

Dr inż. Maria Jeznach

Warsaw University of Life Science

Faculty of Human Nutrition and Consumption

Department of Organisation and Economy of Consumption

Nowoursynowska 159C

02-776 Warsaw

SUMMARY OF PROFESSIONAL ACCOMPLISHMENTS

1. Personal datas

Name and surname Maria Jeznach
Workplace Warsaw University of Life Science
Faculty of Human Nutrition and Consumption
Department of Organisation and Economy of Consumption
Nowoursynowska 159C, 02-776 Warsaw

2. Diplomas and academical degrees

Year 1976 – Master of Science in Engineering at the Faculty of Economy and Agriculture of Warsaw University of Life Science.

Master Thesis on Macroeconomy specialisation entitled 'Workforce resources and their use in individual agricultural households (on the example of selected households from Białystok Voivodeship)' prepared under the guidance of Associate Professor (prof. dr hab.) Kazimierz Miękus.

Year 1989 – Ph.D. in Economy, specialisation in Economy at Faculty of Human Nutrition and Consumption of Warsaw University of Life Science.

Ph.D. Thesis entitled 'Energy efficiency of agricultural production in selected individual households (before and after the modernisation)'. Associate Professor (prof. dr hab.) Kazimierz Miękus has been the Thesis Supervisor and Associate Professor (prof. dr hab.) Zdzisław Wójcicki and Associate Professor (prof. dr hab.) Jan Bud-Gusaim have been the reviewers. **Ph.D. Thesis with merit.**

3. Information about hitherto employment in scientific institutions.

Time of employment	Name and address of the employer
19 th April 1978 Until now	Warsaw University of Life Science Department of Farm and Garden Food Production (later Department of Raw Food) of the Faculty of Human Nutrition and Rural Household – nowadays Faculty of Science of Human Nutrition and Consumption, Department of Organisation and Economy of Consumption. Positions consecutively: assistant, senior assistant and adjunct, and now I am the senior lecturer.

4. List of scientific achievements referred to art. 16 paragraph 2 of the Act from the 14th March 2003 about academic degrees and titles and art degrees and titles (Dz. U. nr 65, poz. 595 ze zm.)

My scientific achievement referred to art. 16 paragraph 2 of the Act from the 14th March 2003 about academic degrees and titles and art degrees and titles (Dz. U. nr 65, poz. 595 ze zm.) is the monograph **JEZNACH M. : Food quality and its discriminants in Consumers' opinion**, SGGW-WULS Press, Warsaw, 2014, 124 pages.

ABRIDGED DESCRIPTION OF MONOGRAPH

The dynamic changes in terms of supply and demand could be observed on the food market. Broad access to varied products assortment together with the possibility of the unlimited choice have been an impulse to create new hierarchy of importance in decision making, where the quality of food product gained the special significance.

Food product is very specific because of the necessity of its frequent purchase and everyday consumption. The consumer's individual liking and preferences are revealed whilst choosing, the choice made is influenced by many factors. The various interactions take place between factors of choice. That is why the Author decided on interdisciplinary approach to the topic, which best explains the specificity of purchasing behaviour in context of multiple and multifaceted determinants. The presented paper is about recognition of complexity of prehension food products quality by consumer.

The aim of this work is identification of food products quality discriminants and their role in consumer's decision making process. The food quality discriminants perceived by purchasers for particular products and noticeable influence of these products consumption on health have been analysed.

The following main hypothesis has been assumed:

Food quality is perceived by consumers as the set of features, that should characterise the particular product, but the importance of this features is not the same for everyone and depends on the socio-demographic profile of the individual consumer, as well as on the product that it concerns.

The attempt to verify the following detailed hypothesis has been undertaken:

- The dominant quality discriminant of the most of the food products is freshness, especially in reference to these types of food products that are frequently bought unpacked.
- Price is the important quality discriminant, the main determinant of perceiving it is the financial situation of the consumers.
- On consumer perceiving the quality in its complex approach have the influence the socio-demographic characteristics as well as the knowledge of food and nutrition.

Assuming, that the food quality is the important criterion of choice, there is the necessity to search for its features important in consumer's decision making, because in consequence they influence his/her nutrition and health. Recognition of quality discriminants of particular food products has been carried out within 7 group of products with different significance in nutrition and varied influence on health: rennet cheese, yoghurt, fruit juice, meat, chocolate products, fresh vegetables and white bread. It gave reason to prove that the quality is the most important (principal) criterion of choice of food, but at the same time it contains many elements of different importance depending on socio-demographic and economic profile of the consumer. Therefore, there is the large cognitive and application value of the research, where the constituent quality features connected with the food product, consumer's need and producer's possibilities have been defined.

Empirical research, which constituting main source of information to realize the aim, has been carried out in 2001 on the nationwide trial group of 1000 consumers buying food. The research has been carried out as part of the own research of Department of Organisation and Economy of Consumption of the Faculty of Sciences of Human Nutrition and Consumption at the Warsaw University of Life Science. The research tool was the original interview questionnaire which worked on main aspects concerning respondents opinions about food products quality discriminants, that is 11 characteristics of food product, such as: taste, ingredients, freshness, appearance, quality mark, brand, naturalness, no additives, local or regional source, high price, salesperson reputation. The perception of the influence of consumption of these products on health has also been assessed. Research took into consideration the recognition of determinants of choice of fresh vegetables, as the continuation of my former interests.

Demographics contained questions allowing to characterize studied population considering socio-demographic and economic features: age, education, place of residence, number of people in the household, assessment of the nutrition manner, health, knowledge about nutrition, financial situation and opinion about income. These variables were also the factor differentiating consumers in their approach to food quality.

Analysis of the results has been carried out in programs: Excel and SPSS 19,0. To interpret the results the numerosness, frequency tables and descriptive statistics have been used. Selected quantitative variables have been presented as the arithmetic mean measured as the standard deviation. To compare the results between different group of respondents the analysis of correlation χ^2 has been carried out with the use of V. Cramer's and C. Pearson's coefficient examining the strength of relation of nominal variables and Spearman's rank correlation coefficient. Particularly valuable is the multidimensional analysis of empirical data, where the gradation methods have been used. They allow to set down the main trends and allow to find and understand crucial relations between data. Main procedure used in gradation data analysis is called GCCA – Grade Correspondence - Cluster Analysis and allows to find hidden reliance in bipartite table.

Consumers' purchasing behaviour on the food market is very differentiated. It is the result of: socio-demographical characteristics of purchaser, changing consumers' systems of values and lifestyles, intensive educational and marketing changes of the food market.

Carried out research proved, that the food quality, especially individually assessed by different characteristics, have been recognized by respondents as quality discriminants. Freshness is the most important quality discriminant for almost every respondent. For every second respondent the freshness of fresh vegetables, bread, meat, fruit juice and yoghurt was the most important. Domination of freshness as the food quality element is fully understandable, it is the value commonly desired by the purchaser of fresh low-processed food, very often also unpacked. It is not only very desirable but also easily diagnosed quality discriminant. This result confirmed the first of the detailed hypothesis, that the freshness is the most dominant food products quality discriminant.

Taste of food products seems to be the undisputed criterion of choice as well as the accepted quality discriminant expressing consumers' preferences. But not for all products the respondents pointed this feature as the main quality discriminant. This criterion appeared to be especially important in case of matured rennet cheese. For every second respondent, the

taste was the important quality attribute in case of yoghurt, fruit juice and white bread. Slightly less important was the taste in case of meat. Chocolate products and fresh vegetables are the specific products, where the taste was the quality discriminant, perhaps because when consumers indicated the brand they unambiguously consociated this feature with particular characteristic taste. Vegetables are products where the appearance is the most important and determines its quality and expiration date.

Purchasing decision concerning selected products depends on various quality discriminants. It is important to determine the relation between studied products and their features perceived by respondents as the most important quality discriminants. For this purpose the gradational data analysis has been used, which allowed to set the relevance (importance) of quality features at the same time for all the studied products. Research showed the large dispersion of quality features importance between particular products. Results of the research on 1000 respondents showed that for all the groups of products altogether the most important feature was the freshness of food products, second important – the taste, and the third – the appearance. All pointed consumers' expectations regarding products quality comprise in commonly accepted criterions of its sensory assessment. The purchaser assessed the product in the shop and based on it makes the decision about the purchase, or in case of unsatisfactory or even negative assessment, resigns from the purchase.

Overrepresentation map of particular features comparing to equable indicating of all the features as important, allowed to define these features that respondents recognized as the most important. And so, for meat - the most important quality discriminant were: salesperson reputation, appearance and local sourcing of the product. The appearance of meat was statistically important quality attribute for people who assessed their income as unsatisfactory. It shows the priority significance of appearance of meat in quality assessment by the people worse off. Local or regional sourcing of meat or the salesperson reputation are the most important quality attributes for people who highly assessed their monthly income and financial situation, rather older, big cities inhabitants, representing households of 3 people and assessing their health and nutrition as good.

In respondents opinion, the most important quality feature of fresh vegetables is the appearance.

The most important quality discriminants of bread are: local sourcing and salesperson reputation. Local or regional sourcing of white bread and salesperson reputation have been the

statistically important quality discriminants for big cities inhabitants with average or good assessment of financial situation and monthly income of the family, evaluating their nutrition as bad.

The most important quality feature of chocolate has been the brand, and after that, high price. Brand has been more often indicated by people lower evaluating their family income and knowledge about nutrition, living in the town up to 100 000 inhabitants.

In case of the juice the most often indicated quality discriminant has been the high price, that guarantees the quality. Respondents living in cities and highly evaluating their monthly family income indicated more often the high price as the important quality discriminant. Overinterpretation of indicating the high price as the quality attribute applies to the fruit juice and chocolate products. For the other products the high price was not unambiguously associated with the high quality. Only people with high income indicated high price as the quality discriminant of the product. Admittedly, price is the important criterion of choice of food products, but high price is not unambiguously associated with the quality of product, which has partly confirmed the second detailed hypothesis.

As the research shown, the most important quality feature of the yoghurt is its composition. Indicating the yoghurt composition as the most important quality attribute was crucial depending on the assessment of financial situation and nutrition. Composition of yoghurt was more often indicated by respondents declaring worse financial situation and worse assessed their nutrition manner.

In respondents opinion, taste and ingredients decide about the quality of matured rennet cheese. Taste is important quality feature for many different products, but only for rennet cheese it has been overrepresented and has been indicated as the most important quality attribute with the rise of the age of respondents.

Food product quality was important for every second respondent, its safety for every fifth. It means that these attributes are particularly important for products included in this research but the most important are in case of meat (quality and safety have been indicated by 71,9% of respondents for meat and 65,8% for fresh vegetables).

Research shown that in respondents' opinion the beneficial for health are fresh vegetables, fruit juice and yoghurt, followed by white bread, meat and rennet cheese. It shows high consumer's consciousness and acceptance.

In the context of the formulated conclusions, it must be stated, that the main hypothesis has been proved because food quality is perceived by consumer as the set of features, but its importance is differentiated according to the product and socio-demographic characteristics of consumers.

Validity of stated hypothesis has been confirmed and the results of individual research have been presented - main quality discriminant of food product is freshness.

Price of the product has been perceived as the important quality discriminant, mostly by the consumers of worse financial situation. Other factors then price have been indicated by respondents with better financial situation and with high education.

Applicable dimension of this work is establishing of the quality expected by consumer in different food products. It can be used in marketing communication as well as in improving efficiency of the quality management systems in food industry.

Presented results allow to establish that the assumptive thesis that the food product quality is multielement set of consumers expectations towards food which is the result of so far experiences and concepts about particular products.

5. Description of others scientific and research achievements.

I have been born on the 16th July 1952 in Żary. In year 1971 I have graduated from the Bolesław Prus Highschool in Żary, I were in the class with specialization of math and physics. The same year I started my studies at the Faculty of Economy and Agriculture at Warsaw University of Life Science.

I have graduated in 1976 with the title Master of Science of Economy of Agriculture.

I have started my professional career, according to referral of Employment Proxy, on the 27th December 1976 in Biuro Projektów Budownictwa Wiejskiego (Office for Rural Infrastructure Projects) in Warsaw, where I made the internship. Since the 19th April 1978 I have been employed at WULS.

Continuing my professional development I have participated in several internships, trainings, courses, study trips and foreign scholarships, which directed my research and teaching interests. There were also activities improving my teaching skills, such as:

- DAAD Scholarship in Germany at the University of Hohenheim, Institut für Haushalts- und Konsumökonomik, Lehrstuhl für Haushaltsökonomik, June-July 1992. There I have learned about economic aspects of private households, planning and

analysis of households activities. I used this knowledge in my teaching and scientific work. I find focusing of my interests to pro-ecological aspects of functioning of households the most valuable. I promulgated this knowledge at the trainings given for Household Instructors at the Agricultural Advising Centres in Poland and in the Society of the Economy of Household in Warsaw, as well as during lectures and workshops of economy of consumption given at the Faculty of Economy and Agriculture at WULS.

- EU „Copernicus” Scholarship in Germany, research grant at the University of Hohenheim, Institut für Haushalts- und Konsumökonomik, Lehrstuhl für Haushaltsökonomik, May-August 1993. I have learned about ecological aspects of functioning of households. In my scientific researches and studies I have used the knowledge about creating the ecological consciousness of households and effectivity of exploitation of the resources as: water, energy, time and money. This knowledge and research results I have been using in my teaching process and during my lectures given during courses at Agricultural Advising Centre, Association for Economy of Household. During my scholarship in Germany I engaged myself in new knowledge, called marketing. I have participated in lectures, workshops and practices on this subject. This knowledge and skills I have developed at the subsequent courses. As the result I have created and have been realizing the teaching program of the marketing basics, marketing in the company, food marketing, marketing of tourism and recreation services. Special achievements should include: carrying out of several scientific researches on specificity of consumers behaviour on different markets and effectivity of using and the impact of marketing tools. Free market in Poland was at this time at the beginning of its development. Research results have been used in practice by producers and distributors and contributed to improving research tools in marketing. The results have been published in scientific articles and study books. I was the supervisor of several diploma thesis on this subject.
- „Food Consumer – Food Policy” course at WULS, given by the employees of the University of Ghent, 5th-12th January 1994. I have deepened my knowledge and interest in consumers behaviour and food safety. I have still been developing this knowledge and it became the important subject of my research and publications.
- Course on Agri-marketing at the BOKU University in Vienna, Austria, July-August 1995 – Marketing of agricultural products taking into account their specificity. It has

been particularly useful in my teaching program of the marketing. It has also been very important for my research on food market.

- Course on marketing at BOKU University in Vienna, Austria, August-September 1996 – Determination of psychological predispositions to work in marketing. I have been using this knowledge in teaching and in researches carried out whilst supervising the master thesis.
- „Food and Agricultural Marketing” Course at the University of Newcastle upon Tyne, University of Aberdeen, 22nd -31st October 1997 – Giving direction to the specificity of food and agricultural raw products marketing, which has been connected with adopting new research methods and approach to identification the core of the product in marketing in specific polish conditions.
- IMG Tempus Scholarship in Germany at University of Hohenheim, Institut für Haushalts- und Konsumökonomik, Lehrstuhl für Haushaltsökonomik, June-August 1998. As part of this scholarship I have got acquainted with the methods of marketing and consumers research. I participated in the research of new packaging of organic beer and its acceptance by consumers. I found particular interest in the role of product quality in purchase decision making by german consumers. I got inspired to carried out similar researches in Poland. As the result, I established that in case of different groups of food products the quality, together with the price, are the most important criterions of consumers choice. Results of this research have been published in several papers and presented at the conferences.
- „Sensory analysis methods and applications” Course at the University of Gent 25th - 26th March 2002. During this course I got acquainted with the methods of sensory analysis of food, which I have been using in my market research.
- Postgraduate Studies of Ideological and Pedagogical Education of Young Academic Teachers at WULS – Post-graduate studies in years 1979-80.

My scientific and research interests concern the following subjects:

1. Analysis and assessment of factors influencing the choice of food products, with particular emphasis on food quality and safety in consumers opinion.
2. Product innovation as the determinant of the competition advantage of food companies and its acceptance by consumers.
3. Systems and standards of food products quality and safety management.
4. Marketing conditioning of consumers' purchasing behaviour on the food market.

5.1. Analysis and assessment of factors influencing the choice of food product with particular emphasis on food quality and safety in consumers opinion.

My scientific activity and research themes were consistent with research program of my Department at the Faculty. From the beginning, my interests concerned the quality of raw food products. Since 1992 my scientific research has been concerned with the technological aspects influencing the food quality and possibilities of producing the raw food of expecting parameters. The research carried out concerning the assessment of raw food quality was the result of vegetable production with the use of different technologies of irrigation (drop irrigation, underground, or none) and fertilization (from above, through the irrigation system). This research should be recognized as trailblazing in Poland because of the new approach to include the criterion of quality, and not only the criterion of yields. In years 1992-1995 I was the member of the scientific team working on the grant KBN Nr 507459101p/03 entitled: 'Drop and underground irrigation and fertilization of the intensively cultivated vegetables taking into account its quality'. The aim of this longstanding research was the creation of technology and water and nourishment conditions in the soil allowing the intensive production of selected vegetables of particular quality with consideration of effectivity of production (minimization of fertilizer, water loss and pollution of the environment). I was responsible for setting up the quality criterion of lettuce and its sensory assessment. The quality has been assessed on the basis of its appearance and its chemical composition. To assess the market quality, the criteria from PN-71/R-75356 have been used, such as: shape, size, purification level, healthiness, the presence or absence of damages, appearance (fresh, not withered), no insects or pest, no offshoots from the seed shoot, free from other smell and taste. Selected lettuce heads have been weighed, and its weight has been used for calibration

as per PN (Polish Normalisation). In the laboratory assessment of the lettuce quality the content of nitrate, nitrite and vitamin C has been defined. Preconceived the aspects of quality include the sensory quality (totality of characteristics), attractiveness (assessed with senses), safety (health risks associated with the consumption - content of nitrate and nitrite) and pro-healthful value (content of non-nutritive health beneficial bioactive substances - vitamin C).

As the result of researches carried out during 6 growing seasons I have established that the production technology connecting irrigation with fertilization into one system, allows to produce the lettuce with desired quality parameters, also from the consumer's point of view. I have presented the results of this research on several scientific conferences (III.B.1, III.B.2, III.B.3, III.B.4, III.B.5, III.B.6, III.B.7) and published them in scientific articles (II.D.3, II.D.8, II.D.55). Since then my interests and teaching activity have been focused on consumers choice with particular emphasis on quality factor in purchase decision making.

I continued to work on the subject of quality of vegetables in 1996 whilst I participated in internal grant at WULS, entitled: 'Quality assessment of new genotypes of melon and pepper with the use of fertilization and irrigation technology reducing the earth water pollution'. Results of the research have been presented on the conference (III.B.8). As the result of research established, the taste, freshness and quality have been the most important criterions of choice of food products.

Results of the research presented above have inspired me to study the consumers' purchasing behaviour on the food market. Obvious continuation of this work was the research of consumers' behaviour on the vegetables market. In years 2000-2001 I was the manager of the grant KBN Nr 1 HO2D 03819 entitled: 'Purchasing behaviour on the vegetables market'. Results of the research carried out on the group of 1186 women purchasing food and preparing the meals for the family, established the factors and their level on consumers choice.

I have presented the detailed considerations in the scientific monograph (II.D.50). In paper I showed the concept of complex approach to food quality and safety with taking into account current legal regulations, demands of quality management system and individual criterions of consumer's choice. Particularly valuable are the results of trailblazing research regarding the cost of quality and assessment of advantages of introducing and using international standards and systems of quality and safety management in food industry.

This work constituted the basis for initiation of habilitation process in 2008 at the Faculty of Science of Economy, but it did not eventuate, because the appointed committee predicated that its subject was not in the field of economic sciences.

Results of the research on different aspects of perceiving quality and safety of different food products and consumers' purchasing decisions I have presented in several publications (II.D.16, II.D.18, II.D.21, II.D.22, II.D.24, II.D.25, II.D.27, II.D.41, II.D.71, II.D.72, II.D.85, II.D.86). In these works I proved the increasing role of food quality and safety in purchasing decision making process. Particularly high care about food quality and safety characterised mothers choosing ready products in jars for children and infants (II.A.1, II.D.18, II.D.80) and unveiled during the period of the high risk of infection of BSE among the beef consumers (II.D.24).

Quality is very important criterion of choice in case of dairy products. This thesis has been confirmed in my other individual researches. Their results stated, that the local sourcing of dairy products has been equated with its high quality and most often determined the purchase decision from the wide offer on the market. It indicated the new aspects of dairy products quality united in perception by the consumers and being the motive for purchase (II.D.11, II.D.16, II.D.20).

To summarize the carried out by me or with my participation research, concerning the factors influencing the choice of food products, I decided to group them as follows:

- factors connected with product: chemical composition, nutrition value, sensory attributes, functional features (convenience, accessibility, packaging), quality and safety, which have been confirmed by the results of the research, published in several papers (II.D.3, II.D.8, II.D.15, II.D.23, II.D.69, II.D.77, II.D.81, II.D.84),
- factors connected with the consumer: socio-demographic (age, sex, education, home, family status) and psychological (motivation, personality, attitudes) factors, which has been confirmed in following publications (II.D.9, II.D.10, II.D.16, II.D.26, II.D.32, II.D.35, II.D.39, II.D.42, II.D.45, II.D.62, II.D. 68, II.D.94),
- economical factors of endogenous and exogenous nature (financial situation, price of the product) (II.D.17, II.D.20, II.D.44).

As the results of the research stated, food products underlie specific criterions of choice, differently important for every consumer. My works realized in the Department of Organisation and Economy of Consumption stated that the sensory criterion always played the main role between the other criterions of choice. And so, whilst choosing vegetables, the appearance, freshness, nutritional value, availability and price were the most important.

Final choice of particular food products is the complex function of all the criterions of choice mentioned above. Presented research aimed to explain the role of particular criterions of choice in chosen groups of food products. It contributes to determine the importance of individual factors which is the meaningful contribution to cognition of its role and meaning in consumers' decision making process. Moreover, I considered the interdisciplinary approach the most appropriate in further research. It allows to acknowledge the importance of the factors of choice from the consumers' point of view (cognitive value). It gives the possibility of application to the companies of agri-food sector introducing the quality management systems. It has the broad educational function connected with creating the healthy eating habits (application value).

Although the others detailed factors comprising the elements of quality have been reviewed, the distinction of the succinct criterion seemed to be fully justified. Consumers declare that the important factor determining their purchasing decision of food is its quality, as indicated by the evaluation of quality at 4,64 at the 5 levels scale. Succinct criterion of quality, which is used by consumers as well as by producers, allows to state that the food quality is for the respondents very important criterion of choice (indicated by the 63,99% of respondents). It is the commonly accepted factor of choice of food, this thesis is also confirmed by my several individual researches. This fact has the clear application value and is the recommendation for producers and distributors, who should undertake the means to fulfil the consumer's expectations regarding the product quality, because they are well known and desired criterion of choice of food. It means the necessity of carrying out the multi-faceted analysis allowing the identification of individual opinions on food quality attributes, taking into account the specificity of its particular groups. I have undertaken this task in the monograph described above.

5.2. Product innovations as the determinant of the competition advantage of companies of food sector and its acceptance by the consumer.

Innovative action includes the activities of scientific (research), technical, organisational, finance and trade (commercial) character. Its aim is the establishing and introducing new or substantially improved products and processes, wherein these products and processes are new at least from the point of view of the company introducing them.

Innovation activity and innovations constituent the important element of the dynamic development of economy and make it more competitive. The carried out analysis of the innovative activity of industrial companies producing food and beverages proved that the companies' inclination to undertake the innovative action and introduce the innovations is determined by several different factors. Production of food and beverages in years 2002-2004 characterized the technological innovation, particularly concerning the use of innovation in production processes, and at the smaller scale in the products themselves. Introduced innovations in products were the consequence of its elaboration by the company itself or by the group of companies (in 84% of cases). Unfortunately, the least often they were elaborated by national scientific and higher education institutions (0,4%), which should be considered as the unexploited potential in this matter. Introduced innovations in processes in 68,3% cases were elaborated by the company and in 17,9% cases by the company in collaboration with other companies or scientific institutions (results have been presented in publication II.D.90). Among the obstacles to introduce the innovation in companies, including the food production, should be listed: no funds in companies, too high cost of innovation, no funds from the external sources and unsure demand for innovative (new) products. That is why in later carried out researches I was into indicating the areas being the barriers for innovation in agri-food companies.

Results of research carried out under the project Bio-food – innovative, functional animal products (POIG.01.01.02.14-090/09-03) stated that the size of the company, measured by the number of employees, determine the inclination to introduce product innovation. Large companies introduce the innovation more often than small and medium-sized companies (research results are being prepared for publication).

The source of innovation is also the research and development activity under the project Aktinidia (project EUREKA E! 4449 carried out in years 2009-2011): Elaboration of the new technology of the chocolate covered products. I was the project manager in this research.

Consumer's behaviour on the market of organic chocolate covered products, in view of their innovation, is determined by several factors, including consumer's socio-cognitive characteristics and self-evaluation of behaviour on the market of new food products. Better knowledge about the significance of individual characteristics, in conditioning the decisions taken on the market, significantly increases the chances of customisation to consumer needs and succeeding of the new product on the market.

Empirical research has been carried out in Autumn 2010 on the sample of 1000 consumers representing the group of inhabitants of Poland, older than 15, differentiated by socio-demographic characteristics.

The 2/5 of respondents would like to consume the filled and chocolate covered products, with filling from organic raw food : actinidia and pumpkin. The 1/3 of respondents did not unambiguously stated their purchasing willingness ascertaining 'neither want nor want to'. The 1/5 of population expressed no desire to consume this kind of products. Almost the half of respondents (47,7%) perceived the beneficial influence of organic chocolate covered products of health. Lot of benefits from introducing this food product on the market have been confirmed by 39,0% of the respondents, but only 16,4% of them deemed using the organic raw food for these kind of production as purposeful. The 16,4% of respondents were convinced about high or very high risk connected with consumption of these products.

I find the most valuable the results of the research stating that less than the 1/5 of respondents confirmed the purposefulness of using the organic raw products in chocolate covered food production, which may be the significant barrier to introducing this type of products to the market. The more positive opinions on the organic chocolate covered products represented the respondents, the higher readiness to consumption they shown. But, the current frequency of consuming the filled and chocolate covered products did not show any statistically significant relation to readiness for consumption. It suggests that the potential consumer of the latter might be the consumer more interested in organic food than the person currently consuming the conventional products. The results of this research have been published in the monograph: Formation of the quality of sweets versus consumer's acceptance – selected issues, presented at the 11th European Nutrition Conference (FENS III.A), and in several other publications (II.D.32, II.D.33, II.D.34, II.D.35, II.D.36, II.D.37, II.D.38, II.D.43, II.D.45, II.D.46).

Consumer's acceptance of the changes in food products has been the subject of the research under the Grant NCN Nr NN112301338 entitled: Acceptance of the new food products and its conditioning versus innovation of food industry, carried out in years 2010-

2012. As the result of the research I stated that the acceptance of the new food products is differentiated and the most determining factor proves to be financial situation of the family. People highly evaluating their income had more positive attitude towards the innovative food with increased health benefits. Respondents very little perceived the modification in food product composition or genetical modification as the significant benefit for the consumer. From the producer point of view the results of the research might indicate the directions of marketing actions, especially in terms of communication and educational activities.

The carried out research showed that the process of adding to the food different ingredients to improve its health value is more acceptable, then lowering the amount of ingredients or genetic modification. From the newest research carried out under the project Bio-food it is stated that consumers are more likely to accept the loss of some nourishing ingredients, as: sugar, fat or salt then find positive enriching the product in other ingredients then vitamins and minerals.

Consumers can purchase on the market the products which contains or are enriched in health beneficial substances. The market of functional food has been the topic of the research under the project co-financed by the Foundation for Polish-German Cooperation and with the participation of german scientists. The result of this cooperation was the monograph published in 2003, entitled: State and development perspectives of the functional food market (II.D.50). It was the beginning of the research on functional food as the innovation giving the producers the competition advantage on the dynamically developing food market. In this work, the terms connected with functional food have been systematized, with description of legal regulations, and the selected groups of this food available on the market have been characterized. The result of this research has been the elaboration of the concept of functional food marketing including the specificity of the product and marketing tools. I was the research manager in this project.

In my research the aspect of food quality in consumer's purchasing behaviour on the markets of different products has been complemented with the research on the choice of functional food, fulfilling the consumer's expectations and having the special added value. The results of the research have been published (II.D.36, II.D.37, II.D.74, II.D.75, II.D.76, II.D.77, II.D.78, II.D.79, II.D.82, II.D.87, II.D.107). As the result of the research, it has been stated that the functional food market is developing very dynamically. Food producers are the most interested in group of products where there is a possibility to introduce technological innovation comprising its functionality. They are: non-alcoholic beverages (juices, isotonic and energy drinks), cereal products, dairy products (fermented milk drinks), fats, children

food and sweets. The mentioned group of products give the consumers varied benefits in terms of influence on health and wellbeing in view of enrichment in: vitamins, minerals, dietary fiber, probiotic, prebiotic, essential unsaturated fatty acids, flavonoids, other substances biologically active, or the elimination of some of the ingredients: saturated fat, cholesterol, sugar. It has been stated that the proved efficiency of the positive influence on health determine the choice of the purchase of functional product. Consumers very little accept the change of the taste and are not keen to pay higher price for innovative products, especially when it comes to increased quality and nourishing value. But they are more likely to pay the higher price for the products of increased health values.

Currently, I am managing the international project ECORAW E! 6855 entitled: Consumer and nutritive assessment of the innovative products derived from organic cultivation. The aim of this project is the introduction of wrought technologies of products processed for the market, where the consumer's acceptance is necessary.

5.3. Systems and standards of food products quality and safety management

Concepts of quality management are banalistic, it means they bring the practical benefits. This appropriable understanding is connected with adjusting the concept to certain practical needs, which constitute the setting up the set of practical hints (rules) of quality management. For realisation of the considerations given below, it is justified to present the elements of quality management, which have or might have the broad meaning in food production sector. Quality management in this field is particularly important in view of necessity of food consumer's health protection, which is commonly considered a priority.

The aim of modern quality management systems is the assurance of optimal quality expected by the consumer. It requires the constant research to establish the constituent quality features connected with the specificity of food product, consumer's needs and producer's possibilities.

Narrowing the concept of food quality to its safety is currently insufficient. All the possible food product features have to be concerned, especially these crucial for the understanding the consumer as the final purchaser and user. In this approach he/she finally verifies the quality. Individual criterions of choice of food should constituted the integral element of used food quality management systems.

Quality control in quality management systems expresses some progress comparing to the technological control. Broadened perception of creating the quality by prevention activity and use of self-control methods with use of statistic methods of control, leads to better results in quality. It is connected with the concept of product and sale, which assumes that consumers prefer the same products which give them expected high quality. Quality which is the result of the factors influencing the food quality and considered in quality management systems. The process of production is accompanied by the activity orientated on analysis and assessment factors and on the start-up of the activities within the quality management, guaranteeing the attainment of broadly understood food quality. This model approach to the analysis of factors influencing the quality, on current state of knowledge, defines all the aspects of quality, including the analysed by me food products quality attributes.

Obligatory and voluntary food quality and safety management systems are assumed to serve the producers and consumers. Above all they increase the competitiveness on the market, producer's credibility and enhance the product quality. They often are the sale condition on the internal and EU market. I have presented the validity of the use of quality systems and the role of the client in this systems in following publications (II.D.27, II.D.28, II.D.29, II.D.30, II.D.31, II.D.83, II.D.93). As the most valuable should be recognised the indication of the application areas and the popularization of the idea of constant improvement of the food quality. Research and assessment on the benefits of introducing and using the international food products quality and safety management standards and systems, such as: HACCP, BRC, IFS, EurepGAP, ISO 9001, ISO 22000, should be recognised as trailblazing in Poland. I have noted that systematization of procedures and improvement of functioning to achieve the proof of safe food production, has been highly evaluated. The still low evaluation of benefits expressed by the client's satisfaction is upsetting. It is the result of the detachment of due diligence to this so important element of the process of perfecting the quality. That is the increase of client's satisfaction and means the need to undertake the activities increasing the consciousness of food producers in this matter.

5.4. Marketing conditioning of consumers' purchasing behaviours on the food market

Factors influencing the choice and consumption of food are: factors connected with food, factors directly connected with consumer, external factors, including the marketing factors, which took important place in my research. These are: product features, price, distribution, promotion, brand. I always treated them as the broadly understood marketing information, therefore the complex of promotion and communication with the purchaser. In consumer's consciousness for example the marketing incentives are confronted. Together with the purchaser characteristics, through the decision processes they lead to decision making of purchase of particular products.

In every product it is distinguished: basic utility (its real properties deciding about better or worse meeting the needs) and additional utility (its aesthetic values, which apart of meeting the basic needs are the source of consumer's satisfaction). Food purchasing behaviour are implied on one hand by the hunger and appetite and acknowledged norms of consumption and, on the other hand by the influence of particular elements of food marketing, as well as conditions of natural, economical, social and cultural environment.

My research on marketing conditioning of consumers' purchasing decisions on the food market constituted the part of the research on purchasing behaviours and factors determining the consumer's choices. They are the important field of research interests and were presented in my teaching program. At this field, I was the editor of the publication: Food marketing basics II.D.51, and the author and co-author of some chapters.

The most important achievement in this field I find the publishing of the results of my own work dedicated to particular elements of marketing, such as:

- product (specificity of food product II.D.115, ready products in jars for children and infants II.D.10, II.D.71, II.D.83, functional food – published works II.D.9, II.D.26, II.D.36, II.D.46, II.D.50, II.D.70, II.D.76, II.D.80, II.D.89, dairy products II.D.16, II.D.20, II.D.23, meat II.D.24, vegetables II.D.22, lettuce II.D.21, tomatoes II.D.25, chocolate and chocolate bars II.D.32, chocolate covered sweets II.D.33, II.D.34, II.D.35, II.D.37, II.D.38, II.D.43, organic products II.D.39, II.D.45, II.D.111, II.D.122, reduced-calorie products II.D.42, local products II.D.47, II.D.86),
- packaging (II.D.17, II.D.19, II.D.64, II.D.72, II.D.116,
- brand (II.D.82, II.D.110,

- distribution (II.D.118),
- promotion (II.D.19, II.D.61, II.D.75, II.D.119, II.D.120),
- price (II.D.117).

Food acceptance and its conditioning are the subject of complex researches in many scientific institutions in Poland and worldwide. These are interdisciplinary researches, because the science about nutrition becomes interdisciplinary and includes the consumer's needs and expectations in the process of creating the new concepts and types of products. It means that the food product acceptance process and the creation of needs are important roles of marketing. In my research I have several times proved the close relation between consumers' purchasing behaviours on the food market and the marketing tools, particularly the influence of the advertising.

II. Teaching and promulgation activities


In view of my teaching program, the field of my interest is the marketing actions of the companies on the market and its influence on consumers' purchasing decisions. I have been researching the specificity of the activities of companies and specificity of group of products. I have presented the results in following monographs (II.D.50, II.D.51, II.D.76, II.D.77, II.D.78, II.D.79, II.D.80, II.D.89, II.D.96, II.D. 109, II.D.110, II.D.111, II.D.115, II.D.116, II.D.117, II.D.118, II.D.119, II.D.120, II.D.121, II.D.122, II.D.123, II.D.124, II.D.125), and on the several conferences in the form of lectures or posters. The experience gained helped me to develop the programs (syllabus), lectures and workshops in the subjects: Marketing basics, Food marketing, Marketing in the company, Marketing of services, New trends in food marketing. I am responsible for realisation of this program at my and other faculties at WULS. My publishing achievements concerning the teaching program serves students, employees and entrepreneurs.

Teaching work gives me the large satisfaction. Realized by me teaching process is highly evaluated by students.

My promulgation activity concerns the aspect of consumer protection. It took various forms of my activity, depending on the current needs and possibilities. The initiative to set up the Association of Polish Consumers in 1995 has been the inspiration to promulgation actions. I was the Founding Member and later the Member of the Board and Vice-President until 2005. It was the time of dynamic changes in consumer law. I actively participated in its

creating and evaluating. I was the member of 2nd Cadence of Polish Normalisation Committee and I participated in meetings of the Parliamentary committees for Protection of Competition and Consumers, where the package of acts concerning the legal protection of the consumer's rights have been discussed. In year 2000 I received the grant to support the preparations to participate in 5th Framework Program of Research, Technological Development and EU Presentation (Nr PL 9611/99/02-02.216/462; Program Phare-SCI-Tech II PL, budget line PL 9611-02-02 – II.E.7) to prepare the final version of application to the program 5PR entitled: Creation of Education and Consumer Protection Centre in Poland. As the results of undertaken activities the Consumers Centre has been created, which I am the president of.

On the 9th -14th June 2002 I represented Poland on the FAO World Food Summit at the FAO headquarters in Rome, where met the representatives of government, international non-governmental and civil organisations for the nutrition safety to fight hunger and poverty. My main achievement at WFS was the propagation of the postulate of the human rights to safe and nourishing food. In my opinion, my researches and the use of it in teaching and promulgation activities proved the righteousness of this postulate.

A handwritten signature in cursive script, reading "Maria Jesuch". The signature is written in black ink on a white background.