

RABBIT PRODUCTION IN EAST EUROPEAN COUNTRIES

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SUMMARY

Despite their old tradition and their 10 % of the world meat rabbit production, there is few available information concerning rabbit breeding in the East European Countries. This study summarizes the rabbit meat production in this geographic area.

In Bulgaria, the rabbit production is traditional and self-consumption oriented. A slight exportation trend appeared at the end of the 80's. The production of rabbit meat may be evaluated at 4 100 tons/year.

In Hungary, the important production is only export-oriented without any tradition of rabbit production and internal-market. Hungary is the second exporting country in the world, just after China. After the creation of huge production units, Hungary organized the rational rural farms production. The political and economic changes of the last 3 years allowed the establishment of some private middle size farms. The production may be evaluated at 20 000 tons/years including 18 400 tons/years for exportation and 1 000 to 2 000 tons/year for self-consumption.

In Poland, the rabbit production began on the Xth century and strongly increased after the second world war. The two components of the polish rabbit production are : the rural (90 % of the production) and the rational rabbit production (limited but increasing). The rabbit meat production is both for self-consumption and exportation. The whole polish production may be evaluated at 25 000 tons/year including

20 000 tons/year for rural production and 5 000 tons/year for rational production.

In Romania, a very ambitious development program for rabbit meat production was launched in 1978, creating very big industrial farms mainly export-oriented. Romania became an exporting rabbit meat country. The political changes at the end of 1989 strongly modified the structures of the rabbit production and reoriented it towards the internal-market. The romanian production may be evaluated at 16 000 tons/year.

In Czechoslovakia, the rabbit production is also very old and have 3 components : the hobbyist production (7 000/8 000 tons/year of rabbit meat), the traditional which is the more important and the rational, still limited but fast-expanding because of the last political changes. The production is mainly self-consumption oriented. The czechoslovakian production may be evaluated at 30 000 tons/year including 27 000 tons for the rural production and 3 000 tons/year for the rational production.

On the whole, a strong exporting calling distinguishes the East European Countries which share with China the monopoly of the exportations to the E.E.C.. Otherwise, the east european rabbit production has suffer and is suffering important changes : first, the traditional, self-consumption oriented rabbit production was changed in rational production by the creation of state farms and coops ; presently, middle-size production units (100 to 300 does) with commercial calling are developping in the same conditions as they were in West Europe during the 70's.

RESUME : «Production du lapin dans les pays d'Europe de l'est.»

Même si les pays d'Europe de l'Est (Bulgarie, Hongrie, Pologne, Roumanie, Tchécoslovaquie) présentent une très vieille tradition cunicole et s'ils produisent environ 10 % de la viande de lapin dans le monde, les travaux consacrés à leur cuniculture restent peu nombreux. Pour cette raison, nous avons réalisé un étude globale de la production du lapin de cet ensemble géographique.

En Bulgarie, la production cunicole est essentiellement fermière et destinée à l'auto-consommation. Une légère tendance exportatrice est apparue à la fin des années 80. La production peut être évaluée à 4 100 tonnes/an.

La Hongrie présente une production importante dans un pays sans tradition cunicole, ni marché intérieur, et a, par ailleurs, créé une cuniculture uniquement exportatrice. La Hongrie est ainsi devenue le deuxième pays exportateur de

viande de lapin du monde, après la Chine. Après avoir créé de grosses unités de production, la Hongrie s'est réorientée vers le développement d'une production fermière organisée. Les récents changements politiques et économiques ont entraîné la libéralisation de la production cunicole et la mise en place d'élevages privés de taille moyenne. La production peut être évaluée à 20 000 tonnes/an dont 18 400 tonnes/an pour les exportations et 1 000 à 2 000 tonnes/an pour la consommation intérieure.

La Pologne a une production de lapin remontant au XI^{ème} siècle et qui s'est fortement développée après la deuxième guerre mondiale. La cuniculture polonaise comprend deux composantes, la cuniculture fermière représentant environ 90 % de la production et la cuniculture rationnelle, encore limitée mais en augmentation. La production polonaise du lapin de chair est destinée à l'auto-consommation ou à l'exportation. Globalement, la production polonaise de viande de lapin peut

être évaluée à 25 000 tonnes/an dont 20 000 pour la cuniculture rurale et 5 000 tonnes pour la cuniculture rationnelle.

La Roumanie a lancé en 1978 un très ambitieux plan de développement cunicole. Ce programme consistait en la création de très grosses fermes industrielles. Il était destiné prioritairement à l'exportation et a permis à la Roumanie de devenir exportatrice de viande de lapin. Les changements politiques de fin 1989 ont profondément modifié la structure de la cuniculture roumaine et provoqué sa réorientation vers le marché intérieur. La production roumaine peut être évaluée à 16 000 tonnes/an.

La Tchécoslovaquie a également une production cunicole très ancienne. La cuniculture tchécoslovaque présente trois composantes : la cuniculture hobbyiste produisant 7 000 à 8 000 tonnes/an de viande de lapin, la cuniculture fermière représentant la plus grande part de la production de viande, et la cuniculture rationnelle encore limitée mais en fort

développement à la suite des récents changements politiques. La principale destination de la cuniculture tchécoslovaque est la consommation intérieure. La production cunicole tchécoslovaque peut être évaluée à 30 000 tonnes/an dont 27 000 pour la production rurale et 3 000 tonnes pour la cuniculture rationnelle.

Dans son ensemble, l'Europe de l'est se caractérise par sa forte vocation exportatrice et partage avec la Chine le monopole des exportations sur la C.E.E. Par ailleurs, la cuniculture est-européenne a connu et connaît de profondes transformations : dans un premier temps, passage d'une cuniculture fermière orientée uniquement vers l'auto-consommation à une production organisée par des fermes d'état ou des coopératives ; puis actuellement, création d'unités de production de taille moyenne (100-300 lapines) à vocation commerciale, dans des conditions ressemblant à celles de l'Europe occidentale des années 70.

INTRODUCTION

East european countries (Bulgaria, ex Czechoslovakia, Hungary, Poland, Romania) have a very old tradition of rabbit production (RAFAY and PARKANYI, 1988 ; NIEDZWIADZECK, 1988). Besides, their production is rather important, and is representing almost 10 % of the world rabbit meat production (LEBAS and COLIN, 1992). Some of these countries had or have still a significant angora rabbit wool production.

But, even with these facts, the literature concerning east-european rabbit production is very rare and uncomplete, except for Hungary (LEBAS, 1975; ANONYMOUS, 1978 ; JOUVE, 1989 ; YONCOURT, 1988 ; KUSTOS and CSONKA, 1992 ; SINCOVICS, 1992.)

Before studying the situation of each country, we shall emphasize the difficulties which have been met to describe quantitatively and qualitatively each country situation. These difficulties have been already described (LEBAS and COLIN, 1992 ; COLIN, 1993).

Very traditional characteristics of rabbit production : The main part of the producing does belongs to small farmers, with less than 20 does per unit, which are often unknown by the official census

Very few information and statistics are available for some countries : for example, very few information is available for Bulgaria.

Incoherence of the statistics methods from one country to another, with difficult results interpretation as consequence.

For these reasons, we have used the synthetic methodology, already presented in some previous works (LEBAS and COLIN, 1992 ; COLIN, 1992, 1993)

and consisting in carrying out a synthesis of official statistics, public and private economical datas, account of travel, and of evaluations using the FINZI's method (1991).

BULGARIA

Very few information is available concerning rabbit production in Bulgaria. However, some existing official issues and advertising for this production (including postal stamps !) are demonstrating an interest of public authorities.

The only concrete data shows that the Bulgarian rabbit production is mainly a traditional and self-consumption oriented one. So, about 10 % of the country families have a backyard unit of some does (generally less than 5).

At the end of the 80's, Bulgaria began to export rabbit meat : these exportations concerned collected rural rabbits. They were never very important. For example, the Bulgarian exportations in France never surpassed 600 tons/year (table 1). They reached only 180 tons in 1986 and 460 in 1987 for the E.E.C. (This means 0.5 and 1.2 % of the total E.E.C importations (JOUVE 1989) and decreased after, may be because of a decrease of production in relationship with the Viral Haemorrhagic Disease. Recently, it seems that they have begun again, particularly in the direction of Italy. In the absence of official statistics, a synthesis of the values regarding exportations and of the evaluations according to FINZI's method (1991), the Bulgarian rabbit meat production can be evaluated at 4 100 tons/year ; it means a higher level than the previous evaluation (LEBAS and COLIN, 1992). Angora rabbit has no significant importance in Bulgaria.

Table 1 : Evolution of the Bulgarian exportations of rabbits in France, according to HENAFF *et al.* (1986, 1987), ANONYMOUS (1988, 1989), SINQUIN (1990, 1991, 1992)

Year	Exportation in France
1985	NS
1986	NS
1987	NS
1988	570 tons
1989	333 tons
1990	211 tons
1991	93 tons

NS : non- significant

CZECHOSLOVAKIA

(States born of the former Czechoslovakia : Czech Republic and Slovakia)

The Czechoslovakia splitting in two independent states, the Czech Republic and Slovakia, is too recent and too few information is available to carry out a separate study of the rabbit production in this two new countries. So, the whole situation of the Czechoslovakia will be studied. Finally, a first hypothesis regarding the repartition of the production between the Czech Republic and Slovakia will be presented.

Story and structures

Rabbit production in Czechoslovakia is very old since according to RAFAY and PARKANYI (1985), the first known text concerning rabbit production in the country dates back to the 13th century, while different agricultural or even economic books published in 1810, 1864, 1869 deal with rabbit.

Rabbit production had a big development in the 1870s : so, the first rabbit oriented review was published in 1873 and the first association created in 1875. During the second world war, Czechoslovakia was already producing 18 to 20 millions of rabbits per year ; this means 30 000 tons of rabbit meat.

So, Czechoslovakia appears to have an old tradition of rabbit production, even older, from different sides, than this one of the actual rabbit meat production leader countries (Italy, France, Spain). This tradition concerns simultaneously the rabbit meat production (RAFAY and PARKANYI 1988) and the angora wool production (ROUGEOT and THEBAULT, 1985).

In spite of this tradition, the actual structure of the rabbit production remains difficult to be

established because the information is rare (RAFAY and PARKANYI, 1988) and the situation is changing very quickly. However, three components can be distinguished :

Hobbyist rabbit breeding: As in Germany, in Belgium or in Netherlands (COLIN, 1992) hobbyist rabbit breeding appears to be very developed in Czechoslovakia. Already during the 19th century, small breeders met each other and created clubs and associations. These were oriented towards genetic improvement of pure-breed animals (RAFAY and PARKANYI, 1988)

This tradition is still alive and 85 000 small breeders can be counted, met in 2 associations (Czech Breeders Union and Slovak Breeders Union) and selecting 69 pure breeds. The breeders are generally not farmers, but have all sorts of professional activities. They organise fairs and demonstrations at local, regional or national levels. Even if meat production is not their first motivation, their rabbits are either self-consumed, or sold to be slaughtered or exported. So, it can be considered that these hobbyist breeders have 300 000 does and produce 7 000 to 8 000 tons of rabbit meat.

Traditional rabbit production : This area represents the main part of the rabbit meat production. It involves 170 000 backyard units, representing 800 000 to 900 000 does.

These traditional rabbit units have been very concerned with the V.H.D which has been widespread in Czechoslovakia from 1987 (MORISSE *et al.*, 1991) and many of them have stop their activities.

Rational rabbit production : This area remains not very developed : in 1988, Czechoslovakia had only few industrial rabbit farms, from which the biggest one reached 90 000 rabbits per year (2 000 does about). Its current total production does not seem surpass 1 000 to 2 000 tons per year.

The political and economical changing of the last 3 years have strongly modified the Czechoslovakian structures of production. The coop and state farms have been or are being privatised. Some of these farms, until now pigs oriented, are making a reconversion to rabbit production. Simultaneously, commitments are being discussed or carried out with french or italian companies to create new rational rabbits farms.

The slaughtering

A big part of the produced rabbits are slaughtered in the numerous very small slaughtering plants located elsewhere in the country. Two industrial slaughtering plants, however, exist close to Pragua, each one producing 20 000 or more rabbits/week.

These both slaughtering plants are mainly export-oriented. They collect the rabbits of the rational farms and partly these ones of some rural farms. The weight of the carcass is 1.5 kg about.

Domestic consumption and exportation

The internal market : Contrary to the Hungarian, Polish or even Romanian situations, the Czechoslovakia rabbit meat production is mainly domestic consumption oriented (RAFAY and PARKANYI, 1988). The self consumption is very developed and rabbit meat is available commonly in the cities and its use is included in alimentary habits of the country.

The exports : The rabbit exports are only a limited part of the national production (10 % about) ; they concern mainly live rabbits and, for a small part, fresh or frozen meat (RAFAY and PARKANYI, 1988 ; SINQUIN, 1988). These exportations are mainly oriented towards Italy (ANONYMOUS, 1987) and, for a small part, Germany (ANONYMOUS, 1992). They represent 2 000 tons/year of rabbit meat about (JOUVE, 1989). They strongly decreased at the end of the 80s, probably as a consequence of the VHD but are now again increasing, particularly in relationship with the development of the new rational farms.

Other use of the rabbit

Besides the meat production, one important aspect of the rabbit production is the skins manufacturing mainly used for the hat industry. TONAK, the biggest czechoslovakian hat company is working 12 to 13 millions of skins (RAFAY and PARKANYI, 1988). The use of the rabbit as a lab animal is also developed (RAFAY and PARKANYI, 1988).

Quantitative evaluation

In 1988, RAFAY and PARKANYI evaluated the rabbit production at 30 000 tons of rabbit meat per year. From this date, Czechoslovakia has known the contradictory consequences of the VHD which has provoked the disappearance of rural farms and the economic liberalisation enabling new farm creation.

These two phenomenas seem to compensate for each other and the previous evaluation of 30 000 tons rabbit meat/year for the ex-Czechoslovakia can be confirmed, from which 27 000 tons for the rural production and 3 000 tons for the rational production (LEBAS and COLIN, 1992).

It's actually very difficult to have a separate evaluation of rabbit meat production for the new two states, Slovakia and Czech Republic. It can be supposed that the Slovakian production is 12 000 tons/year and the Czech one of 18 000 tons/year. But this hypothesis has to be confirmed.

THE ANGORA RABBIT :

Czechoslovakia presents a tradition of angora rabbit breeding : angora rabbit appeared in the country at the beginning of the century (ROUGEOT and THEBAULT, 1988). It reached its biggest level of production in 1967 with a production of 250 tons of angora wool/year (RAFAY and PARKANYI, 1988) and so was in competition with France to be the second producer around the world.

Since that, the level of production has strongly varied, mainly in relationship with the market prices and opportunities : the level of production has been estimated at 30 tons of angora wool/year in 1988 (RAFAY and PARKANYI, 1988) or at 60 tons/year in 1989 (THEBAULT and DE ROCHAMBEAU, 1989). So, Czechoslovakia is no longer a big producer of angora wool.

HUNGARY

Hungarian rabbit production is a very specific one : indeed, even if the rabbit was traditionally present in few Hungarian rabbit farms (LEBAS 1975 ; CSIKVARY, 1980) and if a little domestic consumption existed (KUSTOS *et al.*, 1988), the relative importance of the rabbit production in the agricultural Hungarian production remained very low until 1960. After this date, it was quickly developed following a political decision to export rabbit meat in the Western European Countries. So, in few years, Hungary became a big rabbit meat producer and the second exporter around the world. (LEBAS and COLIN, 1992). A similar trend, but quantitatively less important, has taken place for the angora rabbit wool (KURDI *et al.*, 1988).

THE MEAT RABBIT

A quickly moving rabbit production

The story of the rabbit production in Hungary can be summarised in 4 periods :

* *Until the middle of the 60's.*

Hungarian rabbit production was only a backyard one : very little units (only few does), very traditional breeding methods, use of breeds as giant (CSIKVARY, 1980)...At this time, there were only a few thousands of rabbits farmers (CSIKVARY, 1980) and the exportations of the country were very low : 40 tons of live rabbits in 1961 (ANONYMOUS, 1978).

*** End of the 60's, beginning of the 70's.**

Launching of the first programmes of developing an industrial rabbit production by creation of very large rabbit farms (JOUVE, 1989).

So, the following was created :

- DUVANARSANY coop at 30 km in the South part of Budapest (JOUVE, 1989). This 36 buildings complex reached a 14 000 does capacity during its biggest development period. So, it produced 650 000 rabbits /year. It belonged to the coop which was also the owner of 6 000 hectares, of dairy farms, fish farms, orchards...

- State farm of BIKAL at 200 km in the South West of Budapest (LEBAS, 1975). Besides its rabbit activities, this 8 300 hectares farm had dairy farms, pig farms, poultry farms, orchards, cultures, fish farms... Its 42 buildings rabbit farm reached 10 000 does during its biggest development period. During a second time this farm had however eliminated the rabbit production itself and orientated its activities on slaughtering, rabbit feed production and the general management on the rabbit production (SINKOVICS, 1992).

- The state farm of KORNJE at 40 km at the East of Budapest (LEBAS, 1975 ; JOUVE, 1989). This farm had many activities too (dairy production, pig production, cultures, orchards, alfalfa deshydrating...) but the rabbit production was particularly important : besides the 4 000 does breeding, the coop had a 60 000 rabbit/week slaughtering plant, a specialised rabbit feed plant and a skin and by-products (visceras) plant (KOROTNAY, 1992). As at Bitkal, the importance of the rabbit farm itself decreased and the other rabbit activities increased.

*** From the beginning of the 70's to the 90's. :**

The industrial farms created during the previous period, quickly demonstrated to have a poor profitability and had been progressively converted to the selected breeders production (MATHERON, 1976). This work of selection was relieved by some little 50-60 does multiplication farms (JOUVE, 1989).

Simultaneously, the production of rabbit meat was carried out by many little rural farms (5 to 10 does) (LEBAS, 1975 ; KUSTOS *et al.*, 1988 ; KUSTOS and CSONKA, 1992). These farmers were organised in coops (these ones previously described) supplying the breeders, the feed, the drugs, the technical service, the financial assistance when a farm was created (SINKOVICS, 1992) and collecting the rabbits (JOUVE, 1989).

These coops and state farms were associated in one company, the Company of Production and Commercialisation of the Hungarian rabbit (SINKOVICS, 1992) and worked together with the universities, particularly with this of Gödöllő (MATHERON, 1976). During this period the main part of the rabbit development was carried out by 7

slaughtering plants belonging to some state farms or coops. They sold their production to one unique company, TERIMPEX, which had the hungarian meat export monopoly (for the rabbit and for the other species. (DE TOQUEVILLE, 1992).

*** From the beginning of the 90's :**

The big economical and political changes that Hungaria has known for 3 years have some important consequences on the rabbit production structure. Importantly, the following has to be emphasized.

- The slaughtering plants privatisation and the sale of some of them to foreign companies (mainly italian ones)

- The very strong decrease of the industrial farms activities.

- The creation of some private companies in competition with the coop for rabbit collecting and for the products and services distribution.

- The creation of middle size (some hundred does) rabbit farms.

Even with these big change, Hungarian rabbit production has kept his main characteristics. It remains mainly a traditional and export-oriented one.

The structure of production

Even if from 2-3 years, some specialised private farms have been created, rabbit meat production continues to be carried at 90 % by the traditional farms. This has been studied by different authors (LEBAS, 1975 ; KUSTOS *et al.*, 1988 ; KUSTOS and CSONKA, 1992) and so it is possible to understand its main characteristics :

- The little traditional breeders are not only farmers but come from the other sectors of activities. So, in 1979, LEBAS described the situation of the Budapest little breeders coop. This had workers engineers, and even the fire men captain and the police prefect as partners !!! The surveys carried out in 1984 by KUSTOS *et al.*, (1988) and in 1988 by KUSTOS and CSONKA (1992) have enabled to know exactly the social origin of the farmers (table 2)

Table 2 : Social origin of the Hungarian rabbit breeders, according to KUSTOS *et al.* (1988) ; KUSTOS and CSONKA (1992).

Social origin (%)	KUSTOS <i>et al.</i> 1988	KUSTOS, CSONKA 1992
Retired	44.7	22.0
Workers	35.4	46.4
Brain workers	15.0	15.0
Without profession, students	4.9	16.6
Total	100	100

This data demonstrates that a big part of the rabbit production is done by retired people, whose relative importance has however decreased by half in 4 years. More and more, the production is carried out by younger and more active categories of the population. The strong decreasing of the average age of the rabbit farmers confirms this trend : it has diminished from 51.7 years in 1984 to 41.2 in 1989.

It has to be emphasized that now the social and professional repartition of the rabbit farmers corresponds to the one of the whole country population (KUSTOS and CSONKA, 1992). More than 80 % of the farms have less than 20 does, the average size being 17.7 breeders (males and females) by farms. This farm size has strongly increased, because it is passed from 13.6 to 17.7 breeders in 4 years (table 3).

Table 3 : Farm size on the basis of number of rabbit breeders, according to KUSTOS *et al.*, 1988 ; KUSTOS and CSONKA, 1992.

Nb of breeders by farms (%)	KUSTOS <i>et al.</i> 1988	KUSTOS, CSONKA 1992
1-5	15.1	14.6
6-10	51.1	33.4
11-15	20.8	21.3
16-20	7.0	12.7
More than 20	6.0	18.0
Total	100	100

The main parts of the farmers use very simple and very rustic equipment (table 4 and 5). However more sophisticated equipment (building, wire-cages) are developing very quickly. So, in 4 years, the rabbit breeding units inside a building have increased from 47 to 58 % and those with wire cages from 20.3 to 46.2 %.

The average performances remain at a low level (30 rabbits/doe/year) as a consequence of a long kindling interval (70 days) (Table 6). At this level too, the performances have been significantly improved in 4 years, mainly due to the shortening of the breeding intervals. The average production of these backyard

Table 4 : Repartition of the Hungarian rabbit farms according to the housing conditions, according to KUSTOS *et al.*, (1988) ; KUSTOS and CSONKA (1992).

Type of farm (%)	KUSTOS <i>et al.</i> 1988	KUSTOS, CSONKA 1992
In hutches at open air	15.0	12.0
In sheds	16.0	21.0
Closed wooden stall	14.0	17.0
Brick building	35.0	41.0
Mixed	20.0	9.0
Total	100	100

farms is about 400 rabbits/year ; it means 1 100 kg of live rabbit/year. The few rational farms and the state farms produce between 30 and 40 rabbits/doe/year (MATHERON, 1976)

Table 5 : Repartition of the Hungarian rabbit farms by type of cages, according to KUSTOS *et al.*, (1988) ; KUSTOS and CSONKA (1992).

Type of cages (%)	KUSTOS <i>et al.</i> 1988	KUSTOS and CSONKA 1992
Wooden cages with solid floor	31.2	24.6
Wooden cages with slatted floor	17.5	11.7
Wooden cages with wire floor	5.6	9.2
Wire cages made at home	14.2	20.8
Industrial wire cages	6.1	25.4
Other facilities	25.4	8.3
Total	100	100

Table 6 : Average performance in the Hungarian farms, according to KUSTOS *et al.*, (1988) ; KUSTOS and CSONKA (1992).

Criteria	KUSTOS <i>et al.</i> 1988	KUSTOS and CSONKA 1992
Litter size		
* born	8.0	8.0
* sold	6.0	6.0
Mortality (%) from birth to market	25.0	27.0
Kindling interval (days)	79.3	68.9
Nb kindling/doe/year	4.6	5.3
Nb sold rabbits/doe	27.4	30.9
Sale weight of the rabbit (kg)	2.61	2.65

Considering the previous data and the production level the number of these backyard farms in Hungary can be evaluated at 30 000 ; such a value is in agreement with some other evaluations : 1 600 farmers in 1975 for the little farmers cooperative of the Budapest area (LEBAS, 1975), 10 000 in 1988 at Dunavarsany (YONCOURT, 1988)... So, considering the average size of the farms, the number of the does in Hungary can be estimated between 500 000 and 600 000, in estimation in agreement with this one of CSIKVARY, 1980.

In summary, the rabbit production in Hungary appears to still be very traditional : small average farm-size, high average age of the farmers, low performance level, very rustic equipment... The main parts of the farmers use very simple and very rustic equipment ...

Table 7 : Production of the Hungarian slaughtering plants.

Slaughtering plants	Number of slaughtered rabbits/week
Jaszbereny Fotk	200 000
Kaptalanfa	500 000 to 1 000 000
Gyomaendröd	1 000 000
Kisvarda	1 200 000
Olivia at Lajosmizse	1 500 000
Baj-Tardosbanya	2 000 000
Vaskut at Baja	3 000 000
Kornye	3 000 000

However, for some years, this production is changing very quickly : bigger farm size, decreased farmer age, involvement in the rabbit production of more active social categories, more rational equipment... These observations confirm the ones of KUSTOS and CSONKA (1992) who report that each year, 20 % of the farmers stop their activities and are substituted by new producers.

So, even if the hungarian rabbit production level remains qualitatively unvariable, its structure is changing with the disparition of the more traditional farms and the creation of more modern and productive units... A part of these new farmers will probably increase their farm-size and so will become "rational rabbit farmers". So, the actual trend in Hungary is close to this one which happened in West-Europe at the beginning of the years 70's ; it means the substitution of a traditional rabbit production by a half-rational one and then by a rational one.

Collecting and slaughtering structures

In the past, rabbit collecting was a coop and state farm monopoly, excluding all types of competition and enabling only the use of "political" prices. Today, besides the coops keeping on working in the rabbit business, some private companies are developing themselves and doing the some type of activities : farms creations, technical assistance, feeds and drugs supplying, commercialisation and collection organisation... They pay generally cash to the farmers and are themselves payed at 20 days by the slaughtering plants. A part of them guarantee a "bottom prices" to the farmers. They collect from 50 000 to 60 000 rabbits/year. About one hundred of these companies (including the coops) are working now in Hungary but their number can vary very quickly.

The slaughtering plants are eight, slaughtering between 1 000 000 and 3 000 000 rabbits/year (except the smallest at Jaszbereny Fotk) (Table 7). Only the

slaughtering plant of Olivia at Lajosmizse has been recently built : it was created ex-novo in 1991 with swiss investment. The 7 other slaughtering plants were created at the end of the 60's or at the beginning of the 70's by state farms or coops. Some of them have been sold to Italian companies, on the occasion of "joint-ventures". Till 1992, these slaughtering plants could export their rabbits only across the state company TERIMPEX. The import-export liberalisation is actually enabling the creation of new commercial channels.

Internal consumption and exportations

The hungarian national consumption is extremely low. KUSTOS *et al.* (1988), emphasized that only 4 % of the rabbits produced by little farms are self consumed. Besides , it is practically impossible to find any rabbit meat in the butcher's and on the markets of the cities ; for example, a slaughtering plant as KORNYE sells only 1 % of his rabbits on the national market (JOUVE, 1989). This low consumption of the rabbit meat by the Hungarian people seems due to the high prices payed, some years ago, to the producers for the live rabbits : the live rabbit kilo price was sometimes higher than the beef meat kilo price !!!

The hungarian consumption can be evaluated between 1 000 to 2 000 tons/year, estimation lower than those of YONCOURT (1988) and of SINCOVICS (1992)

The importance of Hungary as a rabbit meat export country has been often emphasized (SINQUIN, 1986 ; ANONYMOUS, 1987 ; JOUVE, 1989 ; SINQUIN, 1991, 1992 ; LEBAS and COLIN, 1992). This hungarian orientation began in the 60's, as a consequence of the political decision to develop an activity supplying foreign currencies (Table 8). At first, the rabbits were exported live ; after the slaughtering plants creation, they were more and more exported as carcasses. So live rabbits exportations represented still 11 107 tons in 1980 and totally stopped in 1986 (SINKOVICS, 1992).

Until 1977, the exportations statistics were formulated in tons of live rabbits ; after, they have been formulated in tons of meat rabbits (SINKOVICS, 1992). To have a clear idea of their evolution, they have been presented simultaneously as tons of live rabbits and as tons of meat (considering a slaughtering yield of 54 % corresponding to the hungarian data average).

Until these last years, practically all these rabbits were exported in Italy (COLIN, 1992). So, Hungary represents 80 to 90 % of the italian imports (SINQUIN, 1990) : this situation is the consequence of a long collaboration between some italian slaughtering plants and the hungarian government.

Table 8 : Evolution of the hungarian exportations formulated in live rabbit or in carcass, according to SINKOVICS (1992)

Year	Live rabbit (tons)	Carcass (tons)*
1959	4	2
1961	50	27
1963	393	212
1965	691	373
1966	1 501	810
1967	2 471	1 334
1968	3 297	1 780
1969	4 080	2 203
1970	6 694	3 614
1971	8 672	4 683
1972	10 620	5 734
1973	16 500	8 910
1974	31 500	17 010
1975	33 460	18 068
1976	32 800	17 712
1977	33 800	18 252
1980	35 916	19 394
1981	34 088	18 407
1982	36 799	19 871
1983	31 135	16 813
1984	24 380	13 165
1985	21 324	11 514
1986	22 256	12 018
1987	25 232	13 500
1988	31 212	16 700
1989	32 789	17 541
1990	33 000	18 400

* Till 1986, calculated from the live weight considering a slaughtering yield of 54 %. From 1987, direct data.

This collaboration has been still reinforced by the sale of some hungarian slaughtering plants (on a total of 8) to italian companies.

Even if Italy remains strongly its main consumer, Hungary is looking for getting other consumers, exporting in Belgium (7.2 % of the hungarian exportations in 1987), in Germany (1.8 %) in France (3.1 %) (SINQUIN, 1986 ; JOUVE, 1989). The growing level of the hungarian exports in France has to be emphasized (Table 9) : if they remained very limited till 1986, they have reached 1 000 tons/year from this year and have surpassed 2 000 tons/year in 1991 (JOUVE, 1989 ; SINQUIN, 1990, 1991, 1992). Their relative importance has been still increased with the decreasing of the Chinese imports. The hungarian exports have often provoked some strong demonstration of the french producers (ANONYME, 1990).

Table 9 : Evolution of the hungarian rabbit exportations in France, according to JOUVE (1989), SINQUIN (1990, 1991, 1992)

Year	Volums (tons)	% French import
1984	108	0.8
1985	190	1.5
1986	1 044	10.9
1987	971	8.0
1988	1 428	11.7
1989	1 563	12.2
1990	1 387	10.1
1991	2 138	34.8

So Hungary is the first E.E.C. supplier before China (JOUVE, 1992). Besides the E.E.C. countries, some exportations have been developed in Switzerland and in Austria (probably in relationship with the creation of a slaughtering plant with swiss assets).

Whole hungarian production estimation

Estimations of the total hungarian production has had some important fluctuations (Table 10) due essentially to 2 factors :

* the real variations of the level of production, in relationship with the evolution of the international market : so, following a decreasing of the rabbit prices in 1983, the hungarian production decreased in 1984-85, and after has increased again (Table 8).

* the confusion existing between the production levels formulated in tons of live rabbits and this one formulated in tons of meat rabbits. So, the evaluations are dealing unquestionably with the production of live rabbits but the other evaluations concern the weight of the carcass (Table 10)

Table 10 : Production of rabbit meat in Hungary according to some different publications.

Publication	Estimation of production (tons)
SINQUIN (1977)	20 000
LEBAS <i>et al.</i> (1984)	40 000
CAMPS (1988)	40 000
ANONYMOUS (1988)	42 000
LEBAS, COLIN (1992)	19 000
Present study	20 000

On our opinion, the hungarian production can be evaluated at 20 000 tons/year, corresponding at the total of the exportations (18 400 tons/year) and of the internal consumption (1 000 to 2 000 tons/year).

THE ANGORA RABBIT

Even if Hungary does not seem to have presented an old angora rabbit breeding tradition (ROUGEOT and THEBAULT, 1985) the production began in the 50's and was quickly important enough to fulfil the domestic requirements of the country (CSIKVARY, 1980); during the 70's, the production keeps on developing and Hungary became an export country (KURDI, 1988). It quickly reached an important level of production ; so, in 1987 Hungary had 300 000 angora does. The development of this production wholly export oriented, seems to be explained by 2 phenomenas :

* the very high angora wool prices on the international market at the end of the 70's and at the beginning of the 80's.

* the decision to substitute a part of the rabbit meat production in the state farms. So, an experience of development of angora rabbit began in the buildings of the Dunavarsany coop (YONCOURT, 1988).

During its biggest development period, Hungary produced 180 tons of angora wool (THEBAULT and DE ROCHAMBEAU, 1989), and so was the 5th world producer behind China, Argentine, Chili and France (LEBAS and COLIN, 1992). The "ANGORA RABBIT PRODUCTION COMPANY OF KAPOSVAR (KURDI *et al.*, 1988) was the main producer. This company had 3 partners :

- Hungangora, Angora Wool Production and Marketing Union, itself an association of the coops, of the state farms and of the little farmers involved in the angora wool production. So, it collected 120 tons of wool corresponding to the production of 240 000 does (70 % of the hungarian production

- Kasposvár University in charge of the research and of the specialists training.

- MEDIMA West german company specialised in the spinning and weaving of the angora wool.

The produced hair was a "german-type" one (sheared).

During these 2 last years, the hungarian production has known very big difficulties due to the decreasing of prices on the international market, and the big difficulties of Medima which stopped buying hair during several months.

Because of the lack of the market, the main part of the farmers stopped their angora rabbit production and the hungarian production does not seem to surpass 20 or 30 tons of wool/year. Some attempts are beginning to create new organisations for production

of "french type" wool (plucked) but it is too early to know if they will be significant.

THE HUNGARIAN RABBIT PRODUCTION: A SYNTHESIS

So, for meat rabbit production and for Angora rabbit production, Hungary presents a double particularity :

- to have developed an important and succesfull production in a country without rabbit business tradition and without national market. It has to be remembered that according to LEBAS and COLIN (1992), Hungary is the 8th world meat rabbit producer and was recently the 5th for angora wool.

- to have created an export-oriented rabbit production. So, Hungary has become the 2nd rabbit meat export country around the world after China and is now the first supplier of the E.E.C. for rabbit meat.

During the first period of development of its rabbit business, Hungary developed first some big farms (thousands of does) but met many difficulties : health problems, lack of profitability... So, it chose a re-orientation to an organised rural rabbit production, the coops and state farms supplying the breeders, the feed and technical assistance.

After the recent political and economical changes, the rabbit business was involved in the liberalisation : as a result, the current situation of the rabbit business in Hungary is close enough to this one of France at the beginning of the 70's : an acceleration of this trend and the creation of a big number of new rabbit farms will be probably seen.

This fast development of the Hungarian rabbit production has been made easier by the creation of a high level rabbit scientific research. So, according to LEBAS and COLIN (1992), Hungary is the 6th country for the number of scientific publications regarding the rabbit (after USA, Italy, Spain, Germany and France) ; besides, among the 12 full-time rabbit activity laboratories existing around the world, 3 are in Hungary. The Gödöllő university has a 800 does experimental farm (ANONYMOUS, 1980). This importance of the Hungarian rabbit research has enabled the organisation of the 4th congress of the World Rabbit Science Association in 1988. It has also enabled the development of an hungarian "rabbit engineering" (Agrober) which have been in charge of the carrying out of some rabbit production complexes in Egypt (SAAGHY, 1988 ; YAMANI, 1990).

In conclusion, hungarian rabbit production appears to be a very successful one and has many strong points. So, it can be a direct competitor for the other european producers. In fact, its only weak point is the absence of a national market and so a big dependance on the international prices ; the angora rabbit example has demonstrated the risks of such a

situation. In fact, the hungarian authorities want to develop the national consumption (DE TOCQUEVILLE, 1982) but this seems difficult in light of the absence of the rabbit meat consumption tradition and of the big availability of other meats in the hungarian market.

POLAND

Story and structure

Rabbit production in Poland is a very old one because, according to NIEDZWIADZECK (1988), it was mentioned for the first time in a manuscript of the Monastery of Swiatniki near Krakow. The polish rabbit production was developed after the 2nd world war and mainly after 1958 when the exportations began (NIEDZWIADZECK, 1988).

The structure of the polish rabbit production remains difficult to establish because the available information is particularly uncomplete (NIEDZWIADZECK, 1988). Two components can however be distinguished:

The rural rabbit production: It represents 90 % about of the polish rabbit meat production. It derives from 180 000 farms representing about 900 000 to 1 000 000 does. It is mainly concentrated on the South-East part of the country, between Krakow and the ukrainian border .

The breeding technics are extremely rustic : open air hutches, wooden cages, grass and garden by-products feeding...(NIEDZWIADZECK and KAWINSKA, 1973). These farmers are met in 2 unions : the polish union of small animals breeders and the National Co-operation of small animal breeders (NIEDZWIADZECK, 1988)

The existence of rabbit exhibitions, similar to the german ones (COLIN, 1992), has to be mentioned. During these, the hobby breeders present their more typical animals. The most important in the National exhibition on fur animals and rabbits, which takes place every 3 years at Warsaw.

Rural rabbit farms have been seriously concerned with the epidemic of VHD which widespread in Poland from 1989 (MORISSE *et al.*, 1991) and a lot of them have closed their activities.

The rational rabbit production: Its quantitative importance is not very high : in 1988, Poland had 1 industrial farm of 3 200 does and about 60 farms of 250 does. It means a total of 20 000 does about ((NIEDZWIADZECK, 1988). However the number of these farms is increasing, particularly near Krakow.

Table 11 : Evolution of the Polish exportations of rabbit meat in France, according to HENAFF *et al.* (1986, 1987) ; ANONYME (1988, 1989) ; SINQUIN (1986, 1990, 1991, 1992).

Year	Exportations in France (tons)
1984	407
1985	507
1986	793
1987	1 680
1988	734
1989	560
1990	120
1991	36

International consumption and import-export trade

The rabbit meat production in Poland has 2 main orientations :

- * The self consumption or the direct sale
- * The exportation

To the contrary, the commercialisation on the national market is very low : only 3 % of the sold rabbits are commercialised in the cities, while 97% are exported. In fact, the rabbits can be found in the cities only on the traditional markets, and only occasionally.

* The self-consumption is the main orientation of the rural farms (NIEDZWIADZECK and KAWINSKA, 1973). According to NIEDZWIADZECK (1988) it represents about 15 000 tons/year of rabbit meat.

* The exportations : during the 70's, Poland became a rabbit meat export country. These exportations were important during the middle of the 80's, as demonstrated by the evolution of the export in France (Table 11)

The whole of polish exportations in the E.E.C. represented 3 440 tons in 1986 and 4 520 in 1987 (it means respectively 10.3 and 11.5 % of the whole E.E.C. importations (JOUVE, 1989). Poland is the 3rd rabbit meat supplier of the E.E.C. after Hungary and China (JOUVE, 1992). So, it exports in decreasing order in Germany, France, Italy and in smaller quantities in Belgium and in the Netherlands.

According to NIEDZWIADZECK (1988), the quantity of rabbit meat commercialised by the producers can be evaluated between 10 000 and 12 000 tons practically totally exported (Table 12). As the exportations in the E.E.C. did never surpass 5 000 tons, it can be presumed that a big part of the polish rabbits were exported on Soviet Union ; this has to be confirmed but whatever was the situation, these exportations are now totally stopped.

The polish exportation had strongly decreased at the end of the 80's and at the beginning of the 90's as a consequence of the V.H.D : decreasing of production, limitation or prohibition of the polish rabbit meat importations by the West Countries for sanitary reasons... These limitations are progressively decreasing. Such a situation is enabling a new starting of the exportations.

Besides the meat production, an important aspect of the polish rabbit production deals with the skin industry. These are used either as fur or for hat manufacturing, destined to the national market or exported (NIEDZWIADZECK, 1988). Poland commercialized between 5 and 6 millions of rabbit skins (Table 12) from which a 1/3 is destined to the fur and 2/3 destined to the felt hat manufacturing. This production is important enough to have incited the polish government to launch a research programme.

Quantitative total importance

In 1988, NIEDZWIADZECK evaluated the polish rabbit meat production at 25 000 tons/year. From this time, the country has known 2 types of events with contradictory consequences :

- * the Viral Haemorrhagic Disease and his negative effects on the volume of production

- * the economical liberalisation which has enabled the development of small and middle farms. All together these 2 phenomenas seems to compensate for themselves and our previous evaluation of 25 000 tons of rabbit meat/year can be confirmed, from which 20 000 tons for the rural production and 5 000 tons for the rational one (LEBAS and COLIN, 1992).

The angora rabbit

The polish production of angora wool is very low according to NIEDZWIADZECK (1988) : the quantity of angora wool commercialised by the state trade companies did not surpass 5 tons/year. The exact level of production is probably slightly higher because a part of the wool is directly sold to some polish companies working in foreign countries.

ROMANIA

Story and structure

In Romania as in Hungary, the traditional rabbit production has never been very important. Only, the area of Sibiu (center of Romania) presents a tradition of rabbit meat consumption (LE BOUCHER, 1981).

Table 12 : Evolution of the rabbit meat and rabbit skins quantities commercialized by the polish farmers, according to NIEDZWIADZECK (1988)

Year	Meat (tons)	Skins (millions)
1980	12 351	6.8
1982	13 536	6.0
1984	10 405	6.4
1986	10 418	5.5

In fact, Romania is mainly known for a very ambitious rabbit development program launched in 1978 (ANONYME, 1981 ; LE BOUCHER, 1980, 1981 ; LEBAS *et al.*, 1984). This one, carried out in close collaboration with a french genetic company was dealing with the creation of very big industrial farms : 4 000 to 10 000 does. At mean 5 of these farms have been carried out from the genetic center at Sibiu (LE BOUCHER, 1981) and a production complex of 10 000 does at Pietra Neamt (north-east of Bucarest) (ANONYME, 1981 ; LE BOUCHER, 1981 ; CAMPS, 1983).

Besides the does of the production complex itself, this last farm had some thousands of does bred by little farmers (CAMPS, 1983). It was foreseen that this organisation would produce 70 000 tons of rabbit meat/year (CAMPS, 1983) but it does not seem that more than 50 000 breeding cages were created : considering an average level production of 34 rabbits/doe/year, it means 2 400 tons of carcass/year.

The import-export

This production was first export-oriented (even if a development of the national consumption was planned too). In fact, from the middle of the 80's, Romania became an important export-country, particularly on the french market, where Romania was, during several years, the third supplier, after China and Hungary (Table 12). Romanian rabbits were also exported in Italy (ANONYME, 1987). The whole romanian exportations on the E.E.C. represented 2 260 tons in 1986 and 1 870 tons in 1987 (it means respectively 6.7 and 4.7 % of the whole E.E.C. importations (JOUVE, 1989)), data very close to the 2 400 tons produced by the industrial farms.

The romanian exportations have strongly decreased at the end of the 80's to be practically finished in 1991 (Table 13) ; 2 phenomenas can explain such an evolution : a decreasing of the production and a new orientation of the production to the national market in order to enable a better alimentation of the population (as a consequence of the political changes of the end of 1989).

Table 13 : Evolution of the romanian exportations of rabbit meat in France, according to HENAFF *et al.*, 1986, 1987 ; ANONYME, 1988, 1989 ; SINQUIN, 1990, 1991, 1992.

Year	Exportations in France (tons)
1985	873
1986	1 365
1987	1 408
1988	734
1989	485
1990	190
1991	35

Recent evolution and future prospects

The total running of the initial program has been strongly disturbed by some technical difficulties in relationship with the big size of the farms and by an inconsistent and poor quality of the feed (particularly in relationship to the shortage of availability of alfalfa, this one being exported).

The political events of the end of 1989 strongly changed the structure of the romanian rabbit production. The state farms seem to have been privatised. We have ourselves observed some little exports of live rabbits in the North of Hungary ; these exports are carried out by these new private companies.

So, during the next years, a new romanian rabbit production will probably develop which will be close to the one existing in the 70's in West Europe, as this is already happening in Hungary.

Quantitative total importance

The changing situation makes a precise evaluation of the romanian rabbit production more difficult. It can be considered that 50 % of the industrial production is still existing. It means 1 200 tons/year. On the other hand, according to CAMPS (1983), the traditional production, (mainly self consumption oriented), can be evaluated between 12 000 to 15 000 tons/year. So, the whole romanian rabbit production can be evaluated at 16 000 tons/year about, data slightly lower than this one previously estimated by us (18 000 tons/year according to LEBAS and COLIN, 1992).

Angora rabbit does not seem to exist in Romania.

THE EAST EUROPEAN RABBIT PRODUCTION : A SYNTHESIS

THE RABBIT MEAT

Quantitative importance

The main characteristics of the rabbit production in the 5 east-european countries have been summarized on the table 14. So, it can be carried out a first synthesis for this group of countries which

- * produces 95 000 tons of rabbit meat about
- * consumes 63 000 tons about
- * exports 32 000 tons about
- * has about 3 to 4 millions of does.
- * has an average production of 29 kg of rabbit meat/doe about.
- * has a production of 1.0 kg/inhabitant/year and a consumption of 0.66 kg/inhabitant/year.

However, it has to be remembered that this data remains only a first evaluation for the different reasons which have been already explained. But such a first estimation is probably close to the real situation : it means that the east european countries represent 8 % of the world rabbit production (LEBAS and COLIN, 1992).

Structure of the production

The biggest part of the does present in the east-european countries belong to the little farms with less than 20 does : these were traditional in this part of Europe and corresponded to a self-consumption oriented rabbit production. During the launching period of a more rational and export-oriented rabbit production, these countries first created some very big farms (several thousands of does) but after they met different difficulties (sanitary problems, lack of profitability), they chose to develop an "organised rural rabbit production".

Since the last political and economical changes, a liberalisation of this area is developing and the rabbit production situation in the east-european countries appears to be closer and closer to the one existing in France at the beginning of the 70's : this trend will probably continue and new middle-size farms will keep on developing. This phenomena is already running in Hungary and in Czechoslovakia and a little bit less in Romania. The implantation in these countries of West-European companies (mainly french and italian) managing more and more directly the slaughtering and exportation of the rabbits will accelerate such an evolution.

Table 14 : Characteristics of the east european countries for the meat rabbit production.

Country	Bulgaria	Czechoslovakia	Hungary	Poland	Romania	Together
GEOGRAPHIC CHARACTERISTICS						
Area (km ²)	111 000	128 000	93 000	312 500	213 500	858 000
Number of inhabitants (millions)	9	15.5	11	37	23	95.5
MEAT RABBIT PRODUCTION						
Total (tons)	4 000	30 000	20 000	25 000	16 000	95 000
By inhabitant (kg)	0.45	1.94	1.82	0.67	0.7	1.00
By km ²	36	234	215	80	75	111
RABBIT MEAT CONSUMPTION						
Total (tons)	3 500	28 000	1 500	15 000	15 000	63 000
By inhabitant (kg)	0.40	1.80	0.13	0.40	0.65	0.66
IMPORT-EXPORT						
Importations	-	-	-	-	-	-
Exportations (tons)	500	2 000	18 500	10 000	1 000	32 000
Balance (tons)	+ 500	+ 2 000	+ 18 500	+ 10 000	+ 1 000	+ 32 000
% production	+12.2	+ 6.6	+ 92.5	+ 40	+ 6.25	+ 29.6
NUMBER OF RABBITS						
Number of does	160	900	600	1 000	600	3 260
Production of meat/doe/kg/year	25	33	33	25	26	29

Geographical repartition

Except Bulgaria, from which the rabbit meat production is lower than 5 000 tons/year, the East European Countries are "middle size producers" (15 000 to 30 000 tons /year of rabbit meat). So, their relative importance in the rabbit meat production is not very different from one country to another (Table 15). Czechoslovakia and Poland are the biggest producers, probably because their tradition of rabbit production is older than the one of the other countries.

Giving a regional repartition of the rabbit production within each one of these countries remains

Table 15 : Relative importance of the different countries in the rabbit production of east Europe

Country	Number of does	Production of meat %	Production of meat/doe % average countries
Czecho			
slovakia	27.5	31.5	113
Poland	30.5	26.5	86
Hungary	18.5	21.0	113
Romania	18.5	17.0	90
Bulgaria	5.0	4.0	86
Total	100	100	100

difficult ; however, it can be mentioned the Krakow area for the Poland, and the Sibiu area in Romania as high production level areas. The average productivity of the farms (expressed in quantity of produced meat/doe) is higher in Hungary and in Czechoslovakia than in the 3 other countries.

As for some previous studies (COLIN, 1992, 1993), the level of the rabbit meat production and consumption has been expressed in relationship to 2 criterias : the number of inhabitants and the area of the country (Table 14, figure 1). Their graphic representation shows 2 types of countries :

Hungary and Czechoslovakia present a rabbit meat productions of 2 kg/inhabitant/year about and of 225 kg/km²/year. It has to be emphasized that for these 2 criterias taking in consideration the geographic and demographic size of the country, Hungary and Czechoslovakia have characteristics very close to the ones of some "big producer" of west Europe as France and Spain. (Table 16)

Romania, Poland and particularly Bulgaria present levels of production much lower : 0.5 to 0.8 kg/inhabitant/year and 30 to 80 kg/km²/year ; such a production places these countries at a level similar to these ones of Germany and Netherlands (COLIN, 1992 ; 1993).

Table 16 : Production of rabbit meat in France, in Spain, in Hungary, and in Czechoslovakia, according to COLIN, 1992

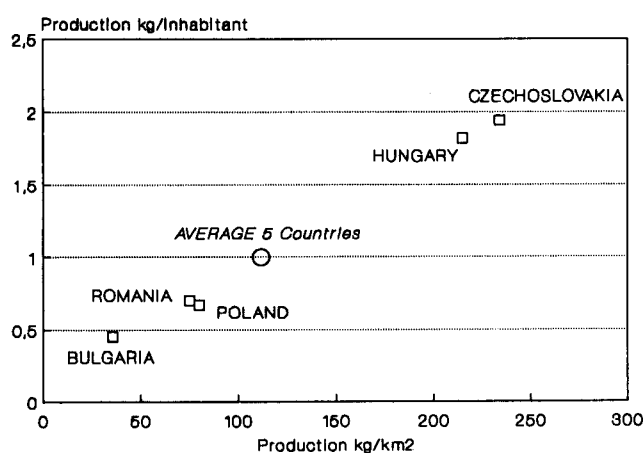
Country	Spain	France	Hungary	Czechoslovakia
Total production (tons)	100 000	150 000	20 000	30 000
Production per inhabitant (kg)	2.5	2.7	1.8	1.9
Production by km ² (kg)	220	275	215	234

The internal consumption

On the contrary of the most widespread opinion, the rabbit meat consumption in the east european countries is far to be insignificant. For the 5 countries together, this average consumption can be evaluated at 0.66 kg/inhabitant/year. In fact, the situation is very different from one country to another and 3 situations can be distinguished :

- A big consumer country, Czechoslovakia : the czechoslovakian meat rabbit consumption (1.8 kg/inhabitant/year) reaches a level close to these ones of France, Spain and Portugal. Czechoslovakia is also the only one of these 5 countries where the rabbit meat is available in the cities and is usually consumed by people.

Figure 1
Distribution of rabbit meat productions per inhabitant and km².



- Three countries where the rabbit meat consumption is at an intermediary level (0.4 to 0.7 kg/inhabitant/year) : Bulgaria, Poland, Romania. The level of consumption is very close to this one of

countries as Germany and Netherlands (COLIN, 1992, 1993). The national consumption is mainly due to the self-consumption and the rabbit meat is only occasionally available in the cities (except certain areas of Romania).

- A very small consumer, Hungary : the national consumption in Hungary is one of the lowest in the world (0.13 kg/inhabitant/year) ; such a situation can be explained by the fact that the rabbit production in Hungary is only export-oriented.

The import-export trade

All the east european countries export some rabbit meat : together, they export 32 000 tons/year of rabbit meat ; this means 1/3 about of the production. East Europe represents practically half of the international trade (LEBAS and COLIN, 1992) and the level of its exportations is the half of this one of China. These exportations concern mainly the E.E.C, particularly Italy and France. Some are developing too in Switzerland.

Even if all these countries export some rabbit meat, the importance of their import-export activity is very different from one to another. So, 3 types of countries can be distinguished :

- A very big export country, relatively and absolutely : Hungary. Its exportations represent practically the whole national production.

- A middle size export country, relatively and absolutely : Poland. Its exportations represent practically half of the national production.

- Three small export countries : Bulgaria, Romania, Czechoslovakia. Their exportations do not surpass 10 % of the national production. Their situation is however different from one to another : Bulgaria is a small producer ; Czechoslovakia is a big producer but a big consumer too ; Romania developed an export oriented rabbit production as Hungary but has now re-oriented it to the national market.

THE ANGORA RABBIT

In East Europa, Czechoslovakia is the only country having an angora rabbit production tradition but its importance has very much decreased. Recently, Hungary tried to develop the angora rabbit on a large scale but failed as a consequence of a strong international prices decreasing. Angora rabbit has no importance in the 3 other countries : east Europe is not a big producer of angora wool.

CONCLUSIONS

As already mentioned by LEBAS and COLIN (1992), East Europe is an important rabbit meat production area : it represents 10 % of the world production. But the national situations are very different from a country to another : some countries, as Czechoslovakia, have an old rabbit production ; in some others, the development of this production is more recent. The same type of differences can be seen for the rabbit meat consumption.

East european rabbit production is strongly export-oriented : this area has, with China, practically the monopoly of the exports, particularly in the E.E.C. which is the first import group of countries around the world.

Finally, with some differences from countries to another, the east europeans rabbit production situation has changed and is changing very much : at first, a rural and self-consumption oriented rabbit production had been replaced by a state organized and export-oriented production ; now, private middle size and sale-oriented farms (100 to 300 does) are developin, in conditions very close of those of the West Europe at the beginning of the 70's. This trend will increase and will enable to the east european production to be still more important and more performant.

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