ALTERNATIVE AGRICULTURAL INCOME OPPORTUNITIES OF YOUNG FARMERS: RABBIT MEAT PRODUCTION

BODNAR KAROLY*[1], BORBELY CSABA [2], PRIVOCZKI ZOLTÁN ISTVAN [3]
[1]University of Szeged Faculty of Agriculture, Hodmezovasarhely, Hungary
[2]Kaposvar University Faculty of Economic Science, Hungary
[3]Kaposvar University Doctoral (PhD) School of Management and Organizational Science, Hungary
*Corresponding author's e-mail: bodnar@mgk.u-szeged.hu

Abstract: *Rabbit breeding in addition to keeping farm animals will be examined with regard to marketing problems of the slaughter animals, and new possibilities are searched for selling rabbit meat, as an alternative source of agricultural income. In order to meet the requirements of the application tenders of the National Land Fund and the Rural Development Programme, the number of farms run and controlled by young farmers specialised in animal keeping have increased lately, so the results of these agricultural enterprises are, and have always been, closely related to the production structure. The small-scale rabbit production as an alternative income generating possibility requires new knowledge and capital from the already existing and operating farms; however, the young farmers will be able to use the acquired knowledge and experience in the planning and operating periods of their enterprises.*

Key words*: young farmers, alternative income, rabbit production, rabbit meat, EUME*

INTRODUCTION

In recent years, rabbit meat production situation in Hungary changed significantly. The various meat types produced in large quantities (pork, beef, poultry) significantly influenced the development of rabbit breeding, domestic demand, low levels of seasonal rabbit meat consumption patterns created a critical situation in the rabbit breeding sector, mainly for small-scale and backyard actors, however, the agricultural support system does not consider the rabbit breeding industry and the tension was also intensified by the fact that since 2015, the rabbit-targeted agricultural sector has not received any support. The secondary and tertiary agricultural education neglected the rabbit sector as well, rabbit breeding subjects and skills in most institutions are taught as an optional subject. Thus, the will-be young agricultural professionals have limited opportunities to learn about the sector specialties such as housing, feeding, breeding methods and characteristics of rabbit diseases, treatments and prevention.

In spite of all the above, rabbit breeding in Hungary has a remarkable old history. A rabbit breeding book was issued as early as the early 1900s. Half of the rabbit meat produced in the world comes from Europe. The needs for rabbit meat exceed production in many countries on our continent. Italy has a leading role in European rabbit meat production with a 40% share of rabbit meat trade on the continent and 20% of the total of the world. Slightly behind Italians follow Spain and France. Hungary when being at the peak of production was the ninth largest rabbit meat producer.

While 90% of the rabbits were bred on small farms and the share of large-scale farms was only 10% in the 1980s, today practically 100% of the cutting rabbit is produced on large farms and there is no acquisition from small-scale farms and backyard farms. Thus the meat type rabbit became a large-scale farm animal in Hungary. Due to the ever-increasing competition, poor utilization and increased delivery costs the majority of rabbit slaughterhouses closed.

Currently there are only two slaughterhouses: the Swiss-run house in Lajosmizse (Olivia Ltd.) and the other operated by the Hungarian in Baja (Tetrabbit Ltd.) Works, but they cut

the rabbits produced on their own farms. Compared to the whole carcass the demand for cut-up products has been increasing, it makes up approximately the half of the total exports [10].

It was the price war of purchasers, the inbreeding of the stock on small-scale farms and backyard farms, falling productivity and quality deterioration that led to the present situation. The profitability of slaughter rabbits produced in backyard conditions is very low, while the buying and shipping costs are very high. Therefore the Rabbit Product Council primarily does not focus on the "purchased" rabbit when considering sector development plans; instead they encourage viable small and medium-sized farms (200-1000 nut plants). These farms would operate primarily in the framework of social employment and the produced and processed products could be consumed locally. Despite of all this, today, after re-starting, the Hungarian small-scale and backyard production would be able to produce up to 10 million slaughter rabbits. The government has launched various professional programmes to improve the situation (e.g. Mintanyúl Co-op, Vágónyúl Co-op) but without any breakthrough [9].

Although the last 20 years have witnessed a clear change in the meat consumption habits from the direction of beef towards poultry, in most countries no remarkable change was observed as for the consumption of rabbit meat. The rabbit meat is generally less well known and relatively expensive [7].

Most rabbit meat is consumed in Malta (8.89 kg/person/year). The consumption of Italians and Cypriots is also outstanding with 5.71 kg and 4.37 kg respectively. The French, the Belgians and the Spanish consume almost the same amount of rabbit meat (2.6-2.8 kg/person/year). The Portuguese and the Czech also consume nearly 2 kg quantities per year. While the Russians, Slovenes, Romanians, Dutch, Greeks and Poles eat 0.5-0.8 kg rabbit meat per person, in Hungary 0.1 kg/person/year consumption is recorded in official statistics [5], although considering the latent consumption, this value is estimated approximately 0.5 kg/person/year.

The chemical properties of rabbit meat with low fat content, a favourable fatty acid composition and sensory characteristics of diet will meet the modern needs of consumers. Rabbit meat has much better nutritional value than other meats. It is high in protein, the amino acid composition is favourable, mainly for the development of children, and it is also recommended for sick people and for those exposed to hard physical load, for example athletes. A positive effect on the development of small children, the rabbit meat is low in fat and cholesterol content, and it has the optimal fatty acid composition. Therefore it is not fattening, it can be inserted into the diet, or reform nutrition. Because of its low sodium content rabbit meat can be consumed also by people suffering from high blood pressure.

There are many B vitamins in it. Consuming 100 g rabbit meat can cover 8% of the daily requirement of vitamin B2, 10% of vitamin B5, vitamin B6, 17%, 55% of vitamin B3 and vitamin B12, for example 100g of rabbit meat will cover an average adult’s daily dose. Its iron content is not negligible, which could be utilised by pregnant mothers, babies, and those having iron deficiency. The vitamins and antioxidants in the rabbit liver protect our body against free radicals. The most possible amount of beneficial nutrients get into the body; the essential amino acids-utilization of rabbit meat is 30 percent better than that of the chicken [11].

MATERIALS AND METHODS

Our investigations were limited to the Southern Plains Region (Csongrád-Bács-Békés Counties) in Hungary. They are non-representative. Interviews qualitative research method was used where the questions are grouped in themes and topics that have been defined before. We asked directly young farmers who operate a farm, and then we recorded and analysed the answers. The interviewees were mainly young farmers who have run their farms for 1-5 years. The cost and income conditions were projected for cutting rabbit or processed rabbit meat, free of deductions and contribution expressed as a net amount. Thus the results apply to small farms (1-20 does), as farms are operated by young farmers in the test are all in this range. None of the studied economies specialize only in rabbit breeding, their viability index (ESU) is supplemented by rabbit husbandry. The produced slaughter rabbits were not sold as live rabbits; they were consumed exclusively by their families or their relatives, while the carcass (the whole) with the edible offal was sold to small producers. The rabbits were kept in wooden cages made by the farmers themselves. The cages were placed in buildings with no heating and ventilation. The animals had no specially compiled concentrate; they got the cereals and hay bought for the existing farm animals (horses, cattle, pigs, sheep, and poultry). Special rabbit feed was not given in either case. Rabbit breed and colour composition show a varied picture, purebred breed was not registered in this research.

The rabbit was sold as whole carcass only, there was no demand for parts and cut products. As for the home-processed and sold rabbit, it was requested that the carcass should contain the edible offal (heart, lungs, liver, and kidneys) as well as the head. The young farmers in this research were all self-employed or primary agricultural producers, and they all had small farmers' eligibility, without exception.

According to the Act 52/2010 (IV 30) concerning the smallholder food production, production and sale conditions of FVM [1] 50 rabbits can be slaughtered and the meat can be sold under veterinarian-approved and controlled conditions. This legislation provides an opportunity and at the same time raises expectations so:

- the small producers can slaughter their rabbits bred and owned by themselves;
- for the slaughter of rabbits (bleeding, scalding, plucking, skinning, gutting) a separate room used exclusively for this purpose should be provided with adequate size, easy to clean and disinfect, having hot and cold tap water;
- slaughter offal collection, removal and wastewater treatment should be carried out in accordance with the legislation, at the place of the slaughter;
- prior to slaughter, the producer shall consult the veterinarian surgeon about the date of the slaughter; the meat of the slaughtered animals must be immediately cooled to 0 - +4 °C, the offal to 0 - +3 °C temperatures and the cooling chain must be maintained during the period of storage, transport and sales. When using a system of cooling with water, water-flow method can be applied.

Expenditures' analysis: The cost of rabbit houses and buildings could not be assessed, since they were not limited only to rabbit breeding, they served for keeping other farmed animals in them. The buildings, taking into account the rabbit breeding, no separate amortization expense was recognized.

The net cost of the second-hand doe rabbit cages made of wood with nesting area, hay pockets and drinkers was 9,000-11,000 HUF/space of doe. As for housing the young offspring, their cages made of wood with hay pockets and drinkers cost net 5,500-7,000 HUF/space/animal.

The average sales price of the slaughter rabbit at the time of the investigation considering 2.5-3.2 kg live weight was 480-530 HUF/kg. (Note: at the time of the investigation the purchase from small-scale and backyard farms ceased.)

The meat recovery rate of mixed breed and sex composition rabbits having 2.5-3.2 kg live weight slaughtered and processed on family farms was 55-60%.

The average sales price of home-processed rabbit as carcass together with edible offal and heads cost 1,100-1,200 HUF/kg sold by small scale farmers.

When comparing with the retail prices the carcass rabbit meat (without heads and edible offal) price was 2,550 HUF+27% VAT, the price of rabbit front leg 1,770 HUF+27% VAT; rabbit hind leg 2,990 HUF+27% VAT; and the bony front part of rabbit EUR 1,210+27% VAT.

RESEARCH RESULTS

Income-generating ability of the rabbit

The income-generating ability of the rabbit is given by the EUME (European Units for Measurement) value derived from a test based SGM (Standard Gross Margin) value- In Hungary in the 2007-2013 budget period there were three tenders, while in 2014 and 2015 one in each year for the budget of the previous period. These were supported by the European Agricultural Fund for Rural Development to start young farmers with and amount up to € 40 000 HUF that was 100% (90%+10%) intensity tender. Both the 2014 [2] and the 2015 Call for Proposals [3] for the animal production sector that we examined, additional points were given for rabbit production to encourage young farmers to undertake strengthen this sector.

For the above mentioned extra points the winning young farmers undertake that by the fourth year of the operating period the ratio of animal husbandry, horticulture or two together would have a 84-100% share in the composition of their farm activity.

The special position of rabbit production

With reference to the test farm database, rabbit production has a specific, special position in the livestock sector which is manifested in that the calculation does not take into account neither the different age groups nor the breeding male animals in contrast to other animal species. The calculation method is limited only to breeding does. So the size of the rabbit population of the young farmers, income-producing capability index does not reflect, as there are no SGM values for breeding bucks, young and slaughter rabbits. Our surveys have shown that young farmers' population used only natural mating, the sex rate was 1 buck for 5-6 does. After kindling they mate again the rabbit does relatively late, so they lose 2-3 litter per doe every year, but still they can realise 25-30 slaughter rabbits per doe per year [8], which unfortunately is not calculated by the SGM test farm system (Table 1).

Table 1.

Calculation of rabbit production income-generating capacity based on SGM test

Code	Denomination	Unit	SGM
J17	Rabbit (breeding) (rabbit mothers)	HUF/animal	15 442

Source: MVH 64/2015. (V.7.) Announcement: The detailed conditions about the available funds for young farmers in 2015 (Annex No 8.)

Profitability assessment showed that calculating only with female breeding animals the expected minimum of 10 EUME value can be achieved with 246 doe rabbits (10.03 EUME) on the average annual level. When calculating with the capacity needs of population growth, which the operational test, as mentioned before, do not calculate with, rabbit breeding is deservedly less popular among young farmers.

CONCLUSIONS

As the small-scale and backyard slaughter rabbit acquisition ceased to exist, as well as because of the shortcomings of the operational test calculations, the smallholder rabbit meat production, as an alternative could play a significant role in reviving the farms of the young farmers. The production of rabbit meat does not mean only food that is rich in vitamins having health promoting effect but also a supplementing income, where the low cost compared to other species in total and rapid reproductive cycle provide guaranteed profitability for start-ups. Not to mention if together with entrepreneurship, promoting the consumption of rabbit meat might also be granted support by the community marketing means.

The young farmers are receptive to absorb new knowledge, therefore the organization of specific training on rabbit breeding and meat processing and the coordination and execution of tasks cannot be neglected.

However, the undesirably low level of agricultural subsidies of the earlier rabbit breeding industry or the level of individual support was justly compensated by the Rural Development Programme for the year 2016 titled "Modernisation of livestock farms" VP2-4.1.1.1-16 code for proposals [4], where beyond the 50% basic support the young agricultural enterprises could receive +10% extra funding. It is an exemplary application system to help and promote starting rabbit production, strengthening family farms, for new job opportunities, thereby increasing rural employment.

The small farm level production of rabbit meat products might be perfect to help the livelihood of families with children living in villages of disadvantaged, impoverished to reduce regional social tensions and to compensate the periodic turnover problems in the existing livestock sectors, and to bridge the liquidity problems of young farmers. In addition, rabbit production and rabbit meat consumption can play a significant role in establishing the basics of self-sufficiency, self-reliance and entrepreneurship, in implementing these objectives, further fund-raising farm support opportunities are necessary, and also the legal background for proper licensing of smallholder activity, well performing breeding animals for backyard production, excellent consultant and educational base, as well as promoting gastronomy for healthy rabbit meat consumption, a separate support system, help and measures from government.

Establishing the expected demand for rabbit meat products and an encouraging a scoring method design of the application system, it can be expected from young farmers of the present and future to consider reasonably the income relations and capital intensity [6] of backyard rabbit farming so their farms under their management could grow and develop spectacularly and thus contribute to the development of the country.

REFERENCES

[1]. ANONIM, 2010, A földművelésügyi és vidékfejlesztési miniszter 52/2010. (IV. 30.) FVM rendelete a kistermelői élelmiszer-termelés, -előállítás és -értékesítés feltételeiről. Magyar Közlöny, 2010. 66.

[2]. ANONIM, 2015A, A vidékfejlesztési miniszter 34/2014. (IV.4) VM rendelete az Európai Mezőgazdasági Vidékfejlesztési Alapból a fiatal mezőgazdasági termelők indításához a 2014. évben igényelhető támogatások részletes feltételeiről. Magyar Közlöny, 2015. 51.

[3]. ANONIM, 2015B, A Miniszterelnökséget vezető miniszter 24/2015 (IV.28) MvM rendelete az Európai Mezőgazdasági Vidékfejlesztési Alapból a fiatal mezőgazdasági termelők indításához a 2015. évben igényelhető támogatások részletes feltételeiről Magyar Közlöny, 2015. 59.

[4]. ANONIM, 2016, Széchenyi2020 Miniszterelnökség Vidékfejlesztési Program 2016. FELHÍVÁS A mezőgazdasági üzemek összteljesítményének és fenntarthatóságának javítására. Állattartó telepek korszerűsítése A felhívás kódszáma:VP2-4.1.1.1-16 pp. 5-14.

[5]. BLEYER F., SZENDRŐ ZS., 1999, A nyúltenyésztés helyzete Magyarországon. PATE Kaposvár Állattudományi Kar, Kisállattenyésztési Tanszék, Tanulmány pp 6-7.

[6]. BENKŐ-KISS Á., BODNÁR K., KIS K., HORVÁTH J., 2010, Preliminary investigation on innovation activity of agricultural ventures in South Great Plain Region in Hungary. Agrár- és Vidékfejlesztési Szemle, 5: (1) pp. 220-225.

[7]. FODOR K., 2004, A házinyúl fejlődésének és ivarérésének nyomon követése és takarmányintenzitása, a genotípus, a kor és ivar függvényében Szent István Egyetem Állatorvos-tudományi Doktori Iskola, Doktori Értekezés pp.19-20.

[8]. GYURICZA CS., 2014, Segédlet a közfoglalkoztatási programhoz kapcsolódó állattartáshoz és állatitermék feldolgozáshoz Szent István Egyetem Mezőgazdasági és Környezettudományi Kar pp.2-3

[9]. JURÁSKÓ R., 2014, A magyar nyúltenyésztés helyzete 2014 évben. Nyúltenyésztési Tudományos Nap Kaposvár; Nyúl Terméktanács. Saját kiadvány pp. 5-6.

[10]. SZENDRŐ K., 2015, A világ és Magyarország nyúlhústermelése és külkereskedelme. Gazdálkodás 59 (2): 124-125.

[11]. SZENDRŐ ZS., MATICS ZS., GELENCSÉR ZS., RADNAI I., 2010, Nyúltenyésztés. Kaposvári Egyetem pp.3-4