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Polish Food

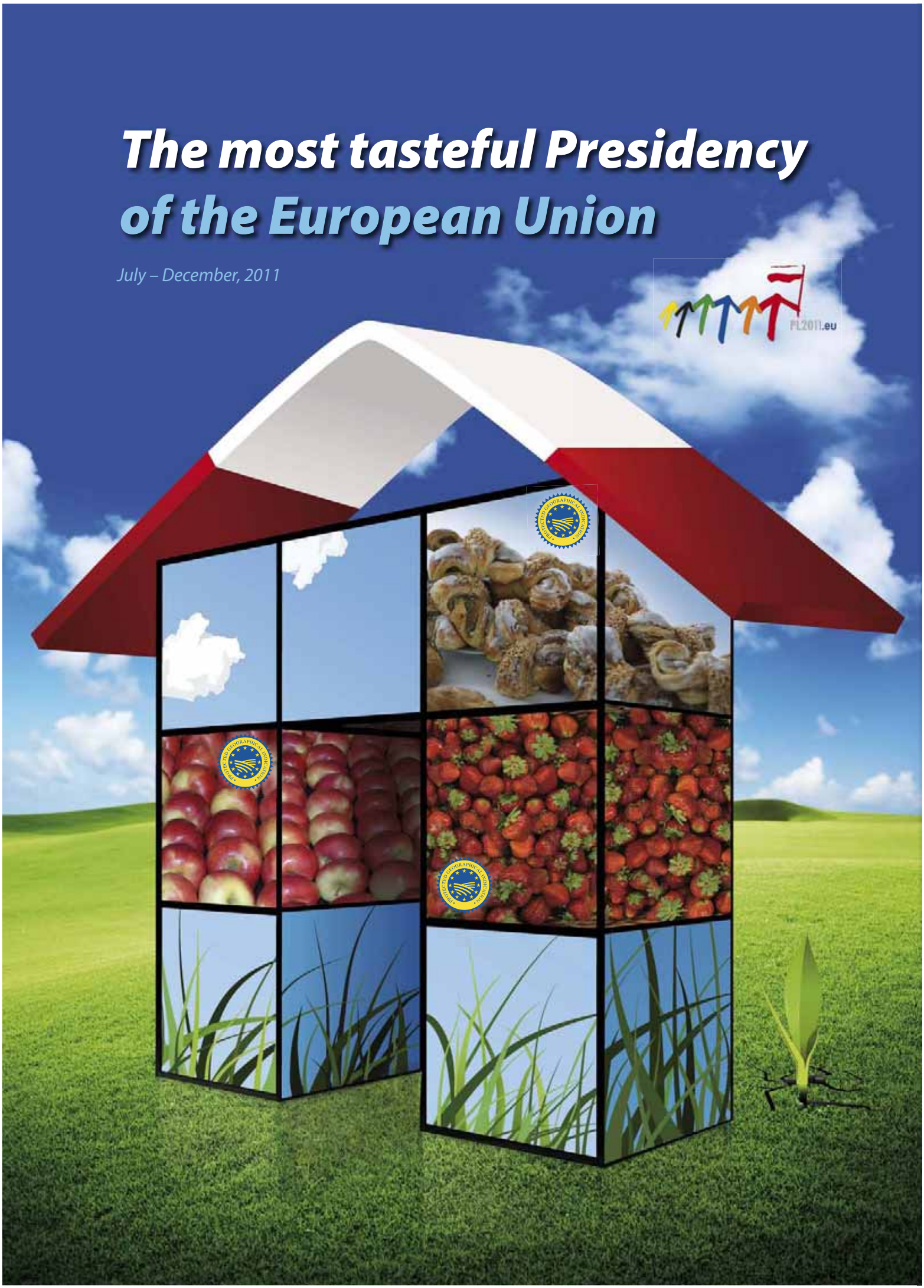
Brussels discovered the taste of Poland

Minister of Agriculture Marek Sawicki gives Commissioner Dacian Cioloș a taste of another Polish product - the Rogal świętomarciński

Summary of the events of the Polish Presidency in the EU Council

The most tasteful Presidency of the European Union

July – December, 2011



POLISH PRESIDENCY IN THE EU

The first Polish Presidency of the EU Council was coming to an end

During the six months of the Polish Presidency in the area of agriculture and fisheries, we hosted five Councils in Brussels and Luxembourg, one informal meeting of Ministers of Agriculture in Wrocław, over 25 conferences and expert meetings in Poland and about 10 abroad.

On 25-26 October, Warsaw hosted the 35th North American and European Union Agricultural Conference entitled "Which direction for agricultural policies?", attended by Marek Sawicki, Minister of Agriculture and Rural Development. This year's edition, for the first time in the history of this event, was organized in Poland. The debate started with an overview of the most important issues and events related to the economy and agricultural policy of both continents. The discussion was aimed at showing common points and the most important differences in this regard.

On the occasion of upcoming Christmas, the annual meeting of the Minister of Agriculture and Rural Development and the Diplomats responsible for agricultural affairs accredited in Warsaw was organized on 9 December in the Crystal Hall of the Warsaw University of Life Sciences. This year, due to the Polish Presidency in the EU Council, Poland was the host of the meeting and its main organizer.

TRENDS AND FORECASTS

The value of turnover (total value of export and import) in the Polish foreign trade in agri-food products in the course of the first three quarters of 2011 amounted to EUR 20,035 million and was 13.6% higher than in the corresponding period of 2010. The value of import has increased to a greater extent than the value of export.

Production of grains is one of the main branches of Polish agriculture. Poland occupies second place in the European Union in terms of cultivation area, and it ranks third after France and Germany in the statistics of crops.

PROMOTION OF POLISH FOOD

On 14 November 2011, the Ministry of Agriculture and Rural Development organized an action promoting rogale świętomarcińskie (Saint-Martin's croissants) in the seat of the Council of the European Union in Brussels. The choice of the date was not accidental, since the undertaking was aimed at presenting the celebrations taking place in Wielkopolska voivodeship in connection with Saint Martin's day.

For the Polish people, bread and its taste are of particular importance. The smell of good bread is one of the most beautiful aromas stimulating our senses. Breads with the PDŻ quality mark have all these values.

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Ladies and Gentlemen!

I am again very pleased to wish you well for this New Year. Thanks to the electorate and Prime Minister Donald Tusk, I continue my work, this year, as the Minister of Agriculture and Rural Development. This is not only an honor, but also a great challenge as well.

There are a number of challenges and work to be continued in particularly unfavorable conditions. The Eurozone crisis is not decreasing. It does not impact just the Eurozone Member States, as it also negatively influences the entire European Union. Poland is managing the situation quite well, better than some stronger countries. However Poland is not indifferent to the development of the situation and is willing to actively participate in seeking new solutions for these difficulties. Poland would like to provide effective support within the framework of the already suggested solutions of the International Monetary Fund. Poland has a strong sense of solidarity with Europe, heightened by the current situation. The phrase "Solidarity" originated in Poland and Poland's "Solidarność" initiated the changes throughout Central and Eastern Europe.

Today, Europe is facing a serious crisis which could be used as the motivation for real reform. In the next decisive months change of the existing Common Agricultural Policy is ahead of the EU. Here, European solidarity would be helpful. Persistence in maintaining formerly acquired privileges will not improve the competitiveness of European agriculture. The EU needs to restore the principles on which this policy was originally based. No longer should there be maintained extremely disproportionate support for farmers across individual member states.

During the Polish Presidency, I have proposed to hold public debates concerning the suggestions of the European Commission related to the reform of the Common Agricultural Policy. Three debates were organised. The first took place among a group of Ministers of Agriculture and Members of the European Parliament; the second was attended by representatives of agricultural associations, organizations and academics, whereas sector specialists participated in the third one. These debates showed that no one was satisfied with the currently presented proposals. The suggested reform is considered merely a cosmetic brush over and not a thorough change.

There is still time to make a final decision which should come into force from January 2014. As Minister of Agriculture I once again appeal for a complete reconstruction of the existing mechanisms of the CAP, strengthening its II pillar and, at the same time, limiting the financing of the production. The debates mentioned earlier show that not only I am against the greening of the CAP in pillar I and increasing administrative burdens.

I am convinced that the crisis we are facing will change the approach to the thoroughness of the reforms. The existing, liberal economic policy bankrupted before us. The future world sets new challenges for us and this is associated with a necessity to find new solutions and apply effective mechanisms. The European economy should be again based on a People's Christian and social-market policy.

This does not just relate to immediate issues of direct support to agriculture, but also to broader matters. Climate change observations show an increasing risk of extreme weather conditions should lead to consideration of mechanisms across the European Union to be applied in order to mitigate the impact of these occurrences on agricultural production. It concerns virtually all farmers, North, South East and West. Weather anomalies have no national boundaries and affect entire regions of the EU. Therefore, the aid for those who were affected should be equal, irrespective of country.

Another important issue to be resolved, which was widely recognized in previous years, is a problem of financial speculation on agricultural markets. The actions of speculators on agricultural exchanges disturb repeatedly the normal functioning of markets.

A passive response waiting for further attack is not acceptable. There have to be developed legal solutions that will effectively prevent these speculations occurring. As Minister I proposed that sales must involve delivery of goods. It is important to seek all possible measures to effectively prevent speculation on agricultural markets.

The problem of genetically modified produce has not been finally resolved. I think that, if we are to be a real European Union – unified, modern and competitive – the same functioning principles and mechanisms should apply to all members. The banning of the growing of GMO crops should be accompanied by the banning of the import of feed and foodstuffs manufactured with the use of GMO crops.

There is also a need to conduct a new debate concerning the access of the agricultural products from non-member countries that will compete on the EU market with our own products, especially those which no longer have to be produced in accordance with the same agricultural and environmental requirements that the EU farmers are obliged to comply with. Such functioning of trade has nothing in common with basic principles of competition.

These are examples of subjects to be addressed and issues to be faced. We, in Poland, hope that together we will find the best solutions to these, and it is this that I wish to all of us at the beginning of the New Year in 2012.

Marek Sawicki
Minister of Agriculture and Rural Development

Polish Presidency of the EU Council

The first Polish Presidency of the EU Council was coming to an end

During the six months of the Polish Presidency in the area of agriculture and fisheries, we hosted five Councils (AGRIFISH) in Brussels and Luxembourg, one informal meeting of Ministers of Agriculture in Wrocław, over 25 conferences and expert meetings in Poland and about 10 abroad. We had the pleasure to receive about 4,000 distinguished guests in Poland. The employees of the Ministry of Agriculture and Rural Development, subordinated and supervised units and the Permanent Representation of the Republic of Poland to the EU headed about 110 working parties.

Inaugural meeting of the Polish Presidency of the Council of the EU with the EC. José Manuel Barroso, President of the EC, and Donald Tusk, Polish Prime Minister and President in office of the Council of the EU, participated in the inaugural meeting of the Polish Presidency of the Council of the EU with the EC

During the AGRIFISH session on 19 July 2011, in Brussels we presented the programme of the Polish presidency in the area of agriculture, rural development and fisheries. The European Commissions presentation of the package of reform projects of the common fisheries policy was an important item on the sessions agenda. The European Commission also presented the Green Paper on promotion measures and information provision for agricultural products that started the debate on changing the policy's shape.

During the AGRIFISH meeting on 20 September 2011, in Brussels we took the effort to discuss the difficult subject of food distribution to the most deprived persons in Europe. Thanks to the endeavours of the Polish Presidency, a compromise was achieved on extending the food distribution programme for the most deprived to 2012-2013. Discussions also concerned the possibilities of energy use of biomass of agricultural origin.

During the session of the Agriculture and Fisheries Council on 20-21 October 2011, in Luxembourg, after the presentation of the package by the European Commission, we initiated discussion on legislative proposals concerning the future shape of the Common Agricultural Policy.

Still in October we started intensive work on the Commissions legislative proposals on the level of the Council working groups. We continued until the Agriculture and Fisheries Council in December, during which we focused the debate on support of the development of rural areas. In the meantime, during the session of the Agriculture and Fisheries Council on 14 November 2011, we discussed on a political level the principles of a new system of direct payments, in particular proposals concerning structure and distribution of direct payments, as well as on greening the first pillar of the CAP.

On the initiative of Marek Sawicki, Minister of Agriculture and Rural Development, a series of three debates on the reform of the common agricultural policy beyond 2013 took place in Brussels in November and December 2011. The meetings were organised jointly by the Council, the European Parliament and the European Commission and were attended by agriculture ministers from EU Member States, Members of the European Parliament as well as representatives of the agricultural sector and the academia.

As concerns fisheries, during the Council in November 2011 an exchange of views took place on the Communication from the Commission to the European Parliament and the Council on External Dimension of the Common Fisheries Policy.

The last meeting of the Agriculture and Fisheries Council during the Polish Presidency took place on 15 and 16 December. The ministers in charge of agriculture and fisheries in the European Union, who came to Brussels, discussed the fishing opportunities for certain fish stocks and groups of fish stocks in 2012 in the Atlantic, the Channel, the North Sea and the Black Sea. The Council also debated on the assumptions of the European Maritime and Fisheries Fund. A political agreement on fishing opportunities in the Black Sea was reached. The Polish Presidency announced a political agreement on the programme of food aid for the most deprived persons in the European Union. The agreement between the Council and the Parliament will ensure the continuation of the programme of food distribution to the most deprived persons under the CAP in 2012 and 2013. New provisions of the scheme enlarge the scope of products it covers to market purchases. It gives preference to products of EU origin. The annual budget of the programme amounts to EUR 500 million.

Commissioner for Agriculture and Rural Development Dacian Cioloș and Minister of Agriculture and Rural Development during an open meeting of AGRIFISH in July

Minister of Agriculture and Rural Development Marek Sawicki, Chairman of the Committee for Agriculture and Rural Development of the European Parliament Paolo De Castro – presentation of priorities of the Polish Presidency

The fishing quotas for the next year were also negotiated as usual in December. The Polish Presidency managed to reach an agreement also on this matter.

The Polish Presidency was also successful in non-legislative terms in the Council. For the first time in a year and a half, the Council was unanimous and adopted the Council Conclusions on the Green Paper on promotion measures and information provision for agricultural products.

Participants of the informal meeting of the Ministers of Agriculture in the EU Member States held in Wrocław

Chairman of the Committee for Agriculture and Rural Development of the European Parliament Paolo De Castro, Minister of Agriculture and Rural Development Marek Sawicki and Commissioner for Agriculture and Rural Development Dacian Cioloș respond to the questions from the journalists during the press conference after conclusion of the meeting in Wrocław

Guests of the informal meeting in Wrocław watched the horse show in the Lesieniec farm

Minister of Agriculture and Rural Development Marek Sawicki visits the Jaworek vineyard in Miękinia with foreign journalists

The informal meeting of agriculture ministers was held in Wrocław on 11-13 September 2011. Ministers discussed the future of the promotion policy for agri-food products in the EU and in third countries in the light of the current work on the Green Paper on promotion measures and information provision for agricultural products.

The visit of the most important personages of EU agriculture to Wrocław also provided an occasion for presenting Polish agriculture and Polish food. Our distinguished guests could taste Polish regional products and take a tour of a vineyard, stud farm, pig farm and newly built biogas plant.

Another important stage in the discussion on the promotion policy was the conference "Promotion of European Agriculture – a New Approach" that was held in Warsaw on 29 November 2011. The topics discussed during the conference were related to the future of European promotion policy in the context of the publication and public consultation on the Green Paper on promotion measures and information provision for agricultural products, as well as the exchange of experiences in the implementation of promotion activities on the main European markets.

On 16 July 2011 in Sopot, we organised a conference entitled: Energy Use of Biomass of Agricultural Origin as an Important Element of the Common Agricultural Policy.

The topic is one of the priorities of the Polish Presidency that perceives a particular need to support investments connected with the development of renewable energy sources in rural areas and wishes to promote actions targeted at enhancing energy generation from agricultural by-products and agri-food industry residues.

On 25-26 July 2011 in Sopot, we had the pleasure to receive the participants of the informal meeting of Directors-General for Fisheries from EU Member States. The conference gathered also the representatives of the European Commission, the Secretariat General of the Council and the European Parliament.

On 21-23 September 2011, the 30th Conference of Directors of EU Paying Agencies was organised in Sopot. The meeting included plenary sessions and workshops. The main topics of

debates covered simplification of the common agricultural policy, reducing the administrative burden and preparations for the implementation of changes to the CAP beyond 2013. Our guests were especially impressed by the Gdańsk Old Town and the Szymbark open-air ethnographic museum. The visit to the Gdańsk Shipyard, a symbol of Polish democratic changes, and a meeting with Lech Wałęsa, former President of the Republic of Poland and the laureate of the Nobel Peace Prize, added a special meaning to the event.

On 26-28 September 2011, we organised an informal meeting of Directors for Rural Development in the area of Supraśl (Biebrza National Park). The main topic of discussion was the complementary targeting of investment support for rural development with respect for public goods and exchange of good practices gathered during the implementation of rural development programmes in EU countries. Our distinguished guests marvelled at the Biebrza National Park and enjoyed Polish hospitality.

On 26-29 September 2011, an extraordinary meeting of the group of Chief Veterinary Officers from EU Member States was organised in Cracow. During the meeting, discussions concerned work on the Animal Health Law, certain issues of animal welfare, disease eradication programmes co-financed by the EU in third countries, the future and place of the veterinary fund in the EU budget and the shape of EU veterinary legislation. The agenda of the meeting also covered a tour of Cracow and Lesser Poland region, picturesque and rich in tradition. Guests visited the Wieliczka salt mine and the Conservative Bison Breeding Centre in Niepołomice.

On 19-20 October 2011, the European Congress of Rural Communes was organised in Warsaw. It was the largest meeting of local government representatives during the Polish EU Council Presidency. About 1,500 participants from the EU discussed the new shape of European funds, the EU budget for 2014-2020 and balance between rural and urban development. The Congress ended with signing the so-called Warsaw Declaration on the role of the cohesion policy in rural development.

On 27-28 October 2011 in Cracow, we had the pleasure to host the participants of the conference entitled: Approximation of Veterinary, Phytosanitary and Food Quality and Safety Legislation in Eastern Partnership Countries with the EU Law.

Opening of the conference on biomass, which took place in July, in Sopot

Inauguration of the 30th Conference of Directors of Payment Agencies, in September, in Sopot

Participants of the plenary session

Discussion during the thematic workshop during the Conference of Directors of Payment Agencies

Extraordinary meeting of Main Veterinarians of EU Member States in Cracow, in September

With this meeting, the Polish Presidency emphasised the essence of the priority area in the framework of which we stressed the significance of food quality and food security and highlighted the need to develop the initiative of Eastern Partnership, also the adaptation of partners' countries legislation in the field of animal and plant health as well as food security and quality, to the EU standards.

The Council Presidency was a great opportunity to promote high quality and exquisite taste of Polish produce. "Poland tastes good" is the slogan of a campaign by the Polish Presidency to promote high-quality food. It is intended to show consumers that the qualities of Polish food would surely satisfy the expectations of the most demanding consumers.

In the framework of the Polish Presidency inauguration, in July, Minister Marek Sawicki brought 3.5 tonnes of fresh juicy "Truskawki kaszubskie" (strawberries from Kashubia) to the European Parliament in Strasbourg and offered them to participants of the EP's plenary session. Famous for their taste and smell, the fruits have been entered into the EU Register of Protected Geographical Indications. They won the hearts of our EU friends, at the same time symbolising the quality and diversity of Polish products, richness of tastes and centuries-old culinary traditions.

The tasting of Polish "Jabłka łąckie" (Łąckie apples) took place on 20 and 21 September 2011 in Brussels, in the buildings of the EU Council and the European Parliament. The presence of "Jabłka łąckie" (Łąckie Apple) constituted another chapter of the campaign carried out by the Polish Presidency with a view to presenting agri-food products characteristic of Poland, outstanding for their highest quality and extraordinary taste.

Prime Minister of Poland, Donald Tusk, President of the European Parliament Jerzy Buzek and the President of the European Commission José Barroso taste the Polish truskawki kaszubskie (strawberries from Kaszuby)

"Polish 'jabłka łąckie' (łąckie apples) are pretty and tasty" said Minister of Agriculture and Rural Development Marek Sawicki and the President of the European Parliament – Jerzy Buzek

In November, to commemorate St. Martins Day, Minister Marek Sawicki promoted Polish products again, this time by serving his colleagues with traditional "rogal świętomarciński" (St. Martins croissants) that have been baked for ages in Poznań and several neighbouring towns of the Greater Poland region.

The old Polish custom dictates to serve your guests with what you have best. By serving Polish specialties in Brussels, we hoped to convince the European Union that Polish hospitality, rooted in our tradition and culture for centuries, is an inextricable element of Polish heritage.

Minister of Agriculture and Rural Development Marek Sawicki and Commissioner for Agriculture and Rural Development Dacian Cioloş are talking about rogale świętomarcińskie (Saint-Martin's croissants)

We tried to show Poland as a country with a strong and dynamic agricultural sector, as a country where rural areas have a huge development potential.

Eastern Partnership Conference

Approximation of legislation of states covered by the Eastern Partnership initiative to EU legislation with regard to veterinary, phytosanitary, food safety and quality issues – this was the subject of meeting which took place on 27-28 September this year in Cracow.

The conference, hosted by the Polish Minister of Agriculture and Rural Development, Marek Sawicki, was organized within the Polish Presidency and was attended by the representatives of the European Partnership and European Union countries, as well as the representatives of the European Commission, European Parliament and international organizations, associations and scientific institutes.

The two-day meeting was devoted to an overview of solutions and legislation concerning plant and animal health, food safety and quality, which are in force in the Eastern Partnership countries. It was also aimed at discussing the results of the previous cooperation in the field of agriculture.

When opening the debate, Minister Marek Sawicki expressed his hope that the undertaking would be, first of all, a forum for the discussion on the prospects and scope of further development of the Eastern Partnership in the field of agriculture and he pointed out that the 2nd Summit of the Eastern Partnership has been held in Warsaw in the previous months.

"At the Summit, we adopted the Joint Declaration, called Warsaw Declaration, which provides a strong political signal on deepening the integration and further practical involvement of the European Union and Eastern partners in joint activities. Its text includes specific provisions confirming the will of active cooperation, including among others, an announcement of willingness to fully integrate the partnership countries with the internal EU market. In order to achieve this, it is necessary to adjust legislation in various sectors, including agriculture which is very important to the Eastern Partnership partners", stressed Marek Sawicki.

Minister confirmed that food safety and quality were the priorities of the European Union.

The debate in Cracow was attended by the Vice-Ministers of Agriculture from Armenia, Azerbaijan, Moldova, the Czech Republic, Romania, Hungary and by the representatives of Belarus, Belgium, Bulgaria, Cyprus, the Czech Republic, Estonia, Finland, France, Georgia, Greece, Hungary, Italy, Lithuania, Latvia, Moldova, Slovenia, Spain, Sweden, Ukraine and Great Britain.

The integration strategy with regard to agriculture and food plays an important role, which was stressed by the representatives of all countries participating in the conference.

During the debate opening the Conference on Eastern Partnership, in Cracow, in September

Minister of Agriculture and Rural Development Marek Sawicki gives an interview

The most important subjects of the two-day conference were discussed in details during four discussion panels.

During the panel devoted to animal health, the discussion concerned the role of feed to animal health.

A system to combat transmissible diseases and their control was presented, as well as an animal identification system. Poland's experiences in implementing EU support projects in the area of veterinary medicine were another important topic of the panel.

Food safety was also the topic of another panel meeting, during which the food safety system in place in Poland was presented.

Informal conversations behind the scenes of the conference

Its purpose is to ensure compliance with EU and Polish regulations in the area. Focus was also put on veterinary border control at external borders of the European Union. Discussion concerned an analysis of threats and risk in ensuring food safety in the wide context of EU law and standards devised in the framework of the Codex Alimentarius. Participants also discussed the problems connected with monitoring banned substances and different diagnostic laboratory systems.

The second panel was devoted to food quality.

Presentations during the panel concerned the legislation systems of the European Union and Poland in the area of general labeling of foodstuff as well as the system of supervision, control and certification in organic farming. Discussions concerned the benefits of introducing the protection and registration system as well as the supervision, control and certification system for products covered by the system of Protected Designation of Origin, Protected Geographical Indication and Traditional Speciality Guaranteed.

The presentations of the panel devoted to plant health focused on the most important EU legal acts in the area.

Speakers from Poland presented the experience connected with implementing particular legal areas, especially the conclusions from work carried out before and after Poland's accession to the EU in 2004. Discussions concerned organizational and institutional solutions of units participating in the introduction of EU requirements as to the registration of plant protection products, control of their application and trade.

All the panel discussions were extremely animated. Representatives of the Eastern Partnership countries had an opportunity to present their needs and expectations as to this initiative.

The Eastern Partnership is the European Union's initiative addressed to Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine. One of the main goals of the Eastern Partnership is to lead to the integration of enhanced and comprehensive free trade zones of the partner countries with the EU countries.

Press Office
The Ministry of Agriculture and Rural Development

In Warsaw on the agricultural policy of Europe and America

On 25-26 October, Warsaw hosted the 35th North American and European Union Agricultural Conference entitled "Which direction for agricultural policies?", attended by Marek Sawicki, Minister of Agriculture and Rural Development. This year's edition, for the first time in the history of this event, was organized in Poland.

The debate started with an overview of the most important issues and events related to the economy and agricultural policy of both continents. The discussion was aimed at showing common points and the most important differences in this regard. With reference to the EU agricultural policy, Minister Sawicki said:

"The new Common Agricultural Policy should be clear, simple and thus understandable to everyone. It should support innovation and competitiveness of the European agriculture and should not be conservative; it should not maintain stagnation through unequal conditions of competition."

Opening the Agricultural Conference North America – European Union

Moreover, the trade policy of agricultural products was also evaluated, and the functioning of the food chain, as well as possibilities of stabilizing prices of agricultural raw materials were discussed. The Polish Minister of Agriculture pointed out the risk resulting from speculative actions in agricultural markets.

"Food may not be as subject of speculation. We may not allow a repeated situation in which the same wheat was sold fifteen times but did not change the warehouse where it was stored even once. Forward transactions must be hedged about with the necessity to move the commodity at its purchase."

Conference session – speaker: Minister of Agriculture and Rural Development Marek Sawicki

The discussion was attended by Deputy Prime Minister Waldemar Pawlak

The participants of the conference had an opportunity to exchange opinions on main factors causing the market instability and on the method of dealing with challenges faced by farmers, such as: price volatility, projections of economic framework, supply and demand management. They also had a chance to present suggestions of solutions which could guarantee the good functioning of the financial market for agricultural products. They unanimously stressed that safety of the food chain was a crucial issue in the recent years. Unfortunately, publishing numerous reports, Commission communications and recommendations has not resulted so far in the rise in farmers' income and dishonest trade practices leading to abuses still take place. Therefore, there is a need to specify major problems and develop material instruments which would contribute to improving the farmers' position in the food chain, and thus, would lead to the rise in their income.

The second day of the conference was held under the banner of innovation and development opportunities for agriculture and rural areas. As it was stressed by the organizers, all global institutions dealing with the development policy recognize a necessity to improve research in the field of agriculture and to accelerate transfer of innovation to farms.

The conference was organized by the National Council of Agricultural Chambers (Krajowa Rada Izb Rolniczych), as a full member of the Copa Committee, chosen as the leader of this year's edition of the project. The debate was attended by 250 individuals, representatives of agricultural organizations from Europe and North America. Among them, there are, among others, Presidents of: COPA-COGECA, Canadian Agricultural Federation, American Farm Bureau Federation and Consejo Nacional Agropecuario, as well as the representatives of the European Commission and Members of the European Parliament involved in the issues of national agriculture and Common Agricultural Policy.

Press Office
The Ministry of Agriculture and Rural Development

Conference participants listened to the speeches attentively

Meeting of Diplomats responsible for agricultural affairs

On the occasion of upcoming Christmas, the annual meeting of the Minister of Agriculture and Rural Development and the Diplomats responsible for agricultural affairs accredited in Warsaw was organized on 9 December in the Crystal Hall of the Warsaw University of Life Sciences. This year, due to the Polish Presidency in the EU Council, Poland was the host of the meeting and its main organizer.

Foreign Diplomats responsible for agricultural affairs were welcomed by the Minister of Agriculture and Rural Development Marek Sawicki

The celebration was opened by Marek Sawicki, the Minister of Agriculture and Rural Development. He emphasized that: "the Star of Bethlehem, the Christmas tree, table laid with white table cloth and wafer upon it are in Polish tradition the signs that Jesus Christ, the Son of God, is coming to us again.

When the Infant Jesus is born, new hopes, plans and ideas are conceived" – said Minister Sawicki and wished all the participants of the meeting to deal, in the next year, not only with the crisis and problems related to great finances, but also to engage in life of ordinary people.

"For the last few weeks in Europe, we have been thinking about the methods of support for financial institutions and, at the same time, we did not manage to reach an agreement on the aid and rescue of 13 million of the poorest Europeans. I believe that such a situation in our Europe will not occur again" – said the Minister. He also indicated that the time for discussing agriculture and agricultural policy, and summing up the Presidency will come next year. He invited the diplomats participating in the meeting to a conference related to this topic the Ministry will held at the beginning of January 2012 in the Central Agricultural Library in Warsaw.

Handing out an award to Marian Rak – the winner of the "Baltic Farmers Award" contest

Polish cuisine specials on the national table

The head of the department wished all the participants of the meeting the love of one's neighbour and the light of the Infant of Bethlehem warming us all the next year long.

At the meeting, the ceremony of granting the "Balic Farmers Award" to Marian Rak was held in the Crystal Hall of the Warsaw University of Science. "It turned out that the farmer most friendly to the Baltic Sea lives in Poland" – said Minister Sawicki when congratulating the prizewinner. The competition "Balic Farmers Award" is organized by Word Wildlife Fund (WWF) and the Swedbank. The WWF is one of the world's largest organizations operating for the benefit of protection of natural environment. Operating for nearly 50 years in more than 150 countries, it has contributed to the protection of many endangered species and environmentally valuable places in the world. Marian Rak is the first prizewinner from Poland in the entire history of the competition. In runs a family farm in the Samotwór village, in the Dolnośląskie Voivodeship. "The farm of Marian Rak is an ideal example of a traditional farm and proves that agricultural production can be environmentally friendly and caring for the bio- and landscape diversity" – emphasized the Minister.

At the annual meetings of the Embassies' Advisers responsible for Agricultural Affairs, the specialties of national cuisines are presented on the tables. This year, one could taste, among others, Dutch cheese, Belgian sweets, Spanish paella, British tea, Hungarian and Californian wines, and many other national delicacies. Great interest was enjoyed by traditional Polish dishes such as bigos, żurek or roasted goose.

In the course of the discussions and behind-the-scenes talks at the yesterday's meeting, the Polish vision of the future of the Common Agricultural Policy was presented. The participants were provided with information materials pertaining to Polish agriculture, cuisine and our stance as to the reform of the CAP.

Foreign diplomats could taste Polish products registered in the European food quality systems

Polish foreign trade in agri-food products in the period of January-September 2011

The value of turnover (total value of export and import) in the Polish foreign trade in agri-food products in the course of the first three quarters of 2011 amounted to EUR 20,035 million and was 13.6% higher than in the corresponding period of 2010. The value of import has increased to a greater extent than the value of export.

Export

In the period of January–September 2011 the value of sales of agri-food products to other countries amounted in total to EUR 10,912 million and increased by 11.6% as compared to the same period of 2010.

For the countries of the European Union (UE), the value of sales grew by 9.2%, and for the countries of the former "fifteen" by 7.5%. For the 11 "new" Member States, the sales of Polish food increased by 14.2%. In total, the value of goods sold in the EU market was EUR 8,521 million. In the structure of agri-food export, the share of EU states decreased slightly from 79.8% to 78.1%.

The value of export to the Commonwealth of Independent States (CIS) amounted to EUR 1,109 million an increased by 11.9% as compared to the first three quarters of 2010. Such a situation was due primarily to the significant increase in the value of export for pork meat, vegetables, including mainly potatoes and cabbage. The sales to the CIS countries accounted for 10.2% of the value of total agri-food products' export; in comparison, in the period from January to September 2010, this share was slightly lower and amounted to 10.1%.

In the period of January–September 2011, the majority of agri-food products with the value of approximately EUR 2,397 million was sold to Germany and it was an increase by 9.3% as compared to the same period on 2010. Export to Germany accounted for 22% of the value of entire agri-food export conducted in the same period. The following products were sold (in terms of value) to the German market: smoked fish (mainly salmon), poultry meat, biscuits, wafers and other baker's products, juices made of fruits (mainly apple juice), processed and preserved fish, wheat, as well as milk powder, frozen fruits (mainly strawberries and raspberries), cigarettes and beef.

Great Britain, where products worth EUR 775 million were sold, was on the second place. In comparison to the previous year, this meant an increase of 12.9% and share in total export at the level of 7.1%. The products exported to

Fresh and frozen fruit and vegetables are important Polish export products

Great Britain included mainly processed meat preparations, chocolate and chocolate products, as well as poultry meat.

The Czech Republic was another biggest recipient of Polish agri-food products, which followed Great Britain. In the period of January–September this year, goods worth just over EUR 740 million were sold to this market. In comparison to the period from January to September 2010, this meant an increase by 18.5% and share in total export at the level of 6.8%. The Czech Republic was the recipient of mainly cheese, poultry meat, baker's products, cakes and cookies, as well as pork meat.

The following countries took the subsequent places among the dominant consumers of agri-food products: the Netherlands EUR 626 million, France EUR 622 million, Russia EUR 591 million and Italy EUR 577 million.

Cigarettes and beef were primarily sold to the Netherlands and Italy. Especially cigarettes, vodka and poultry meat were sold to France. In turn, apples, chocolate and chocolate products, as well as frozen vegetables and mushrooms were exported to Russia.

In comparison with the period of January–September 2010, among the most important trade partners, the largest increase in exports was recorded in trade with Turkey, by 125%, due to a growth in exports of beef, and Belarus, by 91%, owing to higher sales of pork and apples. A significant increase in export was recorded also in relation to Algeria, Bulgaria and Croatia.

In the period from January to September 2009, with regard to the value, sales of cigarettes, beef, poultry meat, chocolate and chocolate products, beef, baker's and pastry products (biscuits, wafers, etc.), sugar syrups, smoked fish (mainly salmon), cheese, cottage cheese and apples prevailed. In comparison with the corresponding period of 2010, attention should be paid to a more than 60% increase in the value of exports of butter and coffee, an increase of 58% of export value of processed and preserved meat, as well as an increase of 40% in the sales of pork. The export of sugar fell by 21%, and the sales of apples by 12%. *See Chart 1, page 60.*

Import

In the period of January–September 2011, agri-food products worth EUR 9,123 million in total were imported to Poland, which meant an increase of import by 16.1% in comparison with the corresponding period of 2010.

Within EU, we imported goods of value amounting to EUR 6,364 million and in relation to 2010, it was an apparent increase by 17.6%. The share of import from the EU states constituted 69.8% of the total import value of agri-food products, in the preceding year it was 68.8%). The value of purchases in the 11 countries which accessed the EU after 1st May 2004 increased by 21% and amounted to EUR 918 million.

The value of import from CIS countries increased by 66% and amounted to EUR 332 million. In the general structure, import from CIS accounted for 3.6% while last year, it was 2.5%.

Agri-food products imported to Poland came mainly from Germany and their value amounted to EUR 2,122 million. In comparison with the pre-

vious year, import from Germany increased by 23.0% and accounted for 23.3% of the agri-food products import in general. In the analyzed period, in terms of value, the largest quantities of the following products were imported from Germany: pork meat, coffee, chocolate and chocolate products, pet food, pastry bread and cookies (including biscuits and wafers), cheese, as well as sugar syrups and animal gut.

Import from the Netherlands reached the value of EUR 816 million, from Spain EUR 461 million, from Denmark EUR 397 million, from Argentina EUR 393 million, from France 380 million and from Italy EUR 367 million. In addition, the following countries had a significant share in the import: Norway, the Czech Republic, Great Britain, Belgium and China. The largest increase in import's value was recorded mainly within the trade with Ukraine and Malaysia (increase in palm oil import), and also with Russia, Lithuania and Hungary. A decrease was stated in relation to purchases in the U.S., Ecuador and Ivory Coast.

The products imported to Poland from the Netherlands included mainly pork meat, live plants, cut flowers and palm oil; from Spain – citrus fruits, peaches, nectarines, pork meat and tomatoes, from Denmark – pork meat, from Argentina – soybean oil cakes, and from France – sugar, sugar syrups and pet food.

In terms of value, the most important commodities imported to Poland in the analyzed period included: pork meat, soybean oil cake, fresh fish, fish fillets, coffee, sugar syrups, unprocessed tobacco, pet food, chocolate products, sugar and citrus fruits. The value of imports of the commodities listed above accounted for 37% of the total import of agri-food products to Poland.

The imported pork meat came mainly from Germany and Denmark. The largest increase in the value of imports as compared to 2010 was recorded for corn, by 133%, imported mostly from Hungary and Slovakia, as well as sugar, by 118%, which was imported in particular from France, Swaziland and Germany. Moreover, the value of import of rape, wheat and palm oil increased significantly. *See Chart 2, page 60.*

Balance

In the period of January–September 2011, the balance in the trade of agricultural and food products reached the level of plus EUR 1,789 million and was by 6.6% lower than in the corresponding period of 2010 (+EUR 1,916 million).

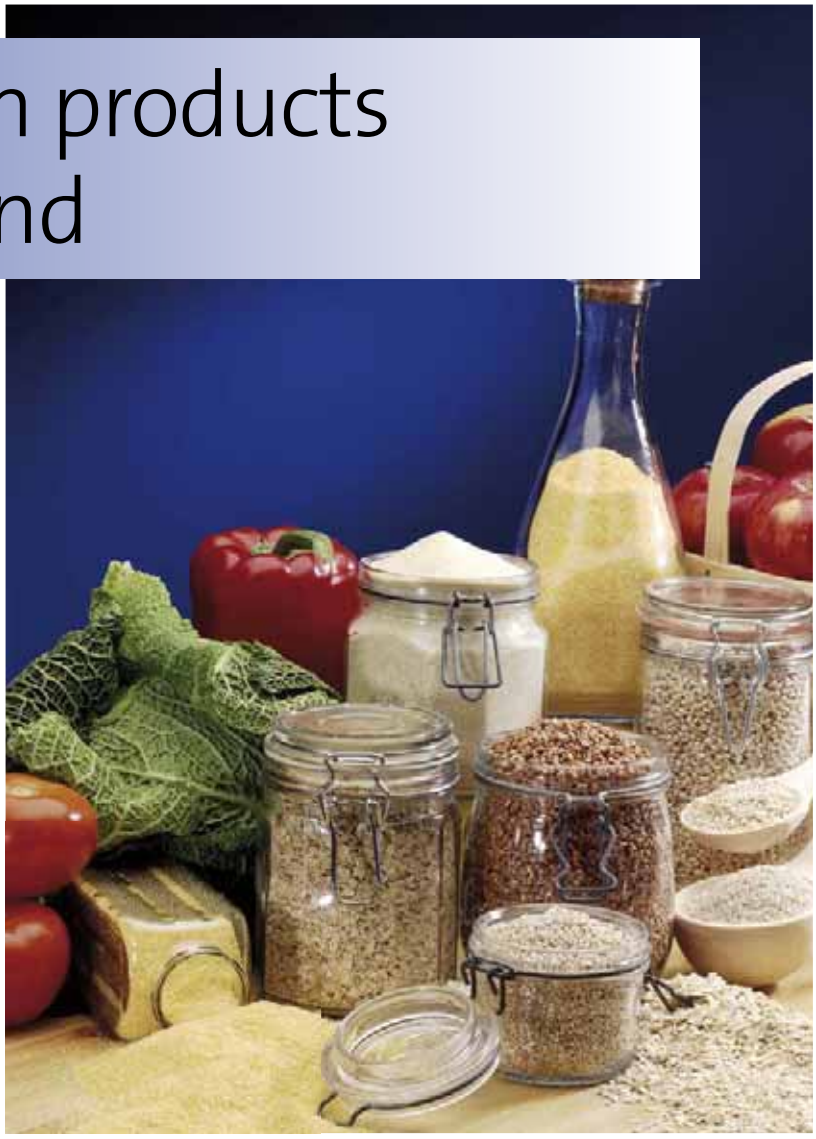
The balance in turnover with EU countries was also positive and amounted to plus EUR 2,157 million. To compare, in the same period in 2010, the value amounted to plus EUR 2,392 million.

Poland worked out the highest positive balance in the turnover with Russia (+EUR 549 million), Great Britain (+EUR 495 million) and the Czech Republic (+EUR 419 million).

In turn, a significantly larger import than export, and a negative balance, was noted traditionally in the trade Argentina (-EUR 393 million), Spain (-EUR 287 million) and Norway (-EUR 281 million).

Department of Agricultural Markets
The Ministry of Agriculture and Rural Development

Grain and grain products market in Poland



Production of grains is one of the main branches of Polish agriculture. Poland occupies second place in the European Union in terms of cultivation area, and it ranks third after France and Germany in the statistics of crops. The popularity of crops production results from well-mastered technology of their cultivation, storage, possibilities of easy sales, and in particular from the possibility of using the grains for feed.

Supply and demand situation on the grain market is of importance to the entire food economy. The grain sector determines to a high extent the economic conditions of production on other markets, including in particular the market of pork livestock and poultry.

The national production of grains is dominated by wheat and rye. Large proportion of the grains' sown area and crops is also connected with the blends of grains and triticale, the share of which is steadily growing. From year to year, the size of grain crops is subject to fluctuations, which is a result of changes in yields, and to a lesser extent, in the area and structure of cultivation.

Projection of harvest and demand for grains

According to the estimates of the Central Statistical Office (GUS), the total area of crops in 2011 amounted to 7.8 million ha *(Chart 3, page 60)*, of which:

There are various products of consumption goods processing produced in Poland

- wheat, approx. 2.3 million ha,
- rye, approx. 1.1 million ha,
- barley, approx. 1.0 million ha,
- oats, over 0.5 million ha,
- triticale, approx. 1.3 million ha,
- grain mixtures, approx. 1.2 million ha.

The total grain crop is estimated at 26.3 million tons, i.e. 3.5% less as compared to last year and 1.5% less than the average harvest from the years 2001-2005.

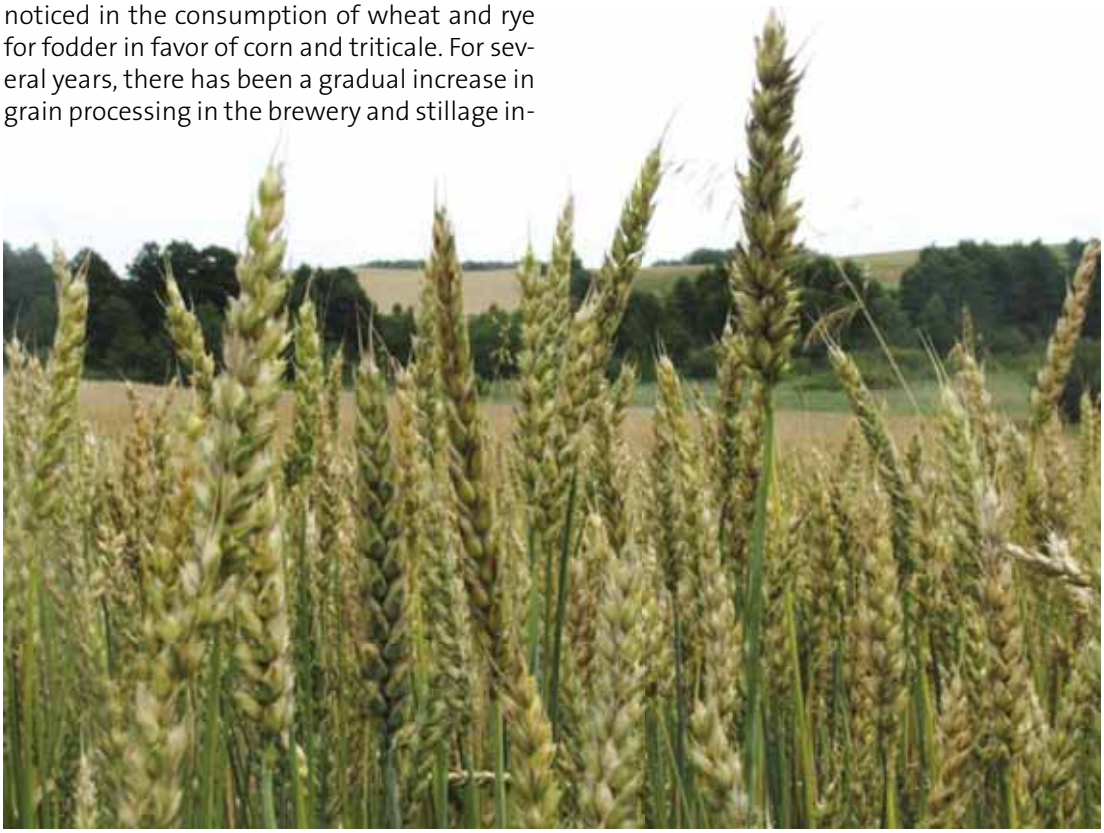
In the season 2011/2012, the national consumption of grains may be slightly (about 1%) lower than in the previous season and it can amount to 27.9 million tons. Traditionally, the highest position on the side of expenditures is the consumption of grains for fodder purposes, which may fall to 16.8 million tons against

17.1 million tons in the season 2010/2011. The expected increase in demand from the poultry sector, as well as (although to much lesser extent) from the milk and beef sector, will not entirely offset the decline in demand for grain for the swine. A small reduction of grain usage for consumption purposes with a further slow increase in industrial consumption is also assumed. It is estimated that the import of grain to Poland may amount to 1.9-2.1 million tons against 2.0 million tons in the season 2010/2011. The export of grains, shaping within the limits of 1.8-2.0 million tons against 2.2 million tons in the previous season, will be at a high level.

For years, the domestic demand for grains has been fluctuating within the limits of 26-28 tons a year. The main factors causing changes in the level of domestic grain consumption in individual economic years include cyclical fluctuations of swine population and the increasing production of poultry. Grain consumption is relatively stable. However, the industrial consumption of grain is steadily growing. Feeding forms a dominant position in the structure of domestic consumption. An average of 16-18 million tons of grains is allocated for feed. In the recent years, a downward tendency was noticed in the consumption of wheat and rye for fodder in favor of corn and triticale. For several years, there has been a gradual increase in grain processing in the brewery and stillage industries. As regards the expected development of the biofuel market, we should be prepared for a stabilization of upward tendency in the use of grains in the industry and a further increase in its share in the domestic consumption.

The national production of corn is dominated by wheat and rye

In the last five years, the turnover in the Polish foreign trade of grains ranged from 2.0–4.8 million tons, 1.0–2.7 million tons of which



Poland takes the second place in EU as to the size of the corn aerial

was the export, and 1.0–3.5 million tons – import *(Chart 4, page 60)*. Poland exported mainly high-quality consumption grains and imported feed grains. Wheat exported from Poland goes mostly to the demanding markets of Western Europe countries, i.e. German market, Spanish market and markets of North African countries, i.e. Egyptian market, where it is used as an admixture improving the parameters of the produced flour.

The Polish foreign trade of highly processed grain products is growing fast *(Table 1, page 60)*. Natural and healthy products made in Poland are appreciated by consumers at the international market. The most important are bread and pastry breads, as well as products obtained from bulking and roasting the grains. In the last two years, i.e. in the year 2009/2010 and 2010/2011, grain products of high processing with a total value of respectively EUR 641 and 754 million were exported from Poland.

The manufacture of food products made from grains (code CN 1904), which increased more than twentyfold during the period in question, is developing in an especially rapid manner. For many years, the production of durable pastry breads (rusks, gingerbreads, biscuits, wafers, matzos and crisp bread) has been steadily increasing. The manufacture of prepared food, obtained by bulking or roasting grains, is also dynamically developing. Grains are a dominating raw material in the domestic production of spirit (rye with a very little share of corn and triticale).

About 1.9 thousand entities are dealing with processing and trade of grains in Poland. Industrial milling of grains is performed by approximately 750 entities, including approximately 50 employing more than 49 people and 170 employing more than 9 people. Approximately 120 entities are engaged in trade and storage. In the recent years, the companies operating in the field of processing and trade have been introducing new technologies to ensure high quality of the manufactured products. These entities are assembled in organizations representing their interests and being a place for exchange of experiences.

Department of Agricultural Markets
The Ministry of Agriculture
and Rural Development

Rogale świętomarcińskie in Brussels

On 14 November 2011, the Ministry of Agriculture and Rural Development organized an action promoting *rogale świętomarcińskie* (Saint-Martin's croissants) in the seat of the Council of the European Union in Brussels. The choice of the date was not accidental, since the undertaking was aimed at presenting the celebrations taking place in Wielkopolska voivodeship in connection with Saint Martin's day.

The promotional action was held at several points of the EU Council buildings, among others: in the hall, during the sessions of the EU Council of Ministers or working groups. The promotion was also carried out at the main square in Brussels – Grand Place, where the inhabitants of the city and tourists could taste this treat. It was an excellent opportunity to present the flavor of this unusual delicacy, which is a symbol of the Wielkopolska voivodeship.

In addition to the representatives of MRiRW, the project was attended by the members of *Grupa Producentów Środka Spożywczego "Rogal świętomarciński"* (Group of Food Manufacture "Rogal świętomarciński" Producers), who provided information on the history, tradition and method of manufacturing this product.

Rogale świętomarcińskie aroused great interest. More than 5,000 pieces were distributed during the tasting. After trying the croissant, employees and visitors to the EU Council repeatedly came back for another one, thereby confirming their delicious taste and exceptional quality. Everyone appreciated not only the initiative itself, undertaken by MARD, but also the values of the Polish products. The preponderance of people mentioned the previous campaigns, and stressed that the Polish Presidency will be remembered as the first, during which an initiative of presenting high quality food in such a way was undertaken.

Rogal świętomarciński is baked with yeast Danish pastry with exquisite filling, which is made of the rarely used white poppy. A sweet glaze, sprinkled with chopped nuts, is the culmination of the crescent-shaped delicacy. The quality of the product results from both the traditional method of its manufacture and the reputation enjoyed by it for over 150 years.

Promotion of *rogale świętomarcińskie* was a continuation of a series of undertakings promoting Polish products registered in the EU system as Protected Geographical Indication. Since the moment of taking over the Presidency in the EU Council by Poland, *truskawka kaszubska/kaszébskô maléna* (the Kashubian strawberry) and *Jabłka Łąckie* (Łącko apples) were promoted.

Department of Promotion and Communication
The Ministry of Agriculture and Rural Development

Fasola "Piękny Jaś" z Doliny Dunajca/fasola z Doliny Dunajca (bean from Dunajec valley) is one of 7 Polish products registered by the European Commission in the category of Protected Designation of Origin, and thus participating in the high quality food system of the Community. Both names used to indicate this product, fasola "Piękny Jaś" z Doliny Dunajca ("Piękny Jaś" bean from Dunajec valley) and fasola z Doliny Dunajca (bean from Dunajec valley) can be used interchangeably.

History of the bean from Dunajec valley

The bean from Dunajec valley has been grown in Dunajec valley for many generations. In the book entitled "Brzozowa i okolice Zakliczyna nad Dunajcem. Obraz etnograficzny – zbiór z lat 1897–1906" ("Brzozowa and surroundings of Zakliczyn on Dunajec river. Ethnographic image – collection from 1897–1906"; Świętek, 1989) much attention was paid to the cultivation of bean in this region, describing the cultivation and harvesting methods, as well as drying of beans. The author of the publication applied the term "groch piechuotny" because this is the name still used by the locals to designate the bean. The use of this name dates back to the 19th century.

Oral historical records of older people inhabiting the areas in the Dunajec valley are also interesting. They confirm the long-term cultivation of this vegetable in this region and relate to the period of World War I and World War II. In these memories, bean fields extending around the houses provided an excellent refuge from the hostilities. In addition, there are numerous records confirming the relationship between the life of inhabitants and cultivation of bean in this areas, for example, an extract from the Tropie Parish Chronicle of September 1954 on the robbery of poles used for its cultivation.

Plantations of "Piękny Jaś" have already become a permanent element of the Dunajec valley landscape, and bean in

Regional product: Fasola z Doliny Dunajca "Piękny Jaś"

various forms is an important element of the regional cuisine. Also, festivals promoting the beans from Dunajec valley are organized, such as "Święto fasoli" ("Bean Festival") and "Fasolowe Żniwa" ("Bean Harvest").

Unique features of the bean from Dunajec valley

Seeds of the bean from Dunajec valley are among the largest within the species of the runner bean (phaseolus coccineus). The weight of 1,000 seeds varies from 1,100 g to 1,500 g. They are smooth, well padded and are characterized by increased content of protein, magnesium (Mg), low humidity and slightly sweet taste. They have a delicate, mellow texture and structure, as well as a thin, soft skin.

Place of production and relationship with the geographical area

The area, in which the bean from Dunajec valley is produced, is located in 11 municipalities of the Lesser Poland voivodeship. The Dunajec valley is the area through which one of the most important trade and transport routes used to run in the past. This facilitated economic growth and encouraged people to settle down in this area.

This area has been shaped by the Dunajec River and the main axis of its relief is the large terraced valley. Due to all of these features, it is one of the warmest places in Poland. In spring and autumn, morning fogs reduce the rapid temperature change between day and night. Floods occurring in this area made valuable fluvial outwash deposits on arable fields which improved the fertility of soil. All these factors resulted in soil and climate conditions which are optimum for bean cultivation.

In the cultivation area of bean from Dunajec valley, the high content of magnesium (Mg) in the soil affects the increase in the content of this element in the seeds. This also contributes, in conjunction with application of an appropriate seed harvesting time, to obtaining a product with a distinctive sweet taste. Fertile alluvial soils and the climate of Dunajec valley, i.e. the range of air temperature during the period of plant vegetation, as well as quantity and distribution of rainfall, provide very good conditions for growth and development of the bean.

Human factor impact on the quality of the bean from Dunajec valley

The bean from Dunajec valley owes its quality not only to the natural environment, with which it is inextricably linked, but also to the production technique in this area and skills of the local people, perfected over the years. These skills include, among others: choosing an appropriate date of sowing, an appropriate preparation of the soil for sowing seeds, maintaining a number of seeds in a single soil cavity and choosing an appropriate time for undercutting the plants. It enables obtaining a high yield of bean seeds with large sizes. At the same time, the choice of the right date for undercutting the plants and enough time to leave them in the open air, in combination with favorable thermal conditions, is reflected in obtaining seeds with a lower humidity and a thinner seed pile in relation to the runner bean originating from outside the Dunajec valley. Owing to the manual sorting of beans from Dunajec valley, it is possible to maintain strict standards of quality.

Department of Promotion
and Communication
The Ministry of Agriculture
and Rural Development

Polish breads with the PDŻ (Discover Great Food) quality mark

Regular readers of the "Polish Food" quarterly already know the "Discover Great Food" programme but it may be worth to recall its objectives in several words.

Marking of a food product with the Discover Great Food (PDŻ) quality mark is a distinction for this product granted by the Minister of Agriculture and Rural Development and the information that will help consumers to choose high quality agri-food articles, which meet the specific features of commercial quality or the commercial quality requirements.

This mark is also aimed at improving consumer's confidence in the food product through the information on its high and stable quality.

For companies, the presence of the "PDŻ" quality mark on their products may be an effective way to increase their market share. The PDŻ – Discover Great Food quality mark is granted only to products, which meet the criteria developed by the Scientific Council for quality of food products, appointed at the Minister of Agriculture and Rural Development. Products, which were granted the Discover Great Food quality mark are subject to supervision by the official food control during the period of the mark validity laid down in the Act.

Sliced bread is convenient for consumers

Baking of bread in a small bakery

Among about 500 products currently entitled to be marked with the PDŻ quality mark, cereal products, including bread, are not represented in large numbers. And despite the observed decrease in the consumption of bread products, bread is still a common, daily eaten product. So, it is worth to get to know these bread types, which are marked with the PDŻ mark, their values and companies producing them.

The majority of bread types granted the PDŻ quality mark are produced by the ASPROD Sp. z o.o. company from Kliniska Wielkie near Szczecin (Zachodniopomorskie Voivodeship). Breads from Kliniska Wielkie, which are granted this distinction are: *chleb razowy* (brown bread), *chleb pełnoziarnisty* (wholemeal bread), *chleb*

chłopski (peasant's bread), *chleb babuni* (grandma's bread), *chleb wrzesiński* (Wrzesiński bread), *chleb pomorski* (Pomorski bread), *chleb 2000 z ziarnami mieszany żytnio-pszenny* (mixed rye and wheat bread 2000 with seeds). These are mainly rye or mixed breads with diversified nutritional qualities and taste values. Brown bread is bread that contains 86% of rye flour. Peasant's bread and grandma's bread are mixed rye and wheat breads with addition of potato flakes and in case of peasant's bread – whey. Wholemeal bread and bread 2000 with seeds are characterised by the very rich composition and high nutritional value. Wholemeal bread is rye bread with broken grains (15%), sunflower seeds (10%), linseed (6%), barley malt and wheat malt. Bread 2000 is mixed bread with linseed, wheat bran, oat flakes. Granting the PDŻ marks to the above-mentioned bread types proves their high and stable quality. Such results in the bakery industry are obtained through experiences of many years and passion for this profession.

The ASPROD company has been operating for 20 years. It specialises in production of traditional Polish bread products – wheat, rye, mixed, brown rye bread but it also produces buns and baguettes, French, Italian, Viennese bread products and special bread products, for example, for athletes. About 10 tonnes of bread products are produced daily. For several years, the company has also been developing production of confectionery. In this field, it has also a rich offer covering more than 100 delicious sweet products. The ASPROD company's stands are located in Szczecin, Zachodniopomorskie Voivodeship, Lubuskie Voivodeship, Wielkopolskie Voivodeship. It also cooperates with local and foreign retail networks. Each day, vans of not only domestic customers but also of those from Germany, Belgium, Sweden come to Kliniska Wielkie to collect bakery and confectionery products. This proves the reputation and recognition enjoyed by bakery products from Kliniska Wielkie.

Breads that have been granted the PDŻ quality mark are also *chleb gryczok* (gryczok bread) and *chleb krajcok* (krajcok bread) manufactured by the VINI Bakery – Liliana Lehrer-Rychel from Rogoźnik (Śląskie Voivodeship). Not only their names but also compositions are unusual. *Gryczok* bread is produced using the traditional method and natural leaven. The bread's composition, based on old home recipes, includes flour and buckwheat. Buckwheat contains large amounts of magnesium, potassium and other microelements as well as gluten-free protein and large amounts of vitamins. This bread is used as a pro-health product. On the other hand, Krajcok bread is traditional mixed bread made of wholegrain flour, containing large amounts of fibre and microelements. Both types of bread are produced with leaven, using traditional methods and natural ingredients, without enhancers. Gryczok and Krajcok breads are baked on cabbage leaves, in molds made of beech wood. This baking method was used in ancient times to isolate the bottom crust of bread from the oven bottom and to prevent it from burning. During the baking process, cabbage leaves give the loaf of bread a pleasant aroma, improve the humidity of its crumb and enhance its freshness.

The VINI Bakery from Rogoźnik – producer of the two above-mentioned bread types – is famous for bread products with the specific health properties. It was founded in 1991, like ASPROD. The offer of this bakery includes a wide range of wheat, mixed, rye, company bread products enriched with various additives e.g. sesame seeds, sunflower seeds, pumpkin seeds. As one of few bakeries, it produces nut and raisin bread as well as "Sułtański" bread *(Sultan's bread)* with lots of raisins, which has a unique taste.

Together with the scientists from the Agricultural University of Cracow and the Institute of Food and Nutrition in Warsaw, the company launched a special technological line for pro-health products called "Natural breads". These bread types act upon a human being like medicines. They reduce the concentration of cholesterol and glucose in the blood as well as the penetration of harmful heavy metals into it

Traditional forms to bread baking

– they owe this effect to the addition of appropriate varieties of flax. Bread with the addition of flax was called "Hipolen" and is produced in three types, as: "Wheat Hipolen," "Mixed Hipolen" and "Mixed brown Hipolen." It is worth to add that three slices (about 100 g) of this bread complement the daily diet with linolenic acid in about 35%, linoleic acid in about 20% magnesium in about 15%, iron in 14% and copper in 12%. In addition, the line of pro-health products includes also "Low-sodium brown bread" recommended to people with high blood pressure and genetic predispositions to high blood pressure as well as in the diet in case of circulatory system diseases. In 2005, VINI also started production of organic bread products. These products were granted a certificate issued by the "Agro Bio Test" company. It covers four BIO bread types i.e.: brown, mixed, high-calcium brown and low-sodium brown, which are highly recognised by consumers taking care of their health.

Bread products from the VINI Bakery in Rogoźnik may be purchased both in large and smaller grocery stores throughout the Silesia, Zagłębie and Opolszczyzna. Moreover, it is delivered to specialist shops in Warsaw and Cracow. It is also sent to consumers in Germany, France and Ireland.

Currently, the list of products entitled to use the PDŻ quality mark includes one more bread – *chleb szefa* (boss' bread) manufactured by the Złoty Kłos Bakery from Dobczyce (Małopolskie Voivodeship). It is mixed bread, baked using leaven, Graham flour 1850 and rye flour with the addition of the following: sunflower seeds, linseed, sesame seeds and oat flakes. It is a reproduction of an old, forgotten recipe and this may be the secret of its unique taste and superb quality.

The Złoty Kłos Bakery was established thanks to genuine passion for creation and reliable approach of the whole family to the baking profession. It has been existing for more than 20 years (since 1989) and its founder was Czesław Palonek joined by his two sons and son-in-law. At the beginning, the bakery offered a small range of products, which has significantly broadened over time. Products are manufactured using natural leaven, according to own recipes and technologies, constantly adapted to various tastes and needs of customers. The company observes the Old-Polish traditions of baking bread and pastry products. Raw materials used for production are carefully chosen and selected. Products are based on ancient recipes for Polish bread and pastry products in order to contribute to maintaining the Old-Polish bakery and confectionery traditions. The motto of the Złoty Kłos bakery-confectionery is taking care of what is Polish, tasty and unique.

"Gryczok" bread from the VINI Bakery

"Krajcok" bread from the VINI Bakery

Therefore, a large part of the offer is composed of traditional rustic bread products. A characteristic feature of this group of bread products is production of bread dough using a traditional multi-phase method with natural leaven. Depending on the type, bread products are enriched with wholemeal flour (including husks), sunflower seeds, linseed, black cumin, oat flakes and barley malt. Wholemeal flour is rich in minerals, proteins and fats necessary for the proper metabolism. The addition of seeds used for baking bread products has unusual taste and nutritional values. The particular type is spelt bread containing 70% of spelt flour. Spelt is the oldest variety of wheat, which has survived up to our times in the unaltered form. Spelt contains large amounts of essential nutrients, proteins, fibre, unsaturated fatty acids, carbohydrates, vitamins and bioelements. This is simply the cereal whose values cannot be overestimated. There is an increasing demand for this type of bread products whose taste and dietary values are appreciated not only by fans of healthy nutrition.

For the Polish people, bread and its taste are of particular importance. The smell of good bread is one of the most beautiful aromas stimulating our senses. Breads with the PDŻ quality mark have all these values.

Ewa Woicka-Bekas
Agency for Restructuring and Modernisation of Agriculture

Quality and specificity of Polish bread

Bread has accompanied the mankind since the dawn of history. Man intuitively chose what was the best for him. In the case of bread, the advantages, which were not found in other food products, were the decisive factor. Bread perfectly satisfies hunger, it is easy to divide, it is a convenient carrier for other products in the form of sandwiches and remains fresh for quite long.

Baker's goods provide not only a large amount of energy, but are also a source of many nutrients, especially proteins, minerals, B group vitamins, vitamin E, fiber and other biologically active substances, important for the health.

In addition, Polish traditional bread stands out by a unique taste and smell, which are hard to resist.

Fragrant, crispy crust, plump and elastic crumb maintaining freshness for a long time – these are the qualities which do not characterize the majority of the baker's goods produced in other regions of the world. This is due to the fact that the production of pastry in Poland is mostly based on traditional technology of souring rye flour. Approximately 70% of the baker's products are made of wheat-rye mix or rye and produced on the basis of sourdough. Bakers' craftsmen continue the centuries-old tradition of baking, once implemented at homes. Baking bread was then very important, almost ritual activity of women in the countryside, and in the Slavic cultural tradition, bread was considered as a symbol of wealth, prosperity and was held in high esteem.

The origin of the sourdough bread

Sourdough bread has been known for almost 5,000 years. Before man began to consciously apply spontaneous fermentation taking place in a mixture of flour and water left in a warm place in the procedure of producing bread, earlier breads were flat, similar to those currently produced in African countries or in the Middle East. Our ancestors learned to use the process of spontaneous fermentation occurring in the bread dough left in a warm place, appreciating qualities of taste and attractive appearance of beautifully grown loaves of bread.

Polish bread in traditional shapes

In fact, to this day we cannot be sure who was the first to use the baking sourdough in the technology of bread production.

There are many indications that it might have been 3,000 years B.C. The Sumerians living then in Mesopotamia found that some changes occur in the mixture of flour and water subject to heat. These changes translate into the qualities of the obtained bread. The validity of this hypothesis is supported by both warm climate in this region, favoring spontaneous fermentation, and high level of Sumerians' productive force, who

Intricate pastries for the Holiday of Bread

were the first to master, among others, a fairly complicated technology of beer production.

This view is opposed by followers of the theory indicating Egypt as the cradle of sourdough bread. According to a legend, one of slaves employed to produce bread was the discoverer of this technology. Tired of heat and hard work, he fell asleep over the kneading trough, and when he woke up, the fermentation process was already completed. The bread obtained from the fermented dough quickly gained recognition in the eyes of Egyptians. Archeological sites, including engravings dating back to 2,600 years B.C. and presenting beautifully grown loaves of bred, are the evidence for a widespread use of this method for production of bread.

Greeks took over the art of producing fermented bread from Egyptians. They treated bread made on sourdough as a special product, consumed only by the richest people, during holidays. However, this ability spread fairly slowly and only the exodus of the Israelites, which probably took place around year 1300 B.C., caused the diffusion of this technology beyond the region of the Mediterranean Sea. The next 500 years were necessary to overcome the barrier of the Alps. In the central and northern Europe, in the areas of rye cultivation, the bread on the basis of sourdough appeared in late Bronze Age. It is estimated that already at the turn of the old and new era, this ability was spread all over the world. Over the next centuries, the sourdough was the only known factor used to leaven the bread.

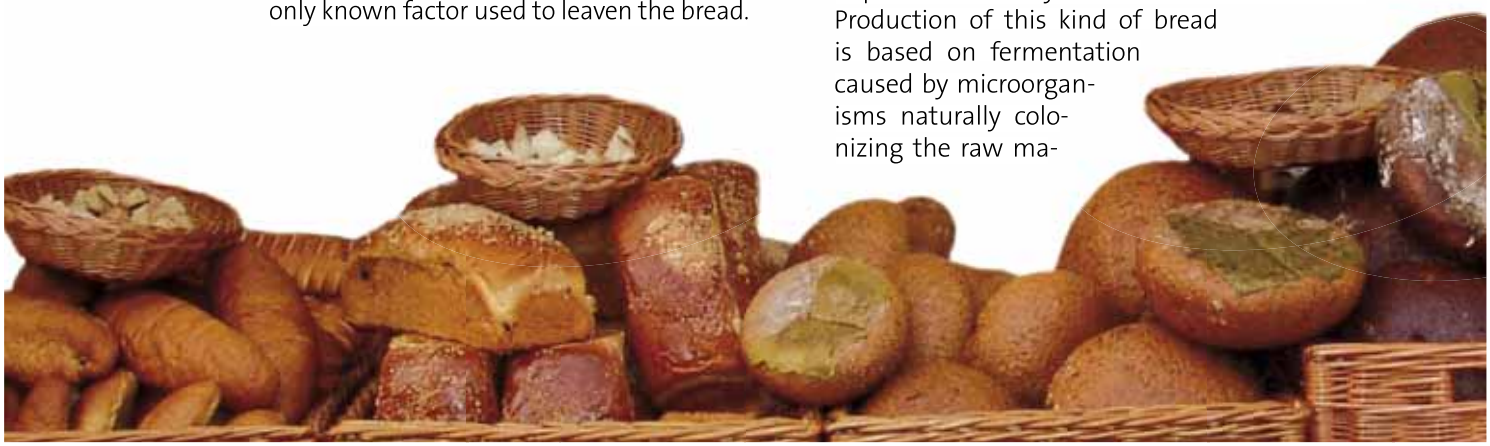
A real breakthrough in the baking production was the introduction of baker's yeast in the form of well-known yeast blocks in the second half of the 19th century.

Time-consuming, multi-stage technology used for production of sourdough bread was almost entirely squeezed out by the incomparably simpler and faster method of leaving the dough on yeast, having yet the advantage of enabling the automation of production.

Then, the use of sourdough was limited only to small craft bakeries and these parts of Europe, where the prevalence of wheat, and thus, production of wheat and mixed bread, due to the specificity of the raw material, necessitated to conserve the traditional technology. The introduction of sourdough fermentation stage is necessary in case of use of rye flour in the recipe for bread dough. In rye dough, elastic gluten net, characteristic for wheat dough, is not occurring. Rye dough has a fine-grained structure, formed by partially hydrolyzed mucilage, proteins and swollen starch grains. Under the impact of acids produced by lactic acid bacteria, changes in the structure of starch grains occur and the water-binding capacity of mucous substances and protein flour increases. At the same time, lowering of pH of the dough results in inhibition of amylotic enzymes, which prevents an excessive disintegration of starch. As a result, flour obtains the desired baking properties.

Specificity of Polish bread production

Obtaining good quality baking sourdough is not a simple matter. In Poland, mixed bread is produced mostly with traditional methods. Production of this kind of bread is based on fermentation caused by microorganisms naturally colonizing the raw ma-

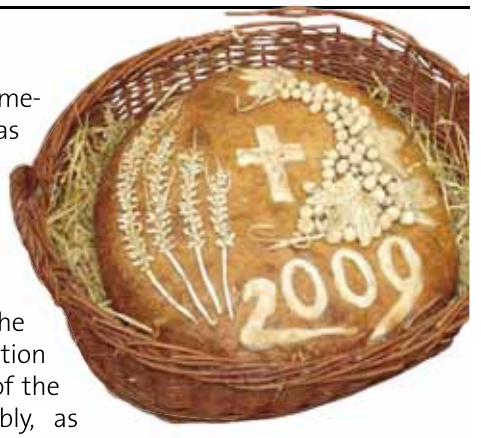


terials for bread production. Traditionally, the mixture of flour with water is left for a suitably long time to initiate the development of an appropriate microflora. In subsequent stages of fermentation, microorganisms derived mainly from flour are subject to environmental factors and mutual interactions, which induce the natural selection of microorganisms. Ripe baking sourdough provides a stable system of two basic groups of microorganisms: lactic acid bacteria and yeast.

Lactic acid bacteria, active in baking sourdough, are characterized by a large variety. Production of lactic acid is their common feature, however, depending on the species, some of the lactic acid bacteria produce also significant amounts of other acids and volatile compounds. From the technological point of view, lactic acid bacteria are responsible for the properties of the bread crumb, its porosity and flexibility, they also have a large share in shaping the aroma of bread. That is why sourdough bread smells in an infinitely more interesting way than wheat products.

The yeasts present in the sourdough as a result of sugars fermentation produce large quantities of carbon dioxide, which causes the apparent effect of growth of the dough. In addition to carbon dioxide, the yeasts produce a number of aroma compounds: alcohols, esters, aldehydes, which create a unique bouquet of the bread, alone or in combination with other compounds.

To obtain the desired result, bakers learned to manage the fermentation process by leading it through multiple phases, adding a fresh batch of flour and water in subsequent stages. Obtaining the right consistency of dough, maintaining optimum temperatures and observing the right time of fermentation for individual stage of the process determine the final success. Therefore, this requires great skills, but also an amount of work and time. However, this effort pays off. As a result, we obtain a product with a unique, extremely attractive taste and aroma, as well as very favorable nutritional qualities.



Unique qualities of Polish bread

Due to changes occurring in the bread dough during the fermentation of the sourdough, the digestibility of the final product increases considerably, as both the carbohydrates and flour proteins are already subject to a preliminary hydrolysis. The nutritional value of sourdough bread is also much higher compared to the bread produced exclusively on yeast. Conducting fermentation of sourdough favors the production of large amounts of vitamins, especially of B group, as well as exogenous amino acids, such a lysine, tryptophan and methionine. These basic building elements of proteins must be delivered with food, because our organism cannot synthesize them, and the flour itself is not a sufficient source. Additionally, the substances valuable for health and sensitive to high temperatures during baking conserve better in bread produced with sourdough. This applies to folic acid, as well as biosterols and ß-glucan, a soluble fraction of dietary fiber.

The attractiveness of bread also decides on the favorable impact of sourdough bread consumption on our health.

Tastiness of sourdough bread makes our body immediately ready to begin the digestive process. The secretion of saliva and digestive enzymes intensifies, which in turn increases the availability

of hydrocarbons and proteins contributed within the meal. A similar effect is produced by the lactic acid contained in the bread, produced during the fermentation of sourdoughs. It stimulates the work of gastrointestinal tract through activation of digestive enzymes, and additionally improves the excretion process, effectively preventing constipation. The presence of lactic acid in bread has also a considerable impact on the quantitative and qualitative composition of microflora in the gastrointestinal tract. Acidification of the intestinal content inhibits the growth of potentially pathogenic bacteria, and favors the colonization of the large intestine by pro-health probiotic bacteria. Their presence not only ensures better utilization of nutrients contained in food, but it also has its share in immunological processes, prevents lifestyle diseases, including some types of cancer. It has also been showed that eating sourdough bread helps to lower cholesterol in the blood and improves the ratio of its HDL and LDL fractions in favor of the "beneficial" cholesterol, thereby reducing the risk of heart attack.

Bread baked on horseradish leaves – a Polish tradition

Sourdough bread, our daily bread, especially the wholemeal one with high share of dietary fiber, is characterized by a low glycemic index. A meal based on such bread helps to maintain the right, moderate sugar level in blood, as well as insulin level, for a longer time. This desired effect is due to slowing the time of emptying the stomach and the entire digestion process. The feeling of satiety remains for a longer time, and there are no "swings" of the glucose level in blood and seizures of ravenous appetite between meals. Thus, the menu taking into account the crucial role of various types of bread can provide an appropriate amount of calories without the risk of uncontrolled gain in weight. Brown bread, rich in dietary fiber, is actually one of the most important elements of weight loss diet, leading to weight reduction.

Moreover, sourdough bread is a valuable source of micro- and macronutrients, because they occur in it in an easily digestible form.

In a raw material, such as flour, these minerals are present in a complexed form as salts of phytic acid. In such a form, they are sparingly soluble in the gastrointestinal tract, and thus their bioavailability is significantly reduced. Decomposition of phytates takes place during the fermentation of sourdough and is accompanied by the release of valuable elements such as zinc, magnesium, calcium and iron.

Sourdough bread is also characterized by elongated consumption freshness.

Staling is one of the elements of freshness' loss in bread. It manifests itself through the hardening of crumb, resulting from changes in the structure of starch. In the case of sourdough bread, the aging process is obviously slowed down. At the same time, baking sourdough plays the role of a specific, natural bio-preservative, effectively increasing the resistance of bread to microbiological rot. Sourdough bread is more resistant to fungal decay. Increased acidity of bread forms a barrier preventing, or at least delaying germination of mold spores. Antibacterial and antimould compounds, produced by lactic acid bacteria, effectively prevent the development of undesirable microflora, eliminate the need to use chemical preservatives, non-indifferent to health and not always accepted by the consumer, in the traditional bread.

Owing to the tradition of producing mixed bread with rye flour, which absolutely requires acidification, ingrained in Poland, the ability to prepare the dough on the basis of sourdough was passed down from generation to generation. Craft, local character of production also makes that the microflora of the produced sourdoughs is characterized by great biodiversity, which directly translates into a variety of the produced bread. Hence, the Western consumers can envy us the flavor values of our daily bread. Moreover, Polish bread meets the expectations of consumers interested in the consumption of natural products, and at the same time, it has the best opinion from the standpoint of human nutrition.

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Support for grain processing within RDP 2007-2013

In 2007-2013, the direct support for rural areas is being carried out through the Rural Development Programme, co-financed by the European Agricultural Fund for Rural Development under the Common Agricultural Policy of the European Union countries.

Measure 123 *Adding value to agricultural and forestry products,* implemented within *the Rural Development Programme for 2007-2013 (RDP 2007-2013)* is the primary instrument for implementing the assistance with the participation of the EU funds in the programming period 2007-2013 for the sector of agricultural products processing, including grain processing. The operations supported within this measure are aimed at, among others, supporting grain processing. This is stated in Attachment to the Regulation of the Minister of Agriculture and Rural Development of 17 October 2007, which lists the following types of processing activities:

- production of flour, groats, meal and wheat grist;
- milling rye, oats, corn and other grains;
- milling rice: production of shelled, milled, polished, iced, steamed or puffed rice; production of rice flour;
- milling vegetable raw materials: production of flour and meal from dried seeds of leguminous plants, roots or tubers, and from edible nuts;
- manufacturing cereal breakfast food;
- manufacturing composite flour and mixes for baking bread, cakes, biscuits and pancakes.

The beneficiaries of Measure 123 include natural persons, legal persons or organizational unit without legal personality, having a registered activity in the grain processing and being an entrepreneur (this means that the aid from Measure 123 can be applied for by, among others, grain producers). Aid is granted to projects involving grain processing in the aforementioned area.

The scope of investments enterprises with a possibility of granting support includes: construction or renovation combined with modernization of buildings and structures, together with the technical infrastructure, purchase and installation of machinery and devices for processing, storing and preparing agricultural products for processing or selling, purchase of specialized means of external transport, purchase of means of transport necessary for smooth course of the technological process or storage, purchase and installation of software for business management or control of production process or storage, implementation of quality management systems and overheads.

The amount of support may be up to 40% of eligible costs in case of operations carried out by micro, small or medium enterprises and 25% in case of the so-called medium-large enterprises, employment level of which falls within 250-750 employees, and the annual turnover EUR 50-200 million. The elevated, 50% support level may be attributed to enterprises conducting grain processing, being at the same time a group of agricultural producers, as well as entrepreneurs operating micro, small and medium enterprises, who purchase at least 25% of the total quantity of processed agricultural products on the basis of

long-term contracts, concluded with groups of grain producers.

The maximum amount of support for one beneficiary in the entire implementation period of RDP is PLN 20 million, and for consolidated enterprises PLN 50 million, while the amount of the granted support for the implementation of one project cannot be less than PLN 100 thousand.

Within the previous calls in Measure 123, conducted in 2008-2011, the enterprises operating in grain processing submitted 78 applications for support for a total amount of PLN 260.1 million. The value of the investments planned to be carried out using the mentioned support is PLN 617.9 million. The average share of aid measures in the investment financing amounted to 42.1% of expenditures, and the average value of the proposed aid statistically attributable to one application was PLN 3.3 million. The value of the latter ratio exceeds significantly the average for the entire agricultural and food processing industry, amounting to nearly PLN 2.0 million for one statistical project. This indicates that the investment projects in the grain milling sector are significantly larger and more capital intensive than in other sectors of processing.

It should be noted that the contracts for granting aid in total amount of PLN 53.4 million have already been concluded for 32 out of 78 submitted applications. This means that 41% of the submitted applications have been completed with a contract, and the aid amount covered by contracts represents 21% of the reported needs. The above mentioned data confirm the principle that the services for relatively small projects, involving mainly the purchase of machines, devices and equipment, end first (the average value of aid among the already contracted projects amounts to PLN 1.7 million). Large projects, which include construction works, rarely close within two years.

16 projects have already been fully completed with payment of funds in the total amount of PLN 21.9 million (the average amounted to PLN 1.4 million per project). The highest amount of financing paid for a single project is PLN 4.9 million, and the lowest one PLN 0.16 million.

Silos purchased from the funds of RDP 2007-2013

How the EU money was well used

SILESIAN GRAIN Sp. z o.o. with seat in Ziębice began its activity in the field of trade and corn processing in January 2004 (then under the name BIO CORN Sp. z o.o.). In July 2005, this company launched a modern corn mill, equipped with technology of the Swiss company BÜHLER with an annual milling capacity of 72,000 tones of corn grain. The mill was built with the funding from Measure 1.5 *Improving processing and marketing of agriculture products* within the EU's Sectoral Operational Programme *Restructuring and modernization of food sector and rural development 2004-2006.* The documented eligible costs of this investment amounted to PLN 11.2 million, 50% of which was the granted funding amounting to PLN 5.6 million.

The founders of the company put on the modern technology by implementing an investment which enables increasing the production and sale of products, as well as maintaining and effective increase of the company's products on the market. Continuing this strategy, in 2008 it was resolved to conduct another investment, aimed at constructing a warehouse of raw materials and a warehouse of finished goods, as well as purchase of machines and devices for equipment of corn mill, improving the previous milling capacity from 200 to 240 tones/day.

The technology applied for corn milling in the mill is currently the most modern solution introduced of the Swiss company BÜHLER. Technology is tailored to process corn taking into account the simultaneous production of several major products. The main range of products includes corn groats with various sizes of particles in the range from 0.16 mm to 4.5 mm, corn flour and Corn mix.

The mill is located in Lower Silesia Voivodeship, in Ząbkowicki poviat, in the municipality of Ziębice. Owing to cooperation with local corn producers, SILESIAN GRAIN has ensured a constant supply of grains with quality suitable for

the food industry. Raw material for production is purchased in about 75% on the basis of the concluded long-term contracts. The products are sold mainly to domestic customers and for export, which amounts to 21% of total sales.

The investment project, which was the subject of the application submitted to the Agency for Restructuring and Modernisation of Agriculture within Measure 123 *Adding value to agricultural and forestry products* under RDP 2007-2013, provided for, among others, construction and modernization works, as well as purchase of machinery and devices. The operation of the value of PLN 12.2 million (documented eligible costs) was implemented by the Company from April 2008 to June 2009. ARMA granted financing in the amount of PLN 4.9 million.

The following tasks were completed within the project:

- construction of granaries with capacity of 24,000 tones (3 silos at 8,000 tones each) with full infrastructure, directly at the mill;
- expansion of finished products warehouse together with associated devices, increasing the range of products manufactured in parallel;
- purchase of machines and devices increasing the flexibility of the mill's functioning (possibility of simultaneous production of different ranges of finished products increased from the current six to nine);
- expansion of technological line of the mill increasing the capacity from 200 to 240 tones/day.

As a result of the investment's implementation, it was enabled to collect and supervise the storage of corn grain directly at the mill, which has reduced its costs of transport and deepened vertical integration between agricultural producers and processing entity. Economic situation of local agricultural producers, as direct suppliers of raw materials to the mill has improved, the labor costs per unit of processed raw material have reduced through increasing the production capacity, and the competitiveness of products manufactured within agricultural and food processing has also increased owing to their innovative character and an increase in the offered range of products. The quality of the manufactured products has also increased, which resulted in strengthening of SILESIAN GRAIN's position as a leader in the corn milling industry on the Polish market.

It should be noted that the company cares about providing high quality of products, primarily by using agricultural products derived from

Sweetcorn seed and products of its processing

cultures of Lower Silesia. Conducting an effective control and assessment of supplies and finished product, taking into consideration the aspect of health safety, as well as ensuring stability and repeatability of high-quality finished product – including in particular the health quality, are not insignificant. Shaping the quality of products takes place on the basis of customers' needs, observed or predicted, and assessment of their satisfaction during commercial contacts. In 2005-2011, the Company introduced and maintained high quality standards owing to the introduced quality systems, as evidenced by such certificates as: BRC Certificate, Kashrut Certificate, QS System Certificate, ISO 22000 Certificate.

As another aim, the Management Board of the Company adopted a constant increase in efficiency of the management process and of the course of technological processes, e.g. through continuously upgrading the machinery park and technological state of the plant. Great importance is also attributed to investments in human capital through upskilling the staff in order to broaden its professional knowledge and pro-quality awareness.

Investment Projects Evaluation Department
Agency for Restructuring
and Modernisation of Agriculture

Polish science for the agri-food sector

Experimental fields of the Institute of Horticulture in Skierniewice

The modern scientific research strategy created by the European Union is related primarily to the formation of an integrated research management system, allowing the Member States to gain a competitive advantage in relation to the most effectively developing economies of the world. This system covers not only stimulation of the supply of new solutions (equipment, processes, technologies) by financing the preferential research areas, improvement of the legal status of the processes of introduction of innovation but also strongly supports the infrastructure enabling the fast way of putting research results into practice.

For the agri-food sector in the policy of the European Union under the 7th Framework Programme (FP), the document of the "Cooperation" programme is particularly important. This document contains, *inter alia*, the European Commission's position regarding the issue of research in the fields of "food, agriculture and biotechnology". It also contains the issues concerning the transfer of knowledge and dissemination of research results. The larger part of the budget allocated for this part of the "Cooperation" programme under the 7th FP will be allocated for putting research results into practice within the following strategic thematic areas:

Pillar 1- Sustainable production and management of biological resources coming from land, forest and aquatic environment

Pillar 2 - "From farm to table": food, health and consumer satisfaction

Pillar 3 – Natural sciences and biotechnology for sustainable products, including non-food products and processes.

Scientific and research potential of Polish agriculture

The role and importance of agricultural sciences should be viewed in the broad context of their impact on the whole food economy and rural areas. The specific nature of agricultural sciences, namely their interdisciplinarity expressed by basing on the foundations of a wide range of scientific disciplines should be used in developing environmentally friendly, while at the same time

Laboratory analyses are an inseparable element of the research works in agriculture and food processing

White Kołuda Geeses

reasonably economical technologies of production and improvement of living conditions in rural areas. Agricultural sciences should support the preparation of agriculture for projected changes resulting both from the globalization processes and the from expected climate changes.

In Poland, the research in the area of agriculture, rural development and agricultural and fisheries markets is implemented by:

- 12 research institutes whose activities are supervised by the Minister of Agriculture and Rural Development,
- 47 faculties at 9 state universities supervised by the Ministry of Science and Higher Education,
- 9 scientific institutions subordinate to the Polish Academy of Sciences (PAN),
- 9 research institutes subordinate to the Ministers of: Economy, Environment and Health.

The institutions of the scientific and research potential of agricultural and related sciences employ in total over 18 thousand employees, including more than 1,500 professors, more than 800 habilitated doctors and more than 4000 employees holding the doctor's degree. This is the significant scientific potential which should effectively promote the agricultural policy of the State.

In the *National research and development programme*, developed in 2008 at the Ministry of Science and Higher Education, in the "Environment and Agriculture" research area, the scope of the tasks was defined, involving the diagnosis and assessment of the state of the agri-food sector and its environment, occurring risks, the use of natural resources and biodiversity of the country, opportunities to enhance their use for the benefit of the national economy and society, while preserving the environment in a condition enabling its natural renewal and the functioning of natural processes. In case of non-renewable resources, the emphasis was put on the research enabling their best use, including the use of non- and low-waste technologies and the most efficient methods of their use.

Presenting the achievements of the scientific and research potential for the agri-food sector, forestry and veterinary medicine it should be stressed that the results of the work of scientists constitute a valuable base for the Ministry of Agriculture and they were also a basis for the effective for Polish agriculture membership negotiations with the EU.

Research institutes supervised by the Minister of Agriculture

The results of the works of the Institute of Soil Science and Plant Cultivation (IUNG) – State Research Institute with regard to less-favoured areas, so-called LFAs, allowed to obtain beneficial financial conditions for Polish agriculture during the accession negotiations.

Another very important achievement of the Institute is introduction of the computerized fertilization advice system. This system has been made available and operates under good agricultural practices implemented by Polish farmers in their holdings. It has been adapted to the conditions of the functioning of holdings with intensive livestock production in the areas that are particularly exposed to pollution by nitrates as well as with the sustainable production system.

Experimental greenhouse cultivation of tomatos

In the Plant Breeding and Acclimatization Institute (IHAR) - National Research Institute, morphine-free poppy was implemented into the breeding and production practice, while introduction of markers affecting the colour of

Modern equipment of the Resaerch Institute of Horticulture

inflorescences facilitates the identification of crops already in the time of flowering. The Institute bred and implemented into production hybrids of varieties of rapeseed, including zero-erucic rapeseed, and also obtained significant achievements at the global level with respect to new varieties of cereals, new varieties of maize as well as new varieties of potatoes.

The Research Institute of Horticulture in Skierniewice bred other new varieties of fruit and fruit tree rootstocks.

These rootstocks have become a standard in global horticulture. These are significant accomplishments without which Polish pomology would not have such great successes.

This Institute also carries out tasks to improve the performance of the agricultural industry through mechanisation.

The series of combine harvesters have been developed and implemented into production. These combine harvesters are extremely attractive, as demonstrated by the great interest in them in the countries of Western Europe. For example, the Institute has received orders from countries growing olives to prepare special combine harvesters for harvesting these fruits.

Extremely important in the activity of all institutes supervised by the Minister of Agriculture is the fact that these dealing with the issues of plant production operates in agreement and in active cooperation with the Plant Protection Institute (IOR) – National Research Institute. Studies on the effectiveness of the biological protection and the quality of plant protection products as well as identification of their adverse impact on the environment are one of the main objectives of IOR. The results of studies are a basis for application of good agricultural practices. The appropriate protection of wheat, barley, rye, rapeseed, sugar beet as well as all other plants, including medicinal plants, gives good production results but also affects the environmental protection.

An important area of the activity of the Institute of Natural Fibres and Medicinal Plants, apart from growing and processing fibre plants, including, in particular, flax and hemp is also the issue of medicinal plants. These plants, with favourable organizational and economic decisions, may constitute one of the major sources of income of the Polish agrifood sector.

National Veterinary Institute (PIW) – National Research Institute is an institution of exceptional importance for the agri-food sector and safety of food of animal origin.

This is a strategically important institute also for the European Union. The laboratory which was organized in the Institute using EU funds is one of few laboratories in the world with such a high level of security. Thanks to the works of this Institute, Polish food of animal origin maintains the quality standards of food safety in accordance with the EU rules and our products of animal origin shall have access to world food markets. Research works of the Institute allow to detect zoonoses and eradicate them.

Within activities for the economic effects in animal production, the very important activity is that of the National Research Institute of Animal Production, whose results are valued abroad. Introduction of new solutions in the field of animal production, breeding achievements, particularly the birth of the first Polish cloned animal - a rabbit, opened a new chapter in terms of studies on getting the most valuable, from a technological point of view, farm animals. At the Institute of Animal Production, the first transgenic male piglet was born. This remarkable achievement within the framework of the programme financed by the Ministry of Science and implemented jointly with the medical academies and universities indicates the purposefulness of the implementation of interdisciplinary programmes. A very efficient, from an economic point of view, achievements

Sample processing in National Veterinary Institute

of the Institute are its achievements in the field of sexing. Thanks to the results of such research works it is possible, under the conditions of mass production, to lead to the fact that the genetic characteristics and sex of animals shall be determined in accordance with the producer's wish even before the animals are born. The Institute of Animal Production has also taken a very difficult challenge regarding the fight against Scrapie (a fatal disease of sheep, goats and mouflon). The Institute has taken studies enabling the early detection of that disease and prevention of the spread of the disease.

Very important for the activity of the agri-food sector is the Inland Fisheries Institute in Olsztyn. The breeding works and, first of all, the recovery of fish which for some reasons became extinct in our water areas, are possible thanks to the work of this Institute. The successful recovery of common whitefish took place, very intensive works on the recovery of sturgeon are taken. The Institute also performs breeding works, analyses the conditions of intensive production of freshwater fish which are becoming an increasingly attractive product in the EU.

In the area of the fisheries issues, the Sea Fisheries Institute (MIR) operates in Gdynia. This is the Institute whose achievements are extremely important for the fisheries policy and agricultural policy.

Among other things, thanks to the work of the Institute it was possible to develop the exceptional new design of the fishing net which outran the EC's decision and gives a possibility of rational fishing of cod and other fish in the waters of the Baltic Sea. This design primarily allows small fish (which are protected) to leave the trawl and live on until they reach the appropriate size. An important component of this patented solution is that manufacture of this net does not require any design changes in the gear and this is the solution that primarily improves the strength of trawls. This solution gives a fantastic fishing effect and is commonly used by the fisheries, not only in Poland. Another special and important achievement of the Sea Fisheries Institute is the work on analyses related to eutrophication of the Baltic Sea. The Institute together with IUNG (Institute of Soil Science and Plant Cultivation), ITP (Institute of Technology and Life Sciences) and IOR (Plant Protection Institute) work to protect the waters of the Baltic Sea against contamination of agricultural origin.

R/V Baltica – the research vessel

Important for agriculture and rural development is the Institute of Technology and Life Sciences (ITP) in Falenty, which, inter alia, conducts very extensive research in the field of monitoring the technical condition of the flood embankments. The Institute also conducts the research works on bioenergetics, including the use of fuels of the second and third genera-

Young researcher and his workspace

tion. Also, studies are conducted which are associated with rationalising the water resources management, influence of chemical and photochemical processes on the condition of the environment and actions to protect the unique natural values in agriculture and in rural areas.

The Minister of Agriculture and Rural Development supervises one of the largest institutes in terms of the thematic scope – the Institute of Agricultural and Food Biotechnology (IBPRS) based in Warsaw. For many years, it has been working in favour of the improvement of technological processes in processing agricultural products. It recorded significant achievements in development of the technology for producing probiotics and improvement of silage conditions. These are achievements which are internationally recognized and implemented not only in Poland.

Laboratory in the Institute of Agricultural and Food Biotechnology

An important area of the Institute's activity is the issue of processing and storage of cereals as well as baking and food concentrates, starch products, processing of meat and fats or refrigeration.

The Institute which combines the economic effects of the activity of all bodies working in favour of the agri-food sector is the Institute of Agricultural and Food Economics - National Research Institute (IRGŻ). At this institution, research and detailed economic analyses of agricultural markets are conducted and within the framework of the multi-annual programme it monitors the economic and social circumstances of development of Polish agriculture and rural areas following Poland's accession to the European Union. Analyses of this Institute let the management board of the Ministry of Agriculture make correct decisions, both current and future, including those which will be valid under the new Common Agricultural Policy in the years 2014-2020. The FADN System implemented within the framework of the Institute's research works enables the identification of the situation in agricultural holdings. Also, it conducts studies that show, on a cross-sectional basis, the situation in our agricultural holdings, also reports are drawn up that contain detailed supply and demand analyses of export, import and processing in the agri-food sector.

Since 2004, the Ministry of Agriculture and Rural Development has been implementing multi-annual programmes that are of crucial importance for the procedures of monitoring the phenomena and implemented actions in agriculture and in rural areas. Under 8 multi-annual programmes which are currently implemented, tasks are carried out which are of particular importance to the planning and implementation of the state policy. They are necessary for ensuring public security and developing and determining standards regarding the environmental protection, food economy, natural resource management and standards for products, processes and services as well as the conditions for compliance with these standards. Since 2004, which is demonstrated by Table 2, page 60, the national budget from the budget section of the Minister of Agriculture has been used to finance the implementation of the tasks performed within the framework of the multi-annual programmes.

The results, analyses, opinions, expertises obtained within the framework of the implementation of the multi-annual programmes are used primarily by the Minister of Agriculture in decision-making and in elaborating and presenting the Poland's position in the European Union forum. The results obtained within the framework of the multi-annual programmes are also used by the self-government and administrative authorities of the regional and local level, as well as organizations and institutions working for the development of agriculture and rural areas, agricultural advisors and, above all, rural residents and farmers themselves.

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50 years of the Faculty of Food Sciences of the Warsaw University of Life Sciences-SGGW

The year 2011 marked the fiftieth anniversary of the establishment of the Faculty of Food Sciences (previous names Faculty of Agricultural Food Technology and Faculty of Food Technology) at the Warsaw University of Life Sciences. However, the studies in agri-food industry at SGGW have a much longer tradition.

Since the inception of the university, subjects in this field were carried out at the Faulty of Agriculture and Horticulture. At the Faculty of Agriculture, this was the subject "agricultural industry" at the Department and Division of Microbiology and Agricultural Industry. During the interwar period, there were about 120 students who specialized in this particular domain, and they became pioneers of the Polish food industry. The Institute of Microbiology and Agricultural Industry, headed by Prof. Wacław Dąbrowski, PhD. became the cradle of the staff of future scientists and researchers in the field of technology, chemistry and food microbiology, which includes the professors: Eugeniusz Pijanowski, founder of the food science in Poland and first Dean of the Faculty of Agricultural and Food Technology established in the academic year of 1961/62, as well as Stanisław Bujak, Jadwiga Jakubowska, Halina Karnicka, Roman Majchrzak, Tadeusz Matuszewski.

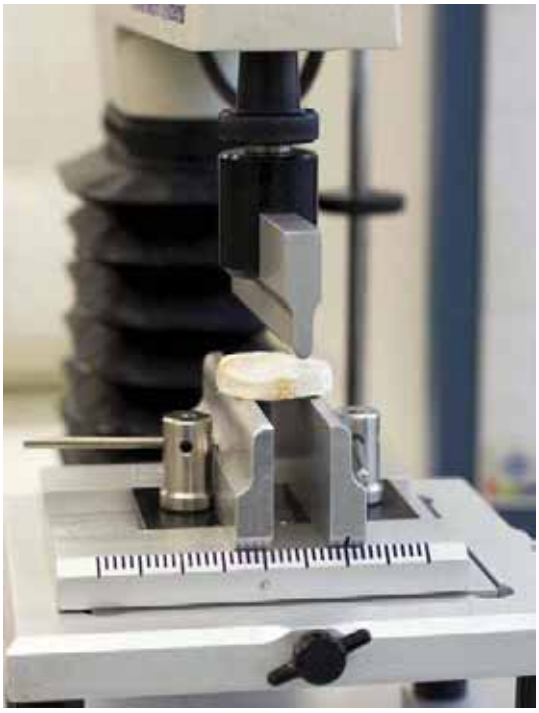
After the World War II, the Department and Division of Microbiology and Agricultural Industry, directed by Prof. dr Wacław Dąbrowski, re-

Inauguration of the academic year at the Faculty of Food Sciences (lecture hall)

The Building of the Faculty of Food Sciences WULS in Warsaw

launched its operations in 1945. The same year witnessed the creation of Department and Division of Meat Industry and Products of Animal Origin Technology, the management of which was entrusted to Prof. dr hab. Stefan Koeppe. The Department and Division of Food Technology was created a year later at the Faculty of Horticulture. Prof. dr Eugeniusz Pijanowski became Director of the unit. This faculty was also enlarged through the creation of the Institute of Household, later transformed into the Institute of Social Nutrition.

Subsequent specialization were launched from the academic year of 1949/1950: agricultural processing (Faculty of Agriculture) and fruit and vegetable processing (Faculty of Horticulture), which were later merged and converted into the Section of Agricultural Technology at the Faculty of Agriculture. The introduction of new curricula was associated with the reorganization and creation of new departments and divisions, as well as establishment of new



Testing the texture – a piece of texturometer

specializations: potato-fermentation industry, fruit and vegetable industry, meat industry and dairy industry. In 1954, the Section of Agricultural Technology was transformed into the Agricultural and Food Technology Unit with a single curriculum for engineering and masters' studies. Another specialization– grains processing – was launched in 1956. The Department of Technology and Human Nutrition Hygiene, headed by Prof. dr Stanisław Berger, was created in 1958.

In the academic year of 1961/1962, independent Faculty of Agricultural and Food Technology was set up, with 5 Departments separated from the Faculty of Agriculture. They included: Department of General Chemistry, Department of Agricultural and Fermentation Industry, Department of Agricultural and Food Industry, Department of Meat Technology and Department of Technology and Human Nutrition Hygiene. Research and teaching staff of the then Faculty of Agricultural and Food Faculty was composed of: 5 professors, 4 associate professors, 2 lecturers, 10 doctors, 20 senior assistants and 5 assistants.

In 1973, the Faculty of Agricultural and Food Technology changed is name into the Faculty of Food Technology. In 1974, the Department of Technology and Human Nutrition Hygiene was renamed the Institute of Human Nutrition, which was incorporated into the structure of the Faculty of Human Nutrition and Agricultural Household, established on 5 October 1977 (now Faculty of Human Nutrition and Consumer Sciences).

In the years 1982-2002, there were some additional reorganizations, the last of which introduced the current structure of the Faculty.

The academic year of 2001/2002 at the Faculty of Food Technology was inaugurated in the conference hall of the new scientific and didactic faculty building, named after the co-founder of the Faculty and its first dean – Professor Eugeniusz Pijanowski, in the Ursynów campus. As a teacher and educator, Prof. Eugeniusz Pijanowski was characterized by compliance of the principles he propagated with their application, an extraordinary ability to transfer knowledge, great sense of responsibility, talent to inculcate the principles of solidarity work in his students. Prof. Eugeniusz Pijanowski was a man of crystal character, tireless hard work, an unsurpassed model of teacher and educator.

A set to perform measurements of the texture of food products

On 1 January 2008, there was another change of the Faculty's name to the current Faculty of Food Sciences.

From 1961 to 2011, the custody over the activities of the Faculty was exercised by eleven deans:

- Prof. Eugeniusz Pijanowski, PhD. (1961-1963),
- Prof. Stefan Koeppe, PhD. (1963-1966),
- Prof. Adolf Horubała, PhD. (1966-1971, 1979-1981),
- Prof. Tadeusz Jakubczyk, PhD. (1971-1972, 1975-1977),
- Prof. Mieczysław Dłużewski, PhD. (1972-1975),
- Prof. Andrzej Pisula, PhD. (1977-1979),
- Prof. Piotr P. Lewicki, PhD. (1981-1984),
- Prof. Tadeusz Haber, PhD. (1984-1990, 1996-2002),

- Prof. Bohdan Drzazga, PhD. (1990-1996),
- Prof. Andrzej Lenart, PhD. (2002-2008)
- Prof. Dorota Witrowa-Rajchert, PhD. (2008-now).

In fifty years, the Faculty Board granted 262 degrees of doctor of technical sciences or agricultural sciences in the field of food technology and nutrition, 84 degrees of doktor habilitowany – post-doctoral degree (including 48 – employees of SGGW, 36 – employees of other domestic universities or research institutes), 31 academic titles of a university professor and titles of professor (15 of which are the titles of full professor and 7 posts of full professors). At the request of the Faculty Board, the Senate of SGGW in Warsaw granted the prestigious title of Doctor Honoris Causa to five persons. They were: Prof. dr Aleksander I. Oparin, Prof. dr Antoni Rutkowski, Prof. dr hab. Stanisław Berger, Prof. dr hab. Adolf Horubała and Prof. dr hab. Włodzimierz Kamiński.

In the years 1961-2011, 226 scientific and didactic employees, as well as 64 employees of the dean's office and engineering and technical employees tied their professional fate with the Faculty. A total of 6,784 graduates completed their education at the Unit of Agricultural and Food Technology and the Faculty.

Currently, the Faculty employs 130 people, including 130 scientific and didactic employees (with 10 titular professors, 8 SGGW academic professors, 7 persons with post-doctoral degree, 78 doctors and 1 master), as well as 26 engineering, technical and administrative employees. The number of the Faculty's students is almost 1,600 people, who are educated in the field of food technology and human nutrition within three specialties: biotechnology, microbiology and food evaluation, food engineering and process management, as well as technology and evaluation of food. Doctoral dissertations within the doctoral studies are prepared currently by 56 doctoral students. Postgraduate studies are also being carried out, the scope of which covers safety and quality in the food chain, modern instrumental, analytical methods in food and feed health safety studies, as well as process management and organization.

From the new academic year of 2012/2013, full-time studies on a new, unique food safety will be launched. Their graduates will complete their education with the professional title of engineers.

Main research domains of the Faculty are related to the following issues:

In a students' workshop – research on the characteristics of foam-creating parameters

Testing the durability parameters of foods

Testing cooling processes

- Technological, health and economic aspects of food processing;
- Biotechnological use of microorganisms and their metabolic products in the manufacture and storage of food;
- Transformations and interaction of various food components, affecting its quality;
- Study of natural contamination, pollution and chemical residues in food;
- Study of model matrix and active compounds in food and in other biologically active systems;
- Study of changes in water content in food, caused by technological process;
- Study of physical properties of food in terms of product design;
- Production organization and operational evaluation of machines and devices in the food industry.

Food – the object of research

Within these domains, a number of topics are being implemented in cooperation with research institutes, other scientific centers in the country and abroad, as well as food processing plants. Employees of the Faculty publish annually about 200 scientific papers in scoring journals and over 200 popular science publications. In the years 2006-2010, the employees of the Faculty prepared 90 expert's reports and implementation instructions, 85 various commissioned works and obtained 9 patents.

Cooperation with foreign institutes and research units is carried out through journeys of the Faculty's staff for scholarships, as well as through participation in joint projects. For example, within the 6th EU Framework Programme, the Faculty participated in OPTI MILK programme, PathogenCombat "Control and Prevention of Emerging and Future Pathogens at Cellular and Molecular Level Throughout the Food Chain" and "Baltic Cluster Pilot Programmes on Innovation Systems and Clusters in the Baltic Sea Region". Currently, InsideFood project is being implemented at the Faculty within the 7th EU Framework Programme. It concerns study and measurement of food microstructure "Integrated sensing and imaging devices for designing, monitoring and controlling microstructure of foods".

The Faculty collaborates with several European universities within the SOCRATES– Higher Education (ERASMUS) programme. Trips of students and doctoral students to study in the European Union countries are the results of this cooperation. For several years, the Faculty's staff has participated in the implementation of EU programmes in the field of education programmes, minimum curriculum and assessment of staff's preparation for the food industry. For example, they take part in ISEKI programme. Implementation of ISEKI2 programme led to changes in food technology curricula in Europe. The currently carried out ISEKI2-Mundus programme relates to the preparation, on international scale, of teaching concept for technical subjects in food technologists training programmes.

The 50th anniversary of the Faculty of Food Sciences of SGGW, solemnly celebrated on 29 June–1 July 2011, was accompanied by the 40th Session of the Committee on Food Science of the Polish Academy of Sciences on "Traditions and modernity in food and nutrition".

Anniversary meeting in June 2011

The 50th anniversary of the Faculty has also become an opportunity to organize on 21–22 October 2011 a Jubilee Congress of Graduates, combined with a scientific conference "From agri-food technology to food science". The two-day celebrations were attended by over 800 people: alumni, senior professors, congress guests, current and former employees and students.

Prof. Dorota Witrowa-Rajchert, PhD
Faculty of Food Sciences
Warsaw University of Life Sciences

Polish innovative cereal products

Polish scientists from the Institute of Agricultural and Food Biotechnology, the Department of Food Concentrates and Starch Products in Poznań, have developed in recent years innovative technologies of a number of cereal products, such as the instant noodles of the new generation, the pasta cereals, the health preserving instant cereals, the sugar-free cake concentrates.

Instant pasta of a new generation

Developed in the Department of Food Concentrates and Starch Products in Poznań of the Institute of Agricultural and Food Biotechnology (DC IAFB) innovative technology of instant pasta of a new generation is based on their own prototype technology. Using a suitable raw material composition and an innovative way of processing was obtained the product which is characterized by high-density porosity texture. The structure of the product forms a protein-starch complex with vegetable fibres network. The fibres form a three-dimensional micro-reinforcement thereby helping to build a protein-starch frame. It is due to the construction of the product the pasta offered by us has unique properties of re-hydration.

New generation of instant noodles meet the expectations of consumers seeking health preservation food and also convenient in use. It has several advantages: it is the product easy to digest, low-fat, no cholesterol, containing health promoting ingredients, without chemical addings, high durability, not requiring cooking and convenient to use. Just pour boiling liquid over it, such as water, soup, milk or other liquid food, and after the short time it is ready for consumption. It also has a unique feature – the opportunity to prepare for consumption by flooding with water (or other liquid food) of the ambient temperature or even cold – without having to provide heat. Remade on cold reveals an additional advantage – with respect to known pasta – it is not sticking. Thanks to its advantages it is widely useful: in the household, gastronomy, tourism, catering and food industry (as a component or a base of instant dinner sets). It may be a substitute for potatoes, cereals, rice, or traditional pasta. It can be used in breakfast dishes, salads and desserts, and even to prepare casseroles without prior hydration. New generation of instant noodles is characterized in that it contains vegetable fibres of a certain length, and the process of making it instant is based exclusively on the impact of physical factors, which in terms of nutritional value of the product is better than the commonly used in making it instant by the addition of chemicals and frying in fat. It can be enriched with different nutritional valuable raw materials and processed grains (e.g. oats, barley, corn, buckwheat, amaranth, spelt, bran, whole wheat flour), pulse (e.g. soy), vegetables (eg spinach, broccoli, carrots, pumpkin) and spices. Participation of vegetable fibres in the composition of pasta compensates for fluctuations in the quality of flour. Developed composition enables the manufacturing sufficient quality instant noodles from both the low protein flour and high protein. Moreover, it is possible to produce pasta with low-gluten flour or flour gluten-free (for patients with celiac disease). The invention presents world-class research in terms of a developed product composition, how it is to receive and technical and prototype production line.

Polish instant pasta of a new generation

Solutions for the new generation of instant noodles are protected by three RP patents and 6 patent applications including 5 international owned by IAFB. Manufacturing technology of instant noodles was awarded in the Competition "Polish Product of the Future" and the statue

"Horn of Plenty", and 7 medals at International Exhibitions and Trade Fair of Inventions such as in Geneva, Brussels, Kuala Lumpur, Taipei, Shanghai.

Instant noodles according to the invention due to the content of dietary fibre reduces the calorific value of the product, while it adds a valuable component in the diet of healthy eating. Dietary fibre, including beta-glucans, lower cholesterol and act hypoglycaemic, which is important in the prevention of ischaemic heart disease, hyperlipoproteinemia, obesity or diabetes. Developed pasta can be enriched with raw materials containing polyphenolic compounds. Their antioxidant activity prevents the occurrence of civilization diseases such as cancer, heart diseases and cardiovascular diseases, cataracts, bone diseases, and others. There is a growing global market demand for eco-friendly and health preserving food, in terms of prevention of civilization diseases and environmental protection. Our invention fulfils these expectations. Developed instant noodles promotes environmental protection. Remade without the provision of heat affects the energy and water savings and reduction of CO_2 emissions.

Currently in the Department of IAFB in Poznań is implemented a project whose aim is to obtain international protection of property rights to the invention. It was scheduled to apply for protection in Europe, USA, China and Japan. Possession of an international patent protection should facilitate the transfer of innovative technology to the economy.

One example of this technology in the economy is the production of "Pesso".

Pasta cereals of a new generation

Pesso – pasta cereals – is a product of a new generation, has several advantages – is a product: easy to digest, low-fat (no fat added - contains only the fat from the raw materials), without cholesterol (does not contain added eggs), with high content of complex carbohydrates, without chemical additives such as rippers, thickeners, stabilizers, emulsifiers, antioxidants, of high durability, which does not require cooking and is easy to use. The product is made from wheat flour (or with corn cereals or buckwheat cereals respectively), water and salt. Manufacturing technology of the product allows to save valuable components such as fibre, vitamins and minerals.

The method of its preparation for consumption is very fast and simple. Just pour boiling liquid on it in a 1:1 ratio, such as water, milk, soup or other liquid food, and after about 5 minutes, it is ready for consumption. It also has a unique feature - the possibility to be prepared for consumption by flooding with cold water/milk, and after about 25 minutes to be ready for consumption.

Pesso is a replacement for the traditional cereals, rice, potatoes or pasta. It can be used in breakfast dishes, such as milk soups, in addition to main dish combined with sauces, meat dishes, as a base for making salads with vegetables, meats, cold cuts or a sweet such as honey, raisins, nuts and other fruits.

Instant cereals

Instant cereals

The technology developed at the Institute meets the needs of consumers seeking health preserving foods and convenience. Instant cereals are made from wheat, buckwheat, corn, barley and oats with the extrusion method HTST (High Temperature Short Time).

These are the products of the new generation - they have many advantages:

- do not require cooking,
- easy to digest,
- no cholesterol,
- rich in antioxidant compounds and fibre

- with high content of complex carbohydrates,
- no chemical additives,
- no added fat,
- high durability.

Suitable for wide use:

- in the food industry
- in catering, gastronomy
- tourism
- in the household.

They can be used as a basic dish or in soups, casseroles or salads.

Grain concentrates

On the basis of instant noodles, the new dry concentrates were developed of various types of products: breakfast, dinner and dessert, which beyond instant noodles use flakes and bran cereal of different raw materials, prepared fruits, vegetables, mushroom, dairy and meat and a variety of vegetable-herb spices. These products can extend the range of convenient food market on attractive in terms of nutrition, health and sensory ready meals that require only pouring boiling water, and besides, they are cheap, easy and quick to prepare, not just at home.

In the Department of Food Concentrates and Starch Products of IAFB are also being developed dietary food concentrates, among others, on the basis of raw grain, which can be used in the prevention and treatment of various civilization diseases, such as diabetes, obesity and celiac disease. These are products with a reduced calorific value, not containing sugar, and in the case of gluten-free diet with the use of grains which do not contain gluten.

Sugar-free concentrates may supplement the diet for people forced or willing to reduce sugar intake without sacrificing the sweets. One group of sugarless concentrates developed in DC are the new concentrates of cake powder. These include, in addition to traditional raw materials forming the structure of finished products - flour and starch, safe for human health and permitted in the EU intense sweeteners and sugar substitutes, and fat substitutes. These concentrates are obtained in an innovative, two-step process of compounding, in which in both stages the order of their addition and mixing time are precisely determined. From sugar-free cakes concentrates (after baking) is obtained a type of cake for sensory characteristics comparable to conventional products with sugar. Technology of manufacturing sugar-free cake powder concentrates is protected in the Polish Patent Office by two patents.

The presented technology has also been awarded four medals at International Exhibitions of Inventions in Seoul, Kuala Lumpur, Warsaw and Nuremberg.

Another group of dietary food developed in DC are the gluten-free products concentrates. Due to the fact that the only treatment for celiac disease is to follow strict lifelong gluten-free diet, the basic raw corn used in this diet are: corn, rice, buckwheat, millet, sorghum, amaranth, and potatoes and pulses. In previous years, in what was then the Central Laboratory for Food Concentrate Industry (now DC IAFB) have been developed with the participation of this type of raw materials such gluten-free products concentrates, as: bread and rice rolls, sweet pastries, sponge cake and shortcrust pastry, and pasta. Currently in the Department of IAFB in Poznań works are conducted related to obtaining gluten-free bread mixes concentrates for baking at home. The aim of this work is to improve the quality of gluten-free bread by raising the nutritional value, sensory qualities improvement and extension of its durability.

Concentrated pastry after baking. Sample (A) - without sugar added

Marian Remiszewski, PhD, Eng.
Department of Food Concentrates
and Starch Products Institute
of Agricultural and Food Biotechnology (IAFB)

The southern Poland – monuments and nature

The main region of southern Poland is Małopolska. This is the region of Poland most visited by tourists. They are attracted by both the beauty of nature here as well as numerous monuments.

Cracow – one of the most beautiful cities in Europe – is the capital of the region. It can be visited any time of year. Equally popular are the Tatra Mountains – the highest Polish mountains – located on the southern edge of Małopolska. Mountain hiking trails in the summer have many enthusiasts, but also there are many enthusiasts of winter sports in these areas. It is difficult to describe all the sights of interest and attractions of the region of Malopolska in a short article.

As I already mentioned, the heart of the region is Cracow – a city with centuries of history, once the capital of the Polish lands. Today it constitutes the largest group of monuments in Poland, which since 1978 is on the UNESCO World Cultural Heritage List. Most of the interesting sights of Cracow are in the historic city centre.

Sukiennice (Cloth Hall in Cracow)

View on the St. Mary's Basilica (Kościół Mariacki) in Cracow

Walk around the Cracow can begin from the Wawel Hill where there is the impressive Royal Castle – one of the most beautiful and stately Renaissance residences in Central Europe. Today it houses a museum, with such interesting objects like the crown treasury and armoury. Next to the castle there is a Gothic cathedral of saint Stanisław and Wacław (from the fourteenth century), in whose basement Polish kings are buried.

Altar by Wit Stwosz in St. Mary's Basilica

At the north of the Castle there's the historic Cracow Market Square, near which the Gothic church of St. Mary's (with the

famous altar by Wit Stwosz) of the fourteenth and fifteenth centuries survived, the Cloth Hall (halls of stalls) from the fourteenth century and many original buildings. Strong interest of tourists is usually attracted by St. Mary's church with two towers of unequal height. From the higher tower called bugle call tower, a traditional bugle call is played on the trumpet every hour, on each side of the world. But there are many historic, beautiful churches in Cracow, it is enough to turn any of the streets next to the Market.

You can write about Cracow many interesting things, but in Małopolska there are more places worth attention. The most valuable and interesting objects are included in the so-called UNESCO Route. Apart from Cracow there are: Wieliczka Mine, Auschwitz Museum, Kalwaria Zebrzydowska, Dębno, Sękowa, Binarowa, Lipnica Murowana.

An interesting object in the list is Wieliczka Mine, located several kilometres away from Cracow. Every year, about one million tourists from Poland and around the world come here to explore the historic salt mine. And this is indeed an unusual attraction. The historic Salt Mine in Wieliczka is the only mining site in the world functioning continuously since the Middle Ages to the present. Its original excavations (galleries, ramps, chambers, lakes, pits, shafts) with a total length of about 300 km situated on 9 levels, reaching the depth of 327 meters and about 3000 chambers – illustrate all stages of mining technology development in various historical periods. Already in 1978, it was declared a UNESCO World Heritage Site, among the first 12 objects from around the world. The part open to the public includes a 3.5 km section, located at a depth of 64 meters to 135 meters.

Wieliczka town itself, although not very large, also has interesting features worth visiting such as Saltworks Castle (thirteenth/fourteenth century), which is now the Museum of Cracow Saltworks and next to it Saltworks Garden, St.

Salt mine in Wieliczka. Standard way of excavating salt presented using salt sculptures

Clemens's church, church and monastery of Franciscans, the wooden church of St. Sebastian.

Heading from Krakow in the south-west direction we will reach the village of Kalwaria Zebrzydowska. There is a Cultural-Landscape Complex Kalwaria Zebrzydowska (also a UNESCO World Heritage Site). Kalwaria Zebrzydowska is an extraordinary place. Not far from the bustling town in the valley of Cedron, and on the slopes of adjacent hills extends the 'Polish Jerusalem' - a seventeenth-century monastery and a large park with panoramic places, avenues of ancient trees and 42 chapels with excellent and incredibly diverse Baroque architecture. Paths of pilgrimage - the so-called Paths of the Lord Jesus and the Paths of Virgin Mary, carried out among forests and fields, counting nearly 15 km., and the mystical experience is closely connected with the contempla-

Carved St. Kinga's chapel in the salt mine in Wieliczka

Castle in Pieskowa Skała, the Ojców National Park

tion of nature's unspoiled beauty. Kalwaria was founded in the years 1600-1627 by the governor Mikołaj Zebrzydowski of the Radwan noble clan.

Another monument recorded by UNESCO, is in Dębno Podhalańskie, near Nowy Targ. This is a beautiful wooden church of St. Michael the Archangel from the fifteenth century. The entire church was made without any nails. The temple has a unique interior design. Ceiling, walls, pulpit and the choir gallery is decorated with beautiful coloured Gothic polychrome of 1500. It has 77 different plant, animal and geometric ornaments painted with as many as 33 colours.

Hercules' Club – a rock in the Ojców National Park

Next objects of the UNESCO Route of Małopolska – located in Sękowa, Binarowa and Lipnica Murowana – are great examples of Polish monuments of wooden architecture. At the same time these are the buildings that are part of Wooden Architecture Route, and so in a sense doubly advisable and worth visiting. So let's get off the main routes to these small towns in Małopolska to admire the world famous monuments: the Church of Saints Philip and James in Sękowa, church of St. Michael the Archangel in Binarowa and church of St. Leonard in Lipnica Murowana. They are not the only objects of the Wooden Architecture Route. In Małopolska it has the length of 1500 km and includes 237 historic wooden objects such as churches, Orthodox churches, bell towers, manor houses, villas and village museums. I cannot in this short article even mention all the monuments of Małopolska, and yet this region is also the beauty of nature – a wealth of scenery, varied vegetation and interesting animal world.

In southern Poland, we find a unique variety of natural conditions. Not surprisingly then, in order to protect such areas, 6 national parks were created in Małopolska: the Babia Góra National Park, the Gorce National Park, the Magura National Park, the Ojców National Park, the Pieniny National Park and the Tatra National Park. Each of them has different characteristics associated with the terrain, the world of plants and animals and unique for the site natural peculiarities. Approximately 60% of the province is covered by legal protection of wildlife.

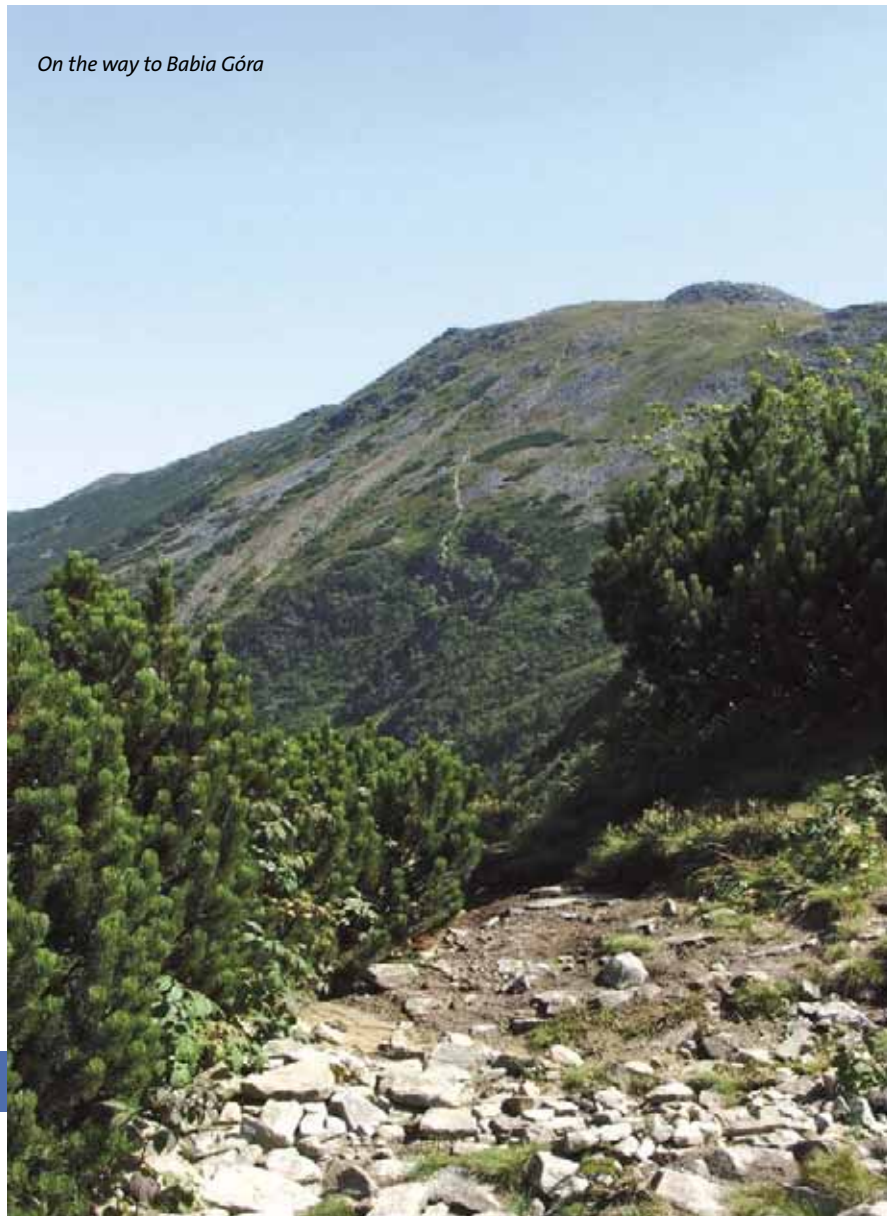
Nearest Cracow (several kilometres) is located the Ojców National Park, which includes the valley of two small rivers: Sąspówka and Prądnik. Geological substrate is Jurassic limestone, where the water comes up with fantastic karsic forms, creating a unique landscape: deep gorges with steep walls and rocks of bizarre shapes. Here are the famous buttes: Hercules' Club, Petrified Wanderer and Deotyma's Needle. The rocks of the Park also hide about 400 caves. The most famous cave is Łokietek's Cave, Dark Cave and Plunder Cave. You can go hiking and climbing. Among the many animals of this region occurring in the Park the most characteristic are bats (there are 15 species of these animals here).

View from the peak of Babia Góra

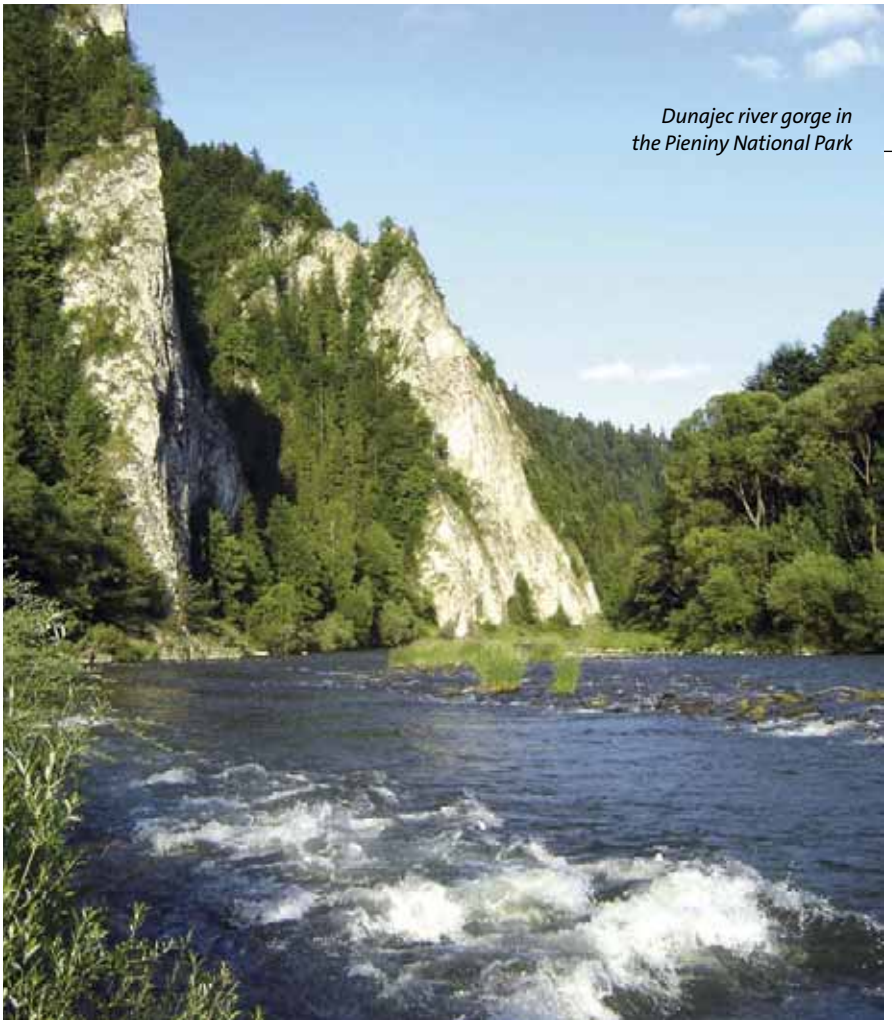
On the south-western edge of the Małopolska region there is the Babia Góra National Park. It includes the highest part of the massif of Babia Góra (1800 meters above sea level), since 1987, is recognized as a UNESCO Biosphere Reserve. It has very diverse mountain sculpture: gentle on the south, steep – even with the rock walls - from the north. The study of snow and Babia Gora water showed that it is one of the cleanest among Poland's massifs. The local ecosystem is also interesting for another reason: through the Babia Góra ridge the European Water Department runs. This means that waters flowing from the northern slopes of the summit go to the Baltic, and those from the south – to the Black Sea basin.

Babia Gora massif is a model example that shows the floor layout of the vegetation in the mountains: changing with the change of altitude. Climbing the slopes of this mountain you should be careful: you can come across here on lynxes, bears and even groups of wolves. But the summit of Babia Gora is worth the climb for one reason: there stretches a magnificent view of the Tatras, Pieniny and the whole Podhale.

The Gorce National Park covers the central and north-eastern part of the Gorce range. Forests, which are part of the Carpathian primeval forest occupy 95% of the Park. You can see here venerable beeches and 300-year-old firs. The landscape is dominated by a smooth domed Gorce mountains, with river valleys cutting



On the way to Babia Góra



Dunajec river gorge in the Pieniny National Park

sharply in the massif. In the forests growing on the slopes white anemones, yellow comfreys and purple toothwort bloom in the spring. Gorce forests are also valuable shelter for wild animals: wolves, lynxes, bears and many others.

Because of the location of the Magura National Park, a bit on the side of the main routes, this area has not yet been discovered entirely. Maybe it is a positive circumstance – less people there, more peace and quiet, even a certain atmosphere of mystery. There are here many of yet undiscovered and unexplored places hiding not only the rare species of flora and fauna, but also the remains of fortifications from the ninth – tenth century. Lemko churches, partly preserved, partly destroyed lend charm to Park landscape. In some villages there still preserved remnants of traditional Lemko housing. Thickets of the largest forest park in the Low Beskid are the shelter for local fauna: lynxes, wolves, wild boars, lesser spotted eagle and rare species of butterflies.

The Pieniny National Park is located on the Polish-Slovak border. Featuring an extremely varied topography, landscape and natural curiosity on a European scale. The most characteristic in the

Three Crowns peak in the Pieniny National Park

landscape of Pieniny are vertical white limestone walls and contrasting gentle slopes covered by meadows and fields. So far, there have been discovered around 7317 species of animals in the park, but it is believed that approximately 13,000 species live here, that is half of the entire Polish fauna. Within the park there is a castle in Czorsztyn located on the left bank of the Dunajec river. The biggest attraction of the park is the Dunajec turn considered one of the most interesting tourist attractions in Europe. Encroaching between limestone rocks, the river runs meandering, forming seven loops. In this way, it extends its run from 6 km (measured in a straight line) to 15 km. The height of rocks surrounding the river varies between 300-500 meters and the channel narrows to a dozen meters.

The Tatra National Park is one of the largest parks in Poland and one of the most unusual. Together with the Slovak Tatra National Park it forms a UNESCO Biosphere Reserve. 11.5 thousand hectares of its area are covered with strict protection, but the rest of the park is available for hiking, mountaineering and skiing. Marked trails in the park count about 250 km. The Tatra National Park is also the highest Polish peak – the Rysy (2399 m). This park protects the only Polish part of the mountains of alpine landscape. The landscape is characterized by numerous rocks, steep peaks, hanging valleys, glacial mountain lakes, streams, waterfalls and valleys with numerous caves. The most characteristic plants of the Tatra Mountains are pine and edelweiss, and the animals most often associated with these mountains are a marmot, bear and chamois (the latter is the only European species of antelope).

Roe deer in the forests in Beskidy

The southern Poland is beautiful, interesting and worth a visit!

Ewa Woicka-Bekas
Agency for Restructuring
and Modernisation of Agriculture

Silver thistle (Carlina acaulis) – a protected plant from the Polish mountains

Cuisine of the Southern Poland

The Southern Poland in terms of culinary habits has very varied areas, which results both from historical reasons as well as climate and soil conditions which determine the possibility of the plants cultivation and the animal husbandry.

On the southern Polish culinary heritage combine mainly cuisine of the Małopolska region and so-called Polish highlander's cuisine, which strongly differ from each other, although the mountain areas are included in the Małopolska region.

The specificity of the Małopolska cuisine was formed at the turn of the eighteenth and nineteenth centuries, when these areas were included in Galicia - the province of the Austro-Hungarian Empire. To this day, in the names of some traditional foods you can see the influence of the Austrian cuisine such as: Viennese eggs, Viennese schnitzel, Viennese cheesecake, Galician salad. In addition, the formation of the specific culinary traditions of Małopolska were influenced by Hungarian, Czech, Jewish, German and Walachia cuisine.

"Żurek" – Sour rye soup with white sausage

A special place in this culinary geography takes the capital of Małopolska - Cracow, which formally did not belong to Galicia, but the Cracow cuisine developed as strongly influenced by the Austrian cuisine, and especially the Viennese. It is exquisite cuisine and abundant.

In turn, in mountain regions of Małopolskie voivodeship reigns the Polish highlander's cuisine, which dishes come from peasant cooking traditions based on the raw materials such as potatoes, cereals, milk, cheese, cabbage, onions, small amounts of meat.

A characteristic and common feature of the Małopolska and the Polish highlander's cuisine is a wide use of a cumin as a spice. It is used not only as an ingredient in sauces (such as a cumin sauce), soups (the cumin soup, once popular mainly in the Cracow city's homes), and pickles, but also as an addition to bread.

So, what interesting traditional regional dishes are waiting for us in the Southern Poland? Let's start with the soups. Specific soups of this region, among others, are: the cumin soup, the Cracow red borsch (beetroot soup), *"Kwaśnica"* - the sauerkraut soup, *"Żurek"* - the sour rye soup, the soup *"galas"* (apple soup).

The Cumin Soup is actually a fasting soup, cooked without the addition of meat. Cooked

"Bryndzylki" – fritters made of sheep's milk cheese

together vegetables chopped into strips and a few dried mushrooms. To the broth with vegetables, is then added browned roux mixed with ground cumin. Separately the densely *manna* is boiled, which after cooling is cut into cubes and added to the soup. Soup is quite delicate, but has a strong flavour of cumin.

The Cracow red borsch (beetroot soup) is one of the oldest and most common soups, popular not only in Małopolska but throughout Poland. But it was particularly strongly cultivated in Cracow and its vicinity, because the fertile soil of Szreniawa and Prądnik Valley were propitious for the cultivation of the beetroots. The basis for the preparation of traditional Cracow borscht is the beet acid obtained by pickling beetroots. The soup is prepared by adding the beet acid to the boiling beef broth and seasoning accordingly with salt, pepper, or as in the region of Podhale brew of herbs. Traditionally the so-called "ear-dumplings" (small boiled dumplings) stuffed with mushrooms are added to the soup. The beetroot soup with the ear-dumplings is also one of the traditional Polish Christmas Eve dishes.

"Kwaśnica"- the sauerkraut soup is the Polish highlander's soup prepared on the meat broth (mutton on the bone or smoked bacon), to which sauerkraut, chopped onion, dried mushrooms and spices are added and boiled together. Additionally to the boiled soup the boiled potatoes are added which are also cut in cubes.

"Żurek" - the sour rye soup is a typical traditional Polish soup, known in Małopolska since thirteenth century. It is based on *"żur"* - sour-dough made from wholemeal flour and water. The soup is prepared by pouring *"żur"* on the broth from mushrooms and vegetables. It is served with potatoes or bread.

The last of these soups – *galas* – is a soup made from apples boiled and grated through a sieve, seasoned with sour cream.

Among the main dishes an interesting taste have the Cracow chicken. It is a roasted chicken, stuffed with the filling of Cracow buckwheat cereals boiled to be loose (broken, not roasted buckwheat cereals) with the addition of chopped parsley leaves, eggs, butter, spices.

The traditional dish is a Cracow sop – the type of the roasted pork loin. Pork loin sprinkled with lemon juice and sprinkled with cumin seeds, is then baked while the broth is poured on it. The sauce formed during cooking the meat is thickened with potato flour and a little red wine is added to it. This sauce is poured into the halves of round rolls *("kajzerka")*, slices of roasted pork are

Noodles "scykane" with pork scratchings

put on the top of them and it is baked in the oven.

A dish of an Austrian origin is the Viennese schnitzel, that is the fried, coated in breadcrumbs veal cutlets decorated with a thin slice of lemon and butter.

Traditional cuisine of mountain regions of the Małopolskie voivodeship is perhaps less exquisite cuisine, but also of a unique taste. The basis of the old Polish highlander's cuisine were mainly potatoes, cabbage and barley flour or oatmeal. Among the regional dishes are therefore many kinds of noodles made of potatoes or with added potatoes, potato pancakes, so-called "doves" with cabbage (cabbage stuffed with potatoes), dumplings.

To popular Polish highlander's cuisine dishes include: *"bryndzylki"*, *"moskole"*, *"kołaczki"* with sheep cheese, noodles *"scykane"*, *"gałuski"*.

"Bryndzylki" are baked in the oven dumplings of dough made from boiled potatoes, stuffed with filling prepared with *"bryndza"* – soft sheep cheese, grated *"oscypek"* – hard sheep cheese and boiled potatoes.

"Moskole" are called in this region, potato cakes baked on baking sheet.

Noodles *"scykane"* and *"gałuski"* have a similar composition of raw materials, because they are cooked noodles made of grated raw potatoes, but somewhat different technology and additions. Noodles *"scykane"* are divided into portions by throwing them on the boiling water with a spoon and after cooking they are served with melted pork fat; and *"gałuski"* are formed into balls by hand and after cooking they are served with smoked, fried bacon.

"Kołaczki" with *"bryndza"* sheep cheese are baked, round pancakes made of yeast dough. Each pancake is stuffed in the middle (in recess) with *"bryndza"* sheep cheese with fried onions, cumin, cream, egg yolks. They taste great as a hot snack or addition to a clean soup.

Cuisines of southern Polish regions – Małopolska and Podhale – are particularly rich in foods with cereals. The variety of dishes from the cereals in Galicia is great. Of course, a very popular soup is a soup with millet cereals (millet). Millet cereals is served there also as a dish called *"jagły"* – cereals cooked on milk with dried plums, butter and sugar. Meatless cabbage rolls in the Małopolska are stuffed with buckwheat or white cabbage with added barley, smoked bacon, onions. From the Małopolska also come dumplings stuffed with buckwheat alone or with the addition of white curd cheese. Cereals are also used by the housewives to prepare sweet dishes such as mincemeat of millet, mincemeat of corn cereals with curd cheese.

Let's get to the other dishes of sweet southern Polish regions. Among them should be noticed the Cracow *"małdrzyki"*. These are fried cheese pancakes with delicious taste and delicate flavour, sprinkled with powdered sugar and decorated with fresh fruit. A traditional Cracow dessert, remembering the times of Queen Anna Jagiellonka (sixteenth century), *manna*-croup cake with raisins, nuts, almonds, etc.

More exquisite desserts that can be found in the Cracow city's confectioneries have origins of Austrian cuisine such as Viennese cheesecake - cake with curd cheese with raisins and chocolate coating. Similarly pischinger and Sacher cake. The first dessert are the wafers layered with a mass of milk, butter, sugar and cocoa. The second one is superior apricot marmalade

"Małdrzyki krakowskie" – quark fritters

cake in chocolate coating. The names of both specialties are named after Vienna's confectioners, who created them.

In connection with the Polish membership in the European Union, some regional food products were registered in EU food quality schemes, and thus gained an EU protection for their names. From the southern Polish region comes the most, as many as 5 of 7 Polish products registered in the system of Protected Designation of Origin (PDO) and 7 of the 16 products registered in the system of Protected Geographical Indication (PGI). These products of outstanding quality and distinctive characteristics associated with the Małopolska region are in the system of PDO – *oscypek*, *bryndza*, *redykołka*, *fasola "Piękny Jaś"* (beans), *karp zatorski* (carp), and PGI system – prądnicki bread, Korczyńska beans, *jabłak łąckie* (apples), Lisiecka sausage, *obwarzanek krakowski* (cracknel), Suska sechlońska, *śliwka szydłowska* (plum). These products we describe since 2007 in the many issues of the quarterly "Polish Food".

Tourists who want to directly see the Polish products and food we invite to an annual Southern Małopolska Festival of Taste, which final takes place in Cracow in late August. This is a great regional festival of producers and local food lovers, the biggest culinary event in the region. To the capital of the Małopolska best food producers come at that time, who competed in the semi-finals and gained local recognition of the audience and jury. In 2011, the 7th Małopolska Festival of Taste the Grand Prix received the Association of the "Plum Route" from Iwkowa for the product "loin stuffed with Suska sechlońska". It's the perfect incorporation of Suska sechlońska (dried plums from the village Sechna) – product registered in the EU's Protected Geographical Indications system – into contemporary regional dish.

The lovers of Malopolska products do not have to wait for the festival to try regional specialties. Every day, for example: at the Market square and other places of Cracow you can buy the famous *obwarzanki krakowskie* (Cracow cracknel), *kiełbasa lisiecka* (sausage lisiecka), *chleb prądnicki* (bread prądnicki). To get *oscypki* (smoked sheep cheese) and *bryndza* (rennet sheep cheese) is best to go to Zakopane to consume these regional products in their natural habitat.

Have a tasty trip to the southern Poland!

Ewa Woicka-Bekas
Agency for Restructuring and Modernisation of Agriculture

Groats in Polish cuisine

Groats were among the most important components of dishes in the Polish traditional cuisine. Medieval chronicles describe Polish cuisine as very spicy and characterized by the use of large quantities of meat and groats. It is known that the Polish king Casimir III the Great was a grand gourmet of groats (14th century). The method of cooking kasza gryczana po królewsku – royal buckwheat, i.e. after grinding the grains with white of an egg and drying them, was developed at his court.

Groats were a traditional addition to soups or meats, and at peasants' farms – even the main dish. Polish housewives knew many ways of serving the groats already centuries ago. Groats were eaten in Poland as salty or sweet, they served for cooking nourishing and thick soups, they were eaten with milk, baked or roasted in the oven, served as an addition to meat, poured over with a variety of sauces, with an addition of pork fat, butter, cheese, mushrooms, plums, oil.

In the modern Polish cuisine, the groats are also appreciated and the traditional dishes made of this product are not being forgotten. Multiple types of groats, obtained from grains of wheat, buckwheat, barley, oats, millet or corn, are used. Buckwheat groats were the most popular in the traditional Polish cuisine and they still are – whole grains of buckwheat, roasted or unbroken. Broken, unroasted grains are used for the so-called kasza krakowska (Cracow's groats). Other types of groats which are popular in the Polish cuisine include: pęczak – barley groats (grinded barley grains), pearl barley (broken, grinded barley grains), kasza jaglana (from millet), kasza manna (semolina, fine wheat groats), oat flakes.

Krupnik, a soup cooked on beef broth, with dried mushrooms and vegetables, is the most popular traditional Polish soup with barley groats or millet groats.

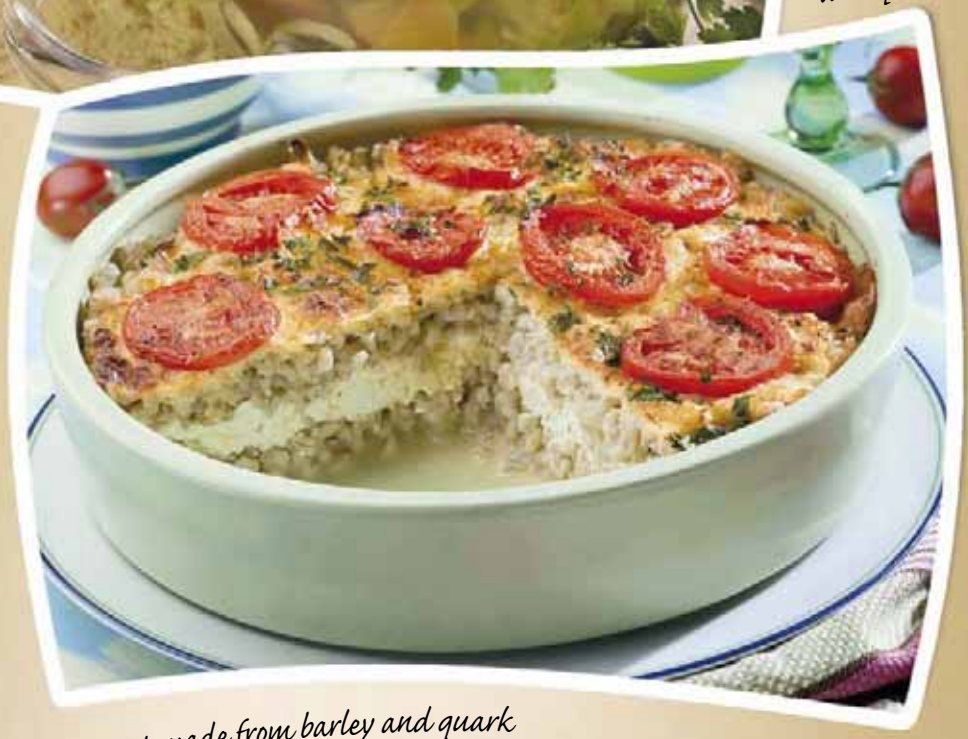
Zrazy wołowe z kaszą gryczaną (beef roulades with buckwheat) are the pride of the traditional Polish cuisine and their lineage goes back to the 14th century. Gęś nadziewana kaszą gryczaną (goose stuffed with buckwheat groats) is another traditional Polish meat dish with groats. Pierogi z kaszą gryczaną (dumpling with buckwheat groats) and gołąbki nadziewane kaszą (cabbage rolls stuffed with groats) come from the poor peasant cuisine. In the Polish regional cuisines, groats are also the basis for various types of seasoned casseroles, e.g. with bryndza (sheep milk cheese), with potatoes, with smoked bacon and beans, or for sweet dishes, such as kasza jaglana on milk with dried plums, kasza jaglana baked with nuts, figs, raisins and honey.

It is worth knowing the taste of Polish dishes with groats!

Ewa Woicka-Bekas
Agency for Restructuring and Modernisation of Agriculture

Roulades with buckwheat groats

"Krupnik" soup with pearl barley



Roast made from barley and quark

Chart 1. Export of agri-food products in the years 2008 – September 2011, in EUR million

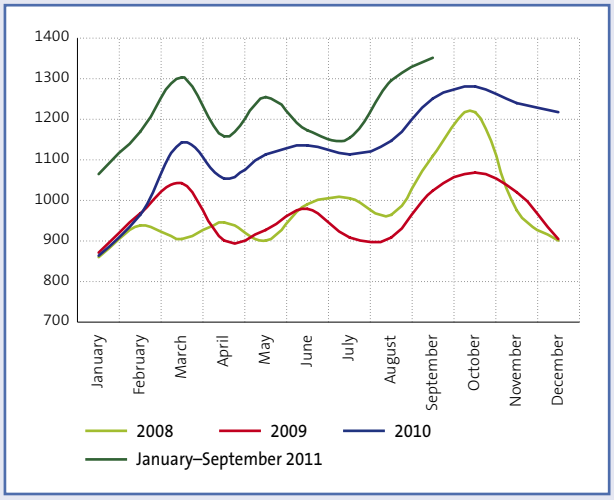


Chart 2. Import of agri-food products in the years 2008 – September 2011, in EUR million

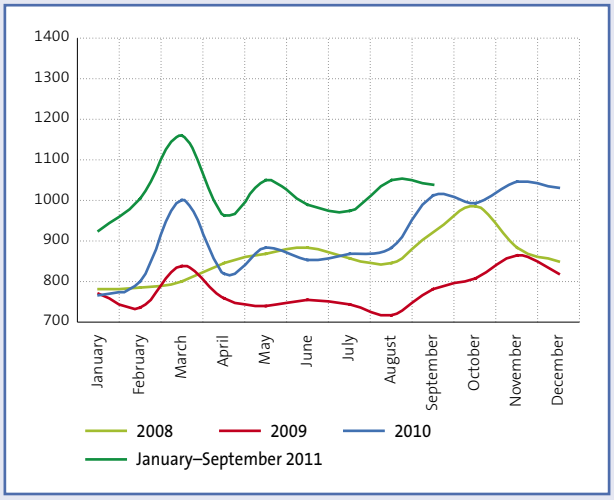


Chart 3. Surface of cultivation and crops of grains in the years 2005/2006 - 2011/2012

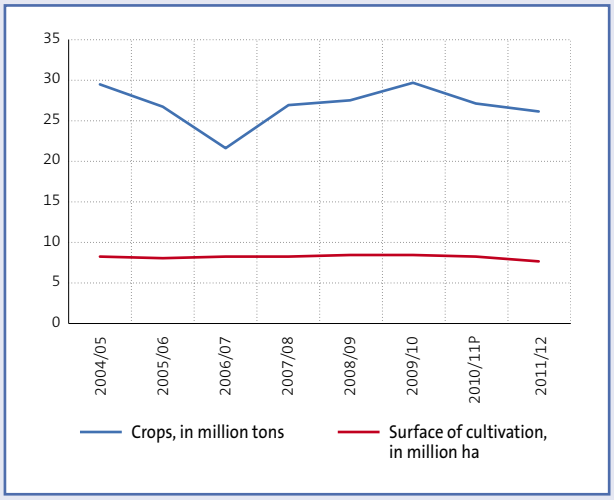


Chart 4. Polish foreign trade of grains, in million tons

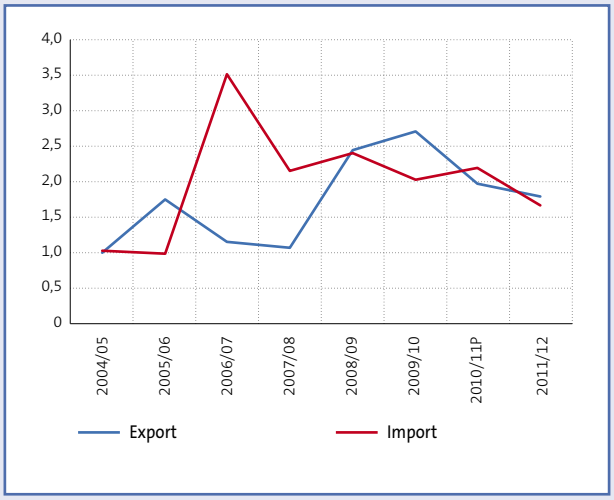


Table 1. Polish export of grain high processing products (in thousand tons)

Specification	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Pasta dough	29.1	36.2	7.4	8.7	15.9	29.2	23.8
Food products	4.3	11.3	43.9	60.4	68.1	78.4	88.3
Bread, pastry bread	45.7	57.5	316	336.8	216.7	228	251.7
Total	**79.1**	**105**	**253.4**	**287.2**	**300.7**	**335.6**	**363.8**

Table 2. Multi-annual programmes in the years 2004-2010 and their financing

Year	Number of programmes	Financing from the state budget (in million PLN)
2004	1	6,872
2005	4	18,106
2006	6	37,91
2007	6	41,149
2008	8	54,696
2009	8	57,653
2010	8	59,605

Polska

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