the following example, we present the alternative of replacing bee swarming queens from the own apiary in comparison purchasing selected queens.

We assume that utilizing queens from the own apiary require work force costs, establishing fecundation swarms, their stimulation and supervision at a cost of 12 lei/bee family.

On the other hand, utilizing selected queens require purchasing expenses at which we add eventual losses. We estimate these costs at 38 lei/bee family.

Instead, these could determine an increase of the honey production with 5% that would reflect in the increase of income with 28 lei/bee family in the two year of utilization.

The determined benefit of the two variants will be:

Variante 1: 0 lei/fam. – 12 lei/fam. = -12 lei/fam.

Variante 2: 28 lei/fam. – 38 lei/fam. = -10 lei/fam.

Consequently, if the beekeeper uses queens from its own apiary will lose 12 lei/bee family and if he uses selected queens will lose with 2 lei/bee family less.

So, starting from the previous assumptions, is recommendable the utilization of selected queens. If the supplementary income determined by using these queens would be of 20 lei/bee family, their usage could not be justified because the loss would have been of 18 lei/bee family. As well, the increase of production may be of 10% and than a supplementary income of 56 lei/bee family will be obtained resulting a benefit of 18 lei/bee family.

Although these calculations are based on some estimations is more than obvious the most opportune variant.

The insurance of some technological demands requires the correlation of the outsourcing or internalization decision of the apiarian exploitation activities with the necessities of the bee family or the particularities of apiarian products. [1]

Par example, is recommended the outsourcing of bottling and labeling the honey for lots of big sizes. The fare for this activity is smaller than the production cost if the bottling and labeling is done by the beekeepers own means. In this case, an impediment intervenes regarding the properties of the honey: this might crystallize till commercialization. In this case, the beekeepers must appreciate what is the quantity of honey that can be commercialized in a given period of time, smaller than the one till crystallization. So, the beekeepers that hold great quantities of honey and a good sales flow will outsource this activity and the others will realize this activity through their own means (if these exist) or will sell the honey bulk.

Another relevant example is outsourcing the honey extraction. It is well known the fact that for an own extraction chamber, properly equipped and authorized by resort organisms requires high fixed costs and a small level of usage. Many times this chamber is used for

extraction effectively 3-4days/year resulting a degree of usage of aprox.1%. This activity can be realized per charge in the big apiarian exploitations that hold this type of extraction chambers. The advantage of this decision is mutual: for the beekeeper because he doesn't need to make investments and then to increase the volume of expense with this and for the owner of the extraction chamber in the sense that it will grow the degree of usage of this fixed mean.

Appear instead at least two issues of technological nature: the extraction of honey is done in the same period and the extraction chamber might not be available and the bee families cannot be left for a long period without the frames because the risk of swarming appears. [2] The first problem might be solved by devising a programming of the period in which the extraction of honey will be done in the own exploitation and of the period in which the chamber can be rented. The second problem can be resolved by using reserve frames and hives bodies.

The solutions to the problems that appear have a particular character and must be identified at each exploitation level but the possibility of outsourcing or internalization of apiarian activities represents a lever that can determine the increase of the level of results in apiarian exploitations and, finally, of the welfare of beekeepers.

Regarding the time and their succession, in any economic unit, promptly, in the technological processes, some activities are outsourced and some are internalized depending on the internal and external situation of the unit. If at any given time the price of sherbet will be smaller than its production cost in the exploitation, this will be purchased as is, and then if its price will rise it will be necessary it's realization in the exploitation. At the same time, if the beekeeper wishes to realize a financing project and holds the time, knowledge and logistics necessary he will elaborate the documentation for this on its own. On the other hand, if he doesn't hold these resources, it will be more convenient to use consultancy services than to acquire the necessary logistics

and to consume from the time allocated to the apiarian activities in which he is specialized.

Instead, not all activities can be outsourced or internalized without the loss of the integrity of the main activity of the apiarian exploitation.

The technological activities cannot suffer this mobility because they are organically tied to the production process and their outsourcing would implicate in fact changing the economic units` activity domain.

The activities that can be internalized or outsourced at the level of apiarian exploitations are: honey extraction, transport, the growing of queens for own needs, some activities in the repair and maintenance on apiarian inventory, primary processing of apiarian products, packaging, bottling and labeling, the commercialization of apiarian products, apiary security, meliferous potential research etc.

Of course that at the level of each apiarian exploitation a part of these activities can be mobilized and in the case of others new activities can be identified. The decision is held by the exploitation manager.

CONCLUSIONS

1. The improvement of results in apiarian exploitation is possible also through the fructification of the mobility of some of its activities.

2. The fructification of the mobility of some activities in apiarian exploitations can be realized by the following stages: the quantification of the level of usage of available resources in the exploitation, the identification of alternatives of own activities and comparing the costs of alternatives with those of own activities.

REFERENCES

- [1] Lazăr Ștefan , 2002, Bioecologie și tehnologie apicolă, Editura Alfa, Iași, Capitolul 5, p. 123;
- [2] Mărghitaș L. Alexandru, 2002, Albinele și produsele lor, Editura Ceres, București, Capitolul 1, p. 16-19;
- [3] Neagu Vasile, 1993-Un pastoral rațional = rentabilitate = profit, România apicolă nr.4/1993, Ed. Apimondia, București, p.9.