# PhD THESIS

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# The analysis of the marketing-strategy and consumer behaviour on the market of the processed poultry products

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# 1. THE ANTECEDENTS AND THE OBJECTIVES OF THE RESEARCH

An enormous boom is to be seen in the world's keeping of poultry, the products of the poultry species play a more important role in the supply with food of the population of Earth. We eat more of the rich in protein and poor in fat poultry products, compared to the total meat consumption every two years 1% more.

The development of the traditional poultry-raising and joining international co-operation started in Hungary in the 60s. With the taking over of the up-to-date slaughter and processing technology the Hungarian poultry industry became a significant factor on both the national and the international markets.

The boom of the poultry consumption has started in Hungary in the last 4-5 years, of which the reason is not only to be found in the price increase of the pork products, but also in the changes in the nutrition habits of the consumers. Above the low prices, it is known of the poultry, that it is a type of meat which is healthy and easy to digest.

„The time has come, when no one can do without the long-term predictions in the poultry sector." The significant overproduction that has took place in the last years, can be attributed to several reasons, and gives much trouble for the companies. Nowadays, the companies of the poultry sector can only take the advantage of the potential market, if they meet the changing consumer needs in every aspect. For increasing the sales, the producer should know the consumer and purchasing habits of the national population, they should determine the target audience of the different products, and should adapt themselves to the latest nutrition needs and trends.

At the compilation of the Ph.D thesis three main objectives were set:

1. The elaboration of the relevant national and international special bibliography, the processing of the secondary data;

2. The analysis of the consumer and purchasing behaviour with the help of different primary data;

3. Making a proposal for the establishment of a marketing strategy for the poultry sector.

For reaching the objective the following tasks were in view:

➢ Summarizing the secondary information concerning the poultry production, processing and consumption;

➢ Making depth interviews (10) with experts, with the managing directors of the most important companies of the poultry sector;

➢ Performing consumer focus group interviews (6);

➢ Making a country-wide representative questionnaire research of 1000 consumers, the processing of their data (144.000. data)

➢ As a result of the above mentioned researches, developing the elements of the marketing strategy.

## 2. THE MATERIAL AND THE METHODS

Throughout our work the two basic methods of the marketing research, the primary and secondary data collection, were applied.

### *2.1. The applied methods of secondary research*

In case of the ecoscopic data collection, the national and international food production and consumption data were collected, as well as analysed, laying special emphasis on poultry and on the products produced from it. The necessary data to this were provided by the national and international statistical databases: FAO AGROSTAT, ECD-GFA, KSH, AKII Baromfi Termék Tanács as well as the publications of FVM-AMC. Furthermore, the reports of the important market research institutions (GfK, AC Nielsen, Kopint Datorg) were examined.

Above the survey of the statistical data, the examination and investigation of the national and international technical journals, conference summaries and other publications, concerning this topic, took also place.

### *2.2. The applied methods of primary research*

We consider both the qualitative and the quantitative methods significant and important, so both of them were applied throughout our research. The depth interview as well as the focus group interview was chosen from the qualitative procedures, while in case of the quantitative methods the questionnaire research was chosen.

### *2.2.1. The qualitative methods*

The depth interviews with experts were made with the managing directors of the companies producing processed poultry products (as

well) with the help of a sketch written earlier. The interviews were recorded, and were later put down in writing.

The focus group interview was done six times in 3 different places: in Budapest, in Kaposvár and in Szeged. The three cities represent three different areas of the country that is why they were chosen. In every settlement we called two groups of eight together, where one consumer group involved young people, and the other one involved people of mixed age, between the age of 30 and 65. The interviews happened with the help of a compiled script, which was written earlier, the so-called moderator guide. For the easier evaluation, the interviews were recorded and were also put down in writing, and then a report was compiled from these two auxiliary materials.

### 2.2.2. Quantitative methods

We chose the personal questionnaire method from among these procedures. The aim of our work was a representative survey of 1000 people.

The basis of compiling the population was the data of the latest population census of Hungarian Central Statistical Office (HCSO) from 2001. The selection took place with the help of the development of a multiple-stage sampling procedure:

➢ The population of the country was divided according to the seven regions;

➢ It was determined according to the population data of each region, that out of the 1000 how many consumer should be made to fill out the questionnaire in the given region;

➢ In every region, a county was chosen, then with the help of the latest publications of HCSO the number, respectively the ratio of

the inhabitants living in the county seat, in the cities and in the villages was calculated;

➢ Besides this, we examined the three types of settlements concerning the distribution of the inhabitants by sex, by age and by school qualification;

➢ Finally, a quote system was worked out, and the questionnaire was distributed according to this.

For the easier processing, the applied questionnaire contains closed questions, to which in most cases the people could answer with the help of an interval scale. The scales are most of the time five-graded, as the respondents can easier understand and use them according to the notes at school. In some cases seven-graded scales were applied, e.g when the consumer frequency was examined, the five grades would not have been enough. Above the closed questions, open questions were also put in some cases. The questionnaire deal with the following 5 areas:

1. The consumer habits of the processed poultry products;
2. The purchasing habits of these products;
3. Image-control;
4. Hidden variable;
5. Lifestyle-analysis.

The processing of the data:

- ➢ The answers of the received questionnaire were encoded, then the received value was laid down in the chart of the mathematical-statistical program of the SPSS 12.0 for Windows.

- ➢ The evaluation has been done with the help of this program: frequency examination, averages, t-probe, the analysis of the significance, as well as factor- and cluster analysis.

- ➢ For the easier evaluation and for the lucidity of the results, we made graphs and diagrams with the help of the Microsoft Excel program.

When making a frequency examination, above the regular distribution, a „consumer frequency index" was developed, and we calculated the consumer and purchasing frequencies concerning the processed poultry products. The number of the days of the year is considered to be 365, and to the answer-categories the values of the Table 1. belong.

**Table .1**

**Calculating the consumer frequency index**

| Answer-category | The way of calculation | Multiplier |
|---|---|---|
| More times a day | $365*2$ | 730 |
| Daily | $\dfrac{365}{7}*7$ | 365,0 |
| 3-4 times a week | $\dfrac{365}{7}*3,5$ | 182,5 |
| 1-2 times a week | $\dfrac{365}{7}*1,5$ | 78,2 |
| 1-2 times a month | $12*1,5$ | 18,0 |
| Rarely than a month | $\dfrac{12}{2}$ | 6,0 |
| Never | - | 0,0 |

# 3. RESULTS

We summarize our results of the primary and secondary research.

### 3.1. *The situation of the poultry branch*

The proportion of the poultry livestock suddenly decreased after the change of regime, now it fluctuates. Its structure changed: the ratio of the gallinaceous was diminished; the turkeys, the ducks and the geese were on the increase (Table 2.).

**Table 2.**

**The structure of the poultry livestock in Hungary between 1980-2002 (%)**

| Year | Gallinaceae | Turkey | Goose | Duck | All |
|------|-------------|--------|-------|------|-----|
| 1980 | 94,3 | 1,7 | 1,4 | 2,6 | 100 |
| 1990 | 89,9 | 3,0 | 3,7 | 3,4 | 100 |
| 1995 | 88,5 | 4,8 | 3,1 | 3,6 | 100 |
| 2000 | 82,9 | 9,0 | 4,0 | 4,1 | 100 |
| 2001 | 79,4 | 9,1 | 5,0 | 6,5 | 100 |
| 2002 | 78,8 | 7,9 | 4,9 | 8,4 | 100 |

Source: HCSO, 2003., own measuring

The production and the processing show an upward trend in the last 5-10 years, but in 1999 the branch touched bottom, supported by different indexes (Table 3.).

**Table 3.**

**Poultry-production (metric tons)**

| Species | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---------|------|------|------|------|------|------|
| Gallinaceae | 233277 | 396857 | 315098 | 364501 | 362056 | 361088 |
| Turkey | 84798 | 90126 | 91834 | 130814 | 149696 | 152506 |
| Duck | 44359 | 42358 | 48692 | 57055 | 59808 | 87878 |
| Goose | 54412 | 51424 | 57628 | 63157 | 56135 | 57417 |

Source: HCSO, 2003.

The sale of the processed poultry products grows year by year, because of the changing of consumers' habits and the increasing of the product-assortment (Fig. 1.).
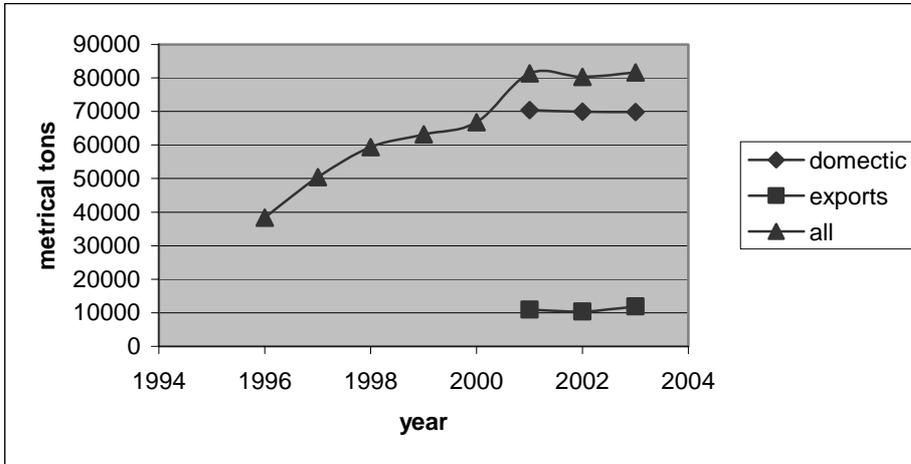


Source: Poultry Product Board, 2004.
**Fig. 1. Selling of the processed poultry products (1996-2003)**

Even if the buying up-price of the broiler chicken has stagnant for years, the selling price has increased (Fig. 2.).
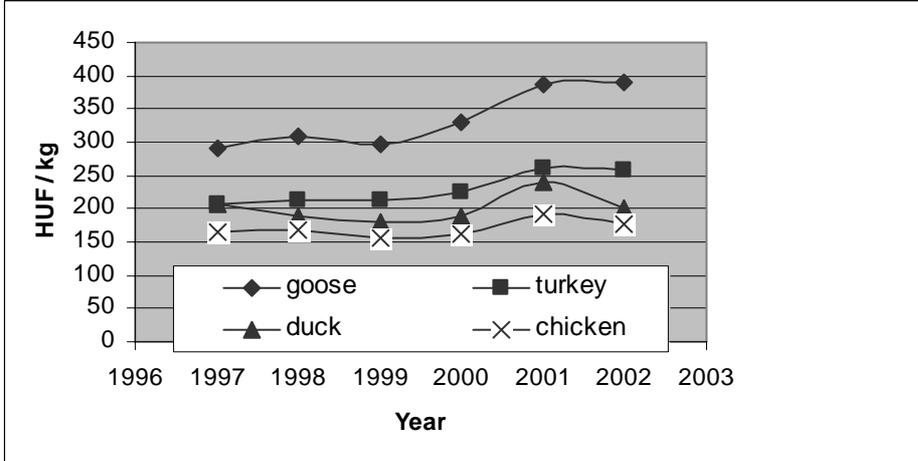


Source: HCSO, 2003.
**Fig. 2. Buying up – price of the poultry species (HUF / kg )**

### 3.2. Depth interviews

In 2002 we made depth interviews with the leaders of nine poultry manufacturing firms and with the expert of the Poultry Product Board. On the base of these conversations we get to know the situation of the Hungarian poultry branch. Since that time - however the joining the EU was happened - notable changing has not ensued. The leaders were of the same mind in spite of the fact that the popularity of poultry meat is big, the processing and the sale are cyclical. All of them emphasized the changing of consumers' habits and with it the modification of the product-structure and the marketing-strategy. Nearly all of them was indignant at the price-fixing attitude of the supermarkets, but admitted, the factories did not allow themselves not to supply their products in this commercial – because of the big volume of the selling.

### 3.3. Consumers' habits

We asked also the consumers. First we made 6 focus groups - interviews, in 3 places, with 8-8 different aged and marital statused people. The main part of our inspections is the representative 1000-persons- questionnaire fact-finding. We wanted to take the measure of consumers' attitudes about processed poultry products. Our principal conclusions are as follows:

The consumption of red (pork and beef) meat and white (poultry) meat is balanced, but it is moved away the flows. This fact is showed by the consumption frequency. The poultry-meat is eaten 139 occasions per year, the other meats are less. The answerers have the poultry-meat, because "it is healthy" or "I like more than the others meat" (Fig. 3.).
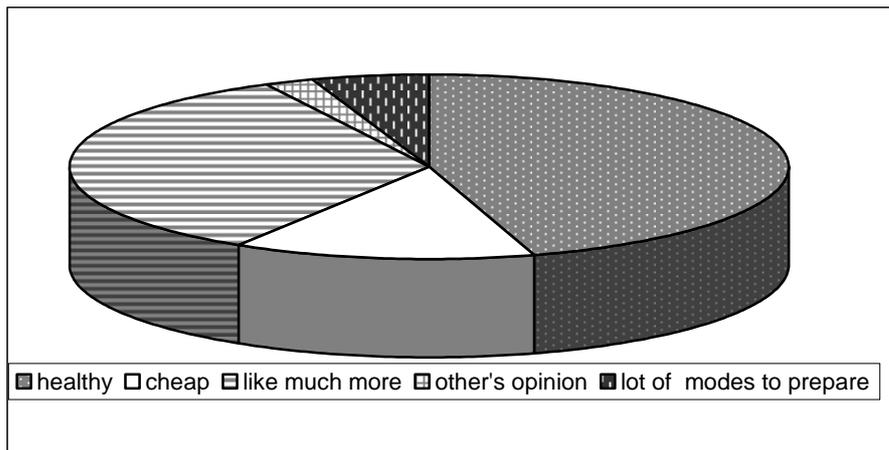
**Fig. 3. The reasons of the poultry-meat popularity (n = 487)**

After the general meat-consumption we analysed the processed poultry products on the basis of the Codex Alimentarius Hungaricus The answerers eat mostly "red products" and cold cuts, on 105 and 95 occasions per year. The hams, the products made of liver and the quick frozen products are eaten on 57-47 occasions in every year; but the smoked-cured products, the sausages, the conserves and the aspics only on 26-12 occasions. The popularity of them is parallel with the frequency, but people like much more the hams.

Only few asked people could denominate favourite product-label, the others did not care of the product- makers. We can emphasize two products the "red products" and the quick frozen product. In the both cases people mentioned SáGa Foods.

We also examined the importance of the product-choice factors. The most important aspects are: the standard quality, the taste of products, the hygienic and the appearance by the opinion of the asked people. The less important are: the knowing and the brand of the products, the name of the processing factory and the advertising.

### 3.4. Purchasing habits

In the second part of the questionnaire we asked people about their purchasing habits.

We knew, that most of the questioned persons (75,4%) buy some poultry products. The persons who do not shop these foodstuffs are: mostly men, singulars, low educated, between 16-29 years olds; in a word: high-school students.

Further we examined the buying of the processed poultry products. The frequency of the shopping was the biggest in the case of "red products" and cold cuts, 71 occasions per year per capita, it means people buy these goods every 5 days. In the case of the other products we can draw parallel between frequency of the purchasing and of the consumption (Table 4.).

**Table 4.**

**The purchasing-frequency of the products (n = 754)**

| Products | Purchasing frequency Occasion/capita/year |
|---|---|
| "Red products" | 71 |
| Cold cuts | 68 |
| Hams | 40 |
| Products made of liver | 37 |
| Quick frozen products | 29 |
| Sausages | 17 |
| Smoked-cured products | 16 |
| Conserves | 14 |
| Aspics | 9 |

We took the measure of the bought quantity per occasion. In general people shop 110 decagrams quick frozen products, 34,5 decagrams "red products" and least, 22 decagrams aspics. With the help

of these two data series we determined the bought quantity per year. Compared with the statistical data, we established: the answerers can not esteem the bought quantity, well; their data are far exceed the original data.

We sized up the favourite places of purchasing: in general the customers like supermarkets and "shop-chains", but sometimes they go to the little shops for the very often bought products (Fig. 4.).
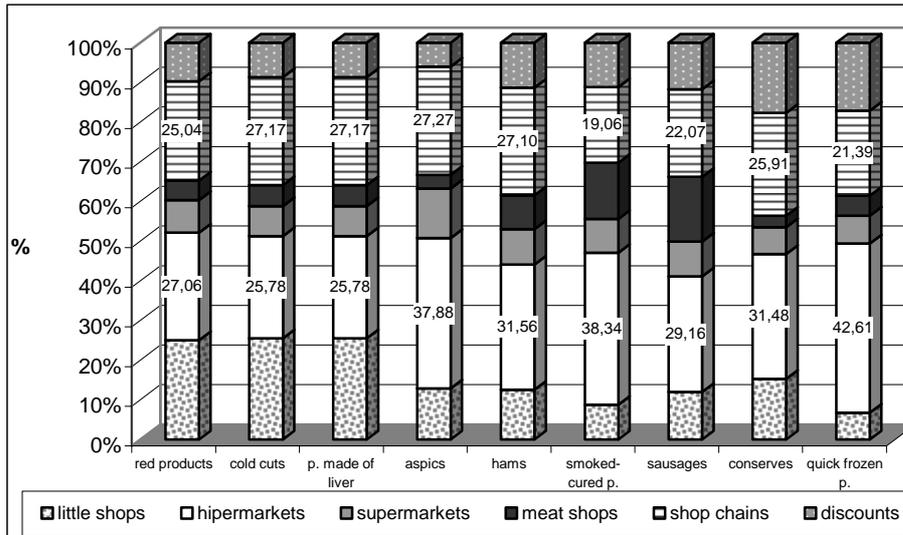


**Fig. 4. The places of the purchasing (n = 284 – 691)**

The popularity of the pre-packed products grows, but the main part of the shoppers (50-60 %) likes if the seller wraps the products (with the exception of products made of liver). This fact is harmonized with said in focus groups, people repute packaging expensive and do not set high value on it

We examined also the faithfulness to products and brands. It does not characteristic of mostly answerers, they substitute products with each other (33-47%) or they have no favourite product (17-30%).

We distinguish two methods of the shopping: impulsive and planned. The latter typical of the less part of the asked people (23%) and

their 32 percents decide in the stores about the shopping. The main part of people said, they applied both methods.

The opinions about the price and quality are different, common people think these factors are good, but the older and the moneyless persons are discontent with these factors. This fact is vindicated by the agreement with buyers' assertion: "the price of the good quality is too high" – in all get medium score.

### 3.5. Image- examination

The answerers had to nominate one, then five poultry-processing firms. This task was successful, the 68 percents of the consumers could do it. They listed "SáGa Foods", "Bábolna", "Merian (Orsi)" and "Hajdú-Bét (Valdor)". On the basis of the answers we determinated the groups, which may be the main buyer company of the factories (Table. 5.).

**Table 5.**

**The special groups are characteristic of the firms**

| Factory | Age | Income | Region | Settlement |
|---|---|---|---|---|
| SáGa Foods | 40-59 (44,3 %) | Below the average (42,3%) Over the average (42,5%) | Central Trans-anubian (68,5 %) | Village (42,9%) County town (42,5 %) |
| Merian Rt. | over 60 (16,8 %) | Over the average (16,4%) | Central Region (18,7 %) | Capital (22,6 %) |
| Hajdú-Bét Rt. | 16-29 (11,5 %) | Much over the average (14,3%) | Northern Hungary (34,7 %) | Village (10,7 %) |
| Bábolna Rt. | 30-39 (21,4 %) | Average (24,7%) | Western Transdanubian (42,2 %) | City (21,4%) |
| Hunge-rit Rt. | over 60 (9,5 %) | Much below the average (10,2%) | Southern Great Plain (27,4 %) | City (7,7 %) |

In this part we asked people about the establishment of a trade-mark. The half part of the questionnaire-filler would like it, but their32 percents do not know is it good or not for them.

### 3.6. Factor- and cluster-analysis

Finally we requested our costumers to give any information for the life-style-analyse. After the apprehension of the answers we made factor- and cluster-analysis. The 97,6   percents of the poultry-products consumers was divided into 7 factors  and  4 clusters  respectively by the factor- and cluster-analysis based on   the life-style, the demography and the attitudes. The most substantial factor is the price for the members of the "A" cluster, and the quality for the people of the "B". Persons belong to "C" cluster like the branded, convenience products, and the moneyless pensioners from "D" think the most important factor is the price.

# 4. CONCLUSIONS, PROPOSALS

As a result of the secondary and the primary researches, we recommend the followings for the planning of the marketing strategy for the poultry sector and for the companies. When listing the conclusions, we are following the traditional 4 P-s of the marketing mix.

1. The poultry- as the secondary data prove it as well- has a growing popularity in Hungary. But the opinions about the poultry processed products are not so homogenous. The consumer rather prefers the products made of pork.

2. Our examinations have demonstrated that the men mainly prefer sausages to the „red products" and cold cuts, having significantly larger water-content; at the same time many of them do not know that sausages made of poultry exit. It became known from the focus group interviews that only a small circle of the consumers know these products, but they are not satisfied with their quality. It would be effective to advertise these products -in the appropriate media,- on the other hand to re-examine, to correct, to develop them.

3. When choosing the products- for all interviewee- the permanent quality, the taste belonging to the products, the hygienically aspects and the look are the most influential factors, so the companies should lay more emphasis on them. We think it is important to stress this, because it turned out from both the qualitative and the quantitative research that there are consumers who experience the worsening of the quality, respectively they are usually not satisfied with the quality of the products.

4. In case of the consumption and the purchasing of the products the results of the significance test show in many cases strong significance regarding the regions. When investigating the compound of the regions, we experienced, that there are no significant differences regarding the sex, the marital status and the age, but the school qualification shows such variances. The reason for this is that according to the data of the population census of HCSO, the distribution of the people with different school qualification is different in certain regions. Resulting from this, the net income/month/person, the sense of the income differs significantly. We can declare, though the different compound of the regions can influence the data, and the order, but the companies must not neglect the relations, because in these parts of the country such people live.

5. A certain part of the consumers is expressively price sensitive, but there are some sections, for which the quality is also important. It turned out through the depth interviews that some companies try to put product lines with different brand names on the market, due to which target audience they mean it. This should be followed by other companies as well, because they make the decision of the customers easier.

6. Though the purchasing habits have altered, and many people prefer pleasure-shopping- and the hypermarkets belonging to them-, the questionnaire research shows, that the customers search some products in smaller stores. It would be important to have this factor in view, and make the choice of these products not only in the large, but also in the small supermarkets bigger.

7. The consumption data and the image-control bring us to the conclusion, that a big part of the population does not know the companies of the national poultry sector, and mixes them with the companies of the meat industry, having long traditions. We suggest the sector to adopt a corporate marketing strategy, with the help of which the total demand could increase, through emphasizing the advantages of poultry. For making this both the Poultry Product Board and the Agriculture Marketing Centre were perfectly appropriate.

## 5. THE RESULTS OF THE NEW RESEARCH AND METHODOLOGY

### 5.1. New scientific results

1. With the help of the significance examinations it was shown that which product lines the demographic groups consume, respectively like the most.

2. We charted for the well-known companies of the poultry sector those sections, which foreshow potential customers for the companies.

3. With the help of the mathematical and statistical analysis using more variables, we developed four clusters, which represent the consumer groups on the market of the processed poultry products well. We determined and characterized that cluster, of which the members are especially responsive to the advertising, so we make creating the commercials for the companies and for the advertising agencies easier.

*5.2. Recent scientific results of the methodology*

1. The further development of the sampling, with the help of which it was possible to represent the population of the country concerning the types of the settlements.

2. The frequency indexes were interpreted with new numbers.

3. The calculation of the average consumption/person of the certain products.

# 6. PUBLICATIONS ON THE TOPIC OF THE DISSERTATION

### Publications in Hungarian language

1. **Lendvai E.:** Baromfiipari termékekkel kapcsolatos fogyasztói szokások I. Magyar Baromfi 42 (7) 26-28 (2001)

2. **Lendvai E.**: Kvalitatív piackutatás alkalmazása a baromfihúsból készült termékek piacán I. Élelmiszermarketing-tudomány 2 (1-4) 45-50 (2001)

3. **Lendvai E.:** Húskészítményekkel kapcsolatos fogyasztói magatartások vizsgálata. SZTE-SZÉF Tudományos Közlemények 22 (1) 81-89 (2001)

4. **Lendvai E.:** Baromfiipari termékekkel kapcsolatos fogyasztói szokások II. Magyar Baromfi 43 (1) 36-39 (2002)

5. **Lendvai E.** – Jankóné F.J. – Fenyvessy J. (2004.): Baromfihúsból készült termékek fogyasztói megítélése. Élelmiszer, Táplálkozás és Marketing 1 (1-2) 85-90 (2004)

### Publication in other language

**1. Edina Lendvai**: The situation of the Hungarian poultry industry with the eyes of the expert. Acta Scientiatium Socialium XIV 49-52 (2003)

### Abstracts in conference proceedings

1. **Lendvai Edina:** Fókuszcsoportos fogyasztói magatartás vizsgálata a baromfiipari termékek körében. IX. Ifjúsági Tudományos Fórum, Keszthely, CD (2003)

2. **E. Lendvai:** Competitiveness of the Poultry Branch. VIIth International Symposium Interdisciplinary Regional Research Hunedoara, Romania, CD (2003)

3. **Lendvai E.**: Baromfihúsból készült termékek fogyasztási szokásai Magyarországon. VI. Nemzetközi Élelmiszertudományi Konferencia, Szeged, CD (2004)

4. **Lendvai E.**: Baromfiipari termékekkel kapcsolatos vásárlási szokások bemutatása. VI. Nemzetközi Élelmiszertudományi Konferencia, Szeged CD (2004)

*Presentations*

1. **Lendvai E.**: Húskészítményekkel kapcsolatos fogyasztói magatartások vizsgálata. MTA-SZAB, Magyar Tudomány Napja, Szeged, 2001. november 9.

2. **Lendvai E.:** Magyar baromfiipari körkép. MTA-SZAB Magyar Tudomány Napja, Szeged, 2002. november 7.

3. **Lendvai E.**: A baromfiipari vállalatok vezetőivel készített mélyinterjúk és elemzésük. MTA-SZAB Élelmiszertudományi munkabizottsági ülés, Szeged, 2002. november 8.

4. **Lendvai E.**: Baromfihúsból készült termékek fogyasztási szokásai Magyarországon. VI. Nemzetközi Élelmiszertudományi Konferencia, Szeged, 2004. május 20-21.

5. **Lendvai Edina** A magyar baromfiipar helyzetelemzése KÉKI Tudományos Kollokvium, Szeged, 2004.október 7.

6. **Lendvai E.** – Jankóné F.J. – Fenyvessy J.: Baromfihúsból készült termékek fogyasztói megítélése. I. Táplálkozásmarketing Konferencia Kaposvár, 2004. október 21.

*Posters*

1. **Lendvai E.**: Továbbfeldolgozott baromfiipari termékek vásárlási és fogyasztási szokásai. "Tavaszi szél" Posztergála, Gödöllő, 2001. április 20-22.

2. **Lendvai E.**: Fókuszban a baromfiipari termékek. „Erdei Ferenc Emlékülés" Kecskemét, 2001. augusztus 30.

3. **Lendvai E.**: Húsfogyasztási szokások változása Magyarországon. "Tavaszi szél" Posztergála Gödöllő, 2002. április 12-14.

4. **E. Lendvai:** Competitiveness of the poultry branch. VIIth International Symposium Interdisciplinary Regional Research Hunedoara, Romania, 2003. szeptember 25-26.

5. **Lendvai E.**: Baromfiipari termékekkel kapcsolatos vásárlási szokások bemutatása. VI. Nemzetközi Élelmiszertudományi Konferencia, Szeged, 2004. május 20-21.

*Other treatises*

1. **Lendvai E.**: Helyzetkép a magyar baromfiiparról. MTA-SZAB I. díj (2003.)