

Czech University of Life Sciences Prague

Faculty of Economics and Management

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Diploma thesis

Economy of pig breeding in chosen agricultural company

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DIPLOMA THESIS ASSIGNMENT

Hradská Petra

Economics and Management

Thesis title

Economy of pig breeding in chosen agricultural company

Objectives of thesis

The main aim of diploma thesis focus on economy issue of pig breeding sector. The observed period of thesis is between years 2009 to 2013 and comparison between these years. In analyses are use data from chosen agriculture company and data from Czech Statistical Office. In the last part of diploma thesis is conclusion and suggestion for the company to the future.

Methodology

First theoretical part describes the current situation on the pork meat market. The second part of the thesis is the case study, based on real data sourced from the company Mavela a.s. Dynín. In the last part of diploma thesis is conclusion and suggestion for the company to the future.

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DECLARATION

I hereby declare that I have worked on my Diploma Thesis titled “Economy of pig breeding in chosen agricultural company“ solely and completely on my own and that I have marked all quotations in the text. The literature and other materials I have used are mentioned in the references selection of the thesis.

In Prague 31th March 2014

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Economy of pig breeding in chosen agricultural company

Ekonomika chovu prasat ve vybraném zemědělském podniku

SUMMARY

Diploma thesis of the topic „Economy of pig breeding in chosen agricultural company“ focuses on the characteristics of economic situation in chosen agricultural company specializing on pig breeding.

The theoretical part is written in a form of literature review based on the study of scientific literature and internet resources, mostly from Czech Statistical Office. This section describes the characteristics of pig sector and its economy and efficiency in pig breeding.

Analytical part focuses on the obtained data and its results in the time period 2009 – 2013. Great part of the work is focused on the various researches of indicators in pig breeding, pig prices and weight, piglet prices and the feed mixture prices. Company decisive indicator from the point of credibility are costs of 1 kg body weight transferred to the fattening pig and the costs of 1 kg sold live slaughter pig weight. Other indicators such as the number of weaned pig can be distorted by using different calculation methods.

The conclusion of the diploma thesis is resume of obtained results and there are suggestions how to improve economic situation of chosen company.

Key words:

Costs, export, piglets, pigs, profitability, slaughterhouse, strike price, weaning piglets

SOUHRN

Diplomová práce na téma „Ekonomika chovu prasat ve vybraném zemědělském podniku“ se zaměřuje na charakteristiku ekonomické situace vybrané zemědělské firmy specializující se na chov prasat.

Teoretická část je zpracována ve formě literární rešerše, na základě prostudování odborné literatury a internetových zdrojů, zejména stránky České statistického úřadu. V této části jsou uvedeny charakteristiky odvětví ekonomiky chovu prasat, efektivnosti v chovu prasat,

Analytická část se zaměřuje na charakteristiku vybrané firmy a jejich výsledků ve vybraném období 2009 – 2013. Velkou část práce zaujmají jednotlivá šetření různých ukazatelů chovu prasat, ceny prasat a selat. Pro práci byla zvolena podrobná analýza nákladů, protože náklady jsou položkou, kterou může podnik významnou měrou ovlivnit, a zároveň to byly i cílený požadavek daného podniku. Podnik považuje za směrodatný ukazatel z hlediska důvěryhodnosti náklady na 1kg živé hmotnosti převedeného selete do výkrmu a náklady na 1kg živé hmotnosti prodaného jatečného prasete. Ostatní ukazatele, jako například počet odstavených selat, lze zkusit různými metodami výpočtů.

Závěrem bakalářské práce je shrnutí dosažených výsledků a jsou uvedeny možnosti, jak efektivně zlepšit ekonomickou situaci ve vybraném podniku.

Klíčová slova

Export, jatky, náklady, odstav selat, prasata, realizační cena, rentabilita, selata

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1. INTRODUCTION

Pig meat production contributes the largest number of world meat production which is about 40%. This fact clearly demonstrates the priority of pork meat in the world population supply. Pig farming has irreplaceable position in nutritional protein balance. World production of pig meat has doubled in the last twenty years.

Pig breeding and pig meat production is very economically important sector in Czech Republic alike in EU. Pig meat consumption in the Czech Republic stand yearly about 41, 3 kg per capita and it is very much connected within traditional Czech cuisine.

The biggest development change in pigs breeding economy in the Czech Republic is considerate the year 2004, when the Czech Republic entered EU. After abolition of tariff barriers, the entire agro-food vertical came under the world trade pressure. There has been a significant shift in breeding to major production traits. Under the influence of the development and orientation of pig industry in Europe, especially in Denmark and France, were adopted new breeding maternal breeds. Due to EU integration influence domestic producers and processors had to react to development in Europe and world, which meant intensify production while respecting principles of animal welfare, reduce costs in labor productivity level, parameters of fattening performance and carcass value. Unfortunately, not all subjects conducting business in this livestock sector adapt to the new conditions, which brought strong competitiveness skills within the EU and global world. Many enterprises departed from pig breeding, other focused on livestock or crop production, but in many cases they completely finished doing the business in farming.

European Union is the second biggest producer of pig meat and the second biggest exporter in the world after China. The EU's main producer countries are Germany, Spain and France who together represents already half of the EU's total slaughter. The EU has a self sufficiency of about 110% and exports about 12% of total production mainly to the Russia and East Asia, in particular China.

2. OBJECTIVES OF THESIS AND METHODOLOGY

2.1 Objectives of the thesis

The main aim of diploma thesis is to focus on economy issue of pig breeding sector. The observed period of thesis is between years 2009 to 2013 and comparison between these years. In analyses are used data from chosen agricultural company and data from Czech Statistical Office.

The target of diploma thesis is to perform a comprehensive analysis of the costs pig production in chosen agriculture company. Detailed costs analysis was chosen because the costs are items that the company is able significantly affect, while it also was requirement chosen company.

Company decisive indicator from the point of credibility are costs of 1 kg body weight transferred to the fattening pig and the costs of 1 kg sold live slaughter pig weight. Other indicators such as the number of weaned pig can be distorted by using different calculation methods.

The main company objectives are the prices of feed mixtures, analysis of pig breeding costs, fodder consumption and average gains.

2.2 Methodology

The elaboration of diploma thesis was progressed in the following ways. Firstly was a technical literature studying and identification of the progresses and methods commonly used in enterprise evaluation. First theoretical part describes the current situation at the pork meat market.

Indispensable for the practical part was selection of a company which would be kind to afford their data necessary for the individual analyses elaboration.

In the last part of diploma thesis is conclusion and suggestion for the company to the future.

Comparative analysis

Comparative analysis deals with confrontation of data. Comparative analysis is used to determine and quantify relationships between two or more variables by observing different groups that either by choice or circumstance are exposed to different treatments. This method will be used in the last section of this thesis where will be compared the feed mixture prices and where will be also compared number of rearing piglets.

Descriptive analysis of time series data

A time series is a collection of observations of well-defined data items obtained through repeated measurements over time. Time series analysis deals with analyzing this kind of data. It tries to identify and interpret some regular and irregular behavior of data. This method will be used also in practical part of diploma thesis when the analysis of graphs from data, that will be gathered, will be done.

3. LITERATURE OVERVIEW

3.1 Economy of pig breeding

Pig meat production contributes the largest volume of the global meat production, and it is about 40%. It clearly shows the priority of the pig breeding in the supply of meat. Pig farming has in terms ensuring the nutritional balance of protein practically irreplaceable position. World pork meat production has doubled in the last twenty years.

According to Stupka (2010), pig farming on the global scale had done particularly unprecedented qualitative development in the last twenty years of the last century. After the transformation of our agriculture and the existence of many domestic and foreign hybridization programs, the genotypes of pigs significantly changed, especially in the terms of the level achieved utility properties.

After Czech Republic join the EU agriculture resist with competitive pressure from other member countries. The fact in pig breeding is decrease of domestic pork production therefore the number of pigs. These decreases are consequences due to the number of factors which breeders are not able to practically deal with. (Pulkrábek, 2005)

The main factor in decreasing the number of livestock, especially pigs in the member countries of Eastern Europe, can not practically affect the overproduction of pork in the EU. On this fact depends the realization price fattened pigs. Long-term low realization price of pigs has put relatively high rates to complete fodder which tends to the liquidation of many companies, not only in our country, but also in the other European countries. (Stupka, 2010)

Although this factor is entirely in the farmer's hands, in the Czech Republic is still below the desired performance parameters guaranteeing a comparable economy of fattening pigs in the Czech Republic with the advanced countries of the EU. In these countries we are witnessing a rapid expansion of pig breeds and breeding on new and increasingly efficient genotypes of pigs. New, modern genotypes require the implementation of a number of changes in breeding, feed technologies, including housing, power supply, microclimate hybrids. The effectiveness of the breed is guaranteed by animals providing optimum

performance, including the final product. It is based on detailed analyzes of individual manifestations of the production effects on the production economy. (Abrahamová, 2013)

Objectives in pig production

According to Poděbradský (1998), the main objective for all producers including production of slaughter pigs is profit. It is a function of complex character, so properties characterizing reproductive and productive performance. Because livestock utility is result to the genes action as quantitative properties on the expression and amount involved genotype and environment.

The improvement can be implemented by both measures – genetic and non – genetic. With regard to genetic measures and due to new scientific disciplines such as genomics, biometrics, biotechnology, etc. we are able to compress desirable genes in DNA and then possible discretion that contains genes from one population to another, and thus directly affect gene manifestation. Implementation and success of these measures are not applicant without existing methods of evaluation functional characteristics indirectly, on the basis of biometric evaluation, where information on the effects of genotypes are obtained from average population effect, and where performance is defined by them. (Pulkrábek, 2005)

3.1.1 Improving the efficiency of pig production

Domestic and foreign hybridization programs offer a range of genotypes, whose high performance link to non-genetic factors. It is up to the farmer and his knowledge such as genotype in breeding choice to have secured the viability of production of slaughter pigs. The main guidance for choice is subpopulation pig tests, which are necessary for breeding sphere and the sphere of commercial farms. (Poděbradský, 1998)

Knowledge of characters of the utility at various stages in pork production is used for creating economic and genetic models. These estimates can simulate various effects which affect animal utility. Based on these findings it can determine all sequence of priority, as it is the choice of genotype, feeding strategy, assessing the effect on lines, sex, etc., which may lead to improvements in efficiency of pig production. Such as changes the efficiency of production which is a function of production expressed intensity of growth, feed conversion

and lean meat. It is clear that in the case of low growth extend fattening, reduce turnover, increases feed conversion, feed costs and reduce the difference between total revenues and variable costs. (Hovorka, 1983)

When the reproduction area is ignored (strict requirement to have at least 25 piglets per year) result would reflect in company's final hybrid fattening and do not provide aims. Considerable variability of production traits between lines within the breed achieved significantly affect performance parameters of final hybrid. (Stupka, 2009)

To select suitable genotypes or lines within the breed should farmer decide in principle according to results from subpopulations pig tests. They allow inspect the process of individual commercial character at different stages of production cycle. This knowledge also enables farmers to create economic and genetic model to predict the utility of animals in various production stages and simulation of effects. Farmer has a tool to accelerate problem for solving and focus on the priorities of the European pig beginning of the third millennium, which is quality, ecology, welfare, health and economy. (Stupka 2010)

According to Poděbradský (1998) last aspect particularly gives a farmer ability to influence the way of reducing costs which are in farming functions of:

- health of pigs, as a reflection of consistent adherence prevention
- achieve the high utility, which realizes the optimization of environmental conditions, including the choice of a genotype with respect to the feeding line and sex

Although all these above finding sufficiently known remain in the most of our businesses underrated.

3.2 Economic objective in pig breeding

According to Pulkrábek (2005) the objective of pig production is to satisfy the society needs with minimum production and labor expenditures. To achieve this objective it is necessary to use all measures for intensify production and increase productivity. Because the company has in particular period limited labor and production resources, should be considered their most efficient use. Therefore the decisive criteria of social advantage it its economic efficiency. Economic evaluation is becoming important tool for objective assessment of the

production level which provides an important basis for production process management for its optimization.

Besides the social factors is necessary to follow the dynamics of the economy. To ensure continuous development of manufacturing process is done by achieving the profitability as precondition for the implementation to expand the production. In constant external conditions the increasing efficiency economic production depends on the intensification of production and labor productivity and also on economic use of production. So there becomes a favorable development between increasing volume and quality of production and cost. As a result of income growth, mainly in net income is one of the most important measurement for company management. (Gramer, 1994)

Relationship between pig economics to other industries

In recent years, developing specialization of farms is associated with an increase in concentration as the creation and integration of cooperative relations. Process is accompanied by the technology development, feeding and breeding techniques works emerge for realization of hybridization programs. Considerable demands are positive for the organization of production process, the harmonious reconciliation of each production stage.

All these activities are aimed by achieving an optimal level of production process, the basis for the effective management to economic criteria. (Stupka, 2009)

3.3. Production of pig breeding

Among the most important difference in the domestic breeding and farm breeding is heterogeneity. Domestic pig provides 2,2 – 2,4 births a year, after relatively short period of breastfeeding (3 – 4 weeks) wean 10 to 12 piglets just few days (4 – 6) after weaning is sow ready to become pregnant again. Sow gestation last 115 days. Gilts and boars are classified in reproduction cycle in the age of 220 – 205 days, generational interval is the age of parents at the birth of their piglets, can be achieve just in one year.

Slaughter pigs are capable to intense growth, slaughter weight (usually 110 kg) reach pigs at the age approximately 6 months. Slaughter weight is associated with intensity of growth, however may differ for example in Italy for “Parma ham” production the average carcass weight is 165 kg in live weight and these pigs have approximately 270 days. Pigs have a very good ability to utilize feed. One of the positive factor which is including in pig breeding is rapid weight gain. Pigs very efficiently take feed, in the classical fattening from 25 to 110 – 115 kg consume pigs less than 3 kg of complete feed mixture per one kg to gain. Due to the consumption of cereals contribute pig to the overall stability of agriculture sector. (Pulkrábek, 2005)

3.4 Economic efficiency

According to Svatoš et al. (2000) are many different indicators in the economy through a range of various indicators, or entire systems to evaluate the economic activities of the different actors, notably business and industry. All indicators can be divided according to various criteria into several groups according to the mathematical form of the indicators:

- ratios
- differential
- index
- incremental

According to substantive content of indicators:

- economic efficiency
- financial situation

According to Rosochatecká (2006) indicators of economic efficiency we include to the ratio indicators. The most important standard information inputs for ratio analysis are financial statements (balance sheet, profit and loss statement, cash flow). Financial ratio can be obtained by dividing any item or set of items in balance sheet, income statement and cash flow for another item. Another source of inputs are business statistics and other evidence such as evidence of labor. Results of ratio analysis help to determine overall economic situation of the company, allow to evaluate the previous period, present and expected future financial management meaning comparing indicators over time – vertically or horizontally. The

objective is to evaluate financial health of the company, to identify weaknesses that could cause future problems and identify strengths on which company could built:

In general, economic efficiency can be expressed in basic equation:

Efficiency = effect (output)/ source (input)

If we evaluate the effectiveness of the activity, the effect is especially profit (gross profit, net income, and disposable profit), cash flow, gross margin, value added, gross or market production, performance, sales, product price, etc.

Depending on the effect exists two basic groups of indicators (Růčková, 2008):

- productivity
- profitability

3.4.1 Indicators of economic efficiency production of slaughter pigs

According to Rosochatecká (2006), economic development is use to evaluate the overall level of economic breeding, knowledge of the causes production level. Assuming that the prices remain static kind of products, agricultural products, appreciation for the work, and indifference with the process change of:

- costs, which section is burdened as a result of change in the consumption of materials and labor
- the volume and quality of products due to the change in performance and condition of animals
- amount of working time required for the animals treatment

Number of weaned piglet per sow per year depends on:

- the number of piglets weaned per litter
- the number of litters per sow/year, that again depends on the intervening period

3.4.2 Profitability

Profitability is financial category, which characterizes the business revenues for certain period as the ratio of profits and mostly capital. In profitability can be use various categories of profit such as net profit, balance sheet profit, balance sheet profit based on cash flow. According to required content of economic indicators.(Tucker, 2010)

Svatoš (2000) shows the most common use profitability ratios reflect the profitability:

- on equity (ROE – return on equity)
- total capital (ROA – return on assets)
- long – term capital (ROCE – return on capital employed)
- sales (ROS – return on sales)
- costs (ROC - return on costs)

The ratio of profit to sales informs how the company is profitable in relation to sales. Gain can be expressed in different ways, depending on the purpose for which is the indicator count. This indicator expresses the view of enterprise efficiency – efficiency and competitiveness of product in the market.(Růčková, 2008)

- Cost profitability (rate of return) = profit / own costs

Factors that influence the level of profitability (mainly profits) are according to Svatoš (2000):

- Income tax rate
- Interest rate
- Debt
- Volume of sales
- Development costs

Generally speaking, lower value of this indicator is, better performance of the company is achieved. Because 1CZK of sales create lower costs. However, it is important to realize that increase of absolute amount of profit can not effect only reducing costs, but also increases sales. Cost analysis can be used outside from the ratio of profit before tax and interest to overall costs. (Růčková, 2008)

Calculation in livestock production

According to Poláčková (2010) the costs include the cost of sow breeding from the date of the first recess, the cost of feeding and nursing piglets until they are weaned including the cost of boar.

- Return, profitability = profit/ loss costs
- Profit = revenues – costs

- Return rate = profit (loss)/ own production costs *100
- Gain (loss) = strike price – own production costs

3.5 Relationship between agriculture, environment and economy

According to Svatoš (2009) former development understanding was one-sided and narrowly associated with economy growth. Current complex content of sustainable development is based on the concept of economy viable, environmentally friendly, technologically possible and socially acceptable. The basic attributes of sustainable agricultural development include interdisciplinary character and integrative approaches.

The basic characteristics of sustainable agriculture include according to Svatoš (1993):

- security economically and socially acceptable income to farms
- integration of agricultural management system of local ecosystems
- reduction inputs which degrade the environment and decrease the quality of production
- widespread variety of crops and diversification in livestock
- applying friendly technology of soil processing
- wider use of biological methods for growth productiveness factors of production

Basic company functions within the economic system (Tucker, 2010):

- determining the supply of goods
- participation in demand for goods
- participation in demand for labor
- participation in demand for money
- can determine prices and wages
- paying taxes

Environmental factors according to Svatoš (1993):

- social factors
- components of environmental protection

- policy and law – social economy, social legislation, export policy, technology transfer, macroeconomic influences, etc.

Corporate factors are according to Tucker (2010):

- productivity
- fund efficiency
- innovation
- product quality
- factor concerning to the customers
- factor concerning to the employees
- marketing, vertical integration, etc.

3.6 Company definition

Company is defined in many ways. Rosochatecká et al. (2006) define company as a fully business entity which decides about the flow of financial sources in the process of their creation, distribution and usage.

According to Mařík et al. (2007) have the biggest meaning for valuator the definition referred to the Commercial Code. That in § 5 define company as a set of tangible, as well as private and intangible components of entrepreneurial activity. To a firm appertain things, laws and other property values which belong to enterpriser and serve to company operating or they should serve like this according to their character. Firm should be established because of performing a business activity. This is defined by the Commercial Code in § 2 as pursuit conducted by single enterpriser by own name and at own liability in order to make a profit.

Evaluating principles according to Mařík et al. (2007) in profession we often meet with requirement that valuator should determine “objective” value of the firm. It is necessary to point out that something like objective value of the firm does not exist. Firm’s value is set by expected future income (either on the level of owners or on the level fall investors in the company) converted (discounted) on their present value. Value of the firm is not objective feature of the unit named company because it is founded on projection of future progress. It is a judgement.

Definition of an enterprise and its position in the national economy

Enterprise is the basic economic unit in the national economy. Its economic position is studied within the economy. Economics deals with the use of scarce resources to satisfy unlimited human wants. While the desires and wishes of the people are unlimited, resources available to satisfy these wants are limited. Economy is answering for the questions about the best use of scarce resources to satisfy unlimited desires. (Rosochatecká, 2006)

Goals and mission of the enterprises

According to Žídková (2007) corporate mission is to create products and provide services, whose social usefulness is verified through the market. Social recognition individual work is reflected in making the profit, which is the main economic target of the company. Corporate goals are given objectively.

The main objective of the company is the economic goal, which includes achieving cost-effectiveness and economic efficiency of business operations, ensuring the productiveness in production process, efficiency and technical innovation process, ensuring financial balance and efficient use of production resources in compliance with environmental requirements.

The economic aim to the company is fulfilled by implementation of four partial business objectives: production, technical, organizational and social targets. All of these goals are in mutual respect. (Samuelson, P., Nordhaus, 2009)

3.7 Characteristics of pork vertical in CR

Commodities of animal origin are evaluated by a general practice mostly isolated. From an organizational point of view we divide the production process on number of production sections – in livestock production we register the result of individual categories that gradually built from production vertical within agriculture. (Poděbradský, 2001)

For the selection of agriculture and its framework is for pig production particularly important to follow the movement of costs. These are mainly external costs for materials,

labor and services which farm must take in order to lunch and recover the production process. It comes into different sectors of production, respectively more detailed breakdown into different categories are gradually secondary (internal) costs transferred to subsequent manufacturing sections. (Hron, 2011)

Agricultural production area leaves pig carcass form of sales, sales paid by customer, which further refines the raw materials. Finally through business activities of final product is to distribute to the customer. In term of profit is stated that all described sections of production are production activities to create profits, and the resulting economic effect of production arises from the difference in consumer prices and all external costs, which were gradually add end to the outsider of production consumed product incurred. This creates a volume of generated profits across all products vertical. The cumulative total vertical loads for individual production partners are involved in their deposits material, labor and services. It can be done that according to these costs, as well as equity participation should occur by as well as the distribution of the profit. (Poděbradský, 1998)

Tab. 1: Pork meat production in Czech Republic

Year	2000	2003	2006	2009	2012	2013
Tonnes	396 107	411 194	333 015	284 572	239 753	234 273

Source: Czech Statistical Office

From the research done by Czech Statistical Office is seen the degradation of pork meat production in Czech Republic. The total number increased in this time period, the difference number is 161 834 pieces. (MZe, 2014)

Tab. 2: Number of piglets weaned by region (in tons)

Year	2010	2011	2012	2013
Czech Republic	3 091 170	2 686 303	2 529 036	2 705 919
Sothern Bohemia	297 491	253 198	230 077	210 165

Source: Czech Statistical Office

From the table number of piglets weaned by region the result in whole Czech Republic had decreasing trend, but in the year there is a small increase. In division by regions in Southern Bohemia regions the number of weaned piglets is decreasing each year of this measurement. (MZe, 2014)

Tab. 3: Pig meat self-sufficiency in Czech Republic

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012
%	96,9	82,8	79,7	78,7	74	65,1	63,4	60,8	54,5

Source: MZe, Výroční zpráva, 2013

From the Annual report (2013) which is done by Ministry of Agriculture showing pig meat self – sufficiency in the Czech Republic report weakening each year of research.

Pig meat was on the edge of self-sufficiency in the year 2004, when it amounted to 96,9%. Gradually this indicator reached up to 60, 8% in the year 2011 and to 54,5% in the year 2012. To reduce self-sufficiency has to effect of increasing imports of pork which offer competing domestic slaughter pigs and profitability of industry. Decline in self-sufficiency in pork production, multi drop in number of pigs and sows are one of the biggest issues facing the pork industry in solution to face with. Related phenomenon is the increase in imports of pork and live pigs in the EU and as a result the trade deficit with follow-up increased competitive pressure. (MZe, 2013)

3.7.1 Overview of Czech Republic pigs economy

Decreasing number of pigs is not happening all in last few years, but it hit the sector with small exceptions since the early eighties. Overall conditions in the period from the second half of the seventies were high. Associated with comprehensive refurbishment sector and beginning with factory farming. And not only utility but also breeding, factory farming and breeding. Flat insemination was introduced. (MZe, 2013)

Since the mid-seventies public orders have sharply improved to lean meat or carcass ration of muscle to fat in meat slaughter animals. The expressive improvement was observed in reproductive performance indicators and fattening performance and carcass quality of pigs. It was a difficult period when accurately plan the number of sows which would ensure demand for pork in centrally controlled economy. It should ensure self-sufficiency of pork production while reducing costs production. Against this effort was a different quality of the gene pool on certain inexperience in the new technologies use, breeding and rearing. (MZe, 2011)

In this process assist centrally planned economy under warranty of pricing deposits into production and it is related to energy or feed cost. Assist accounting and valuation of work in process, which distorted in true comparison of cost production in the Czech Republic and in the potential comparison with foreign competition. A part of the implementation of the hybridization occurred gradually in expected qualitative improvement in the performance parameters and the organization not only in individual farms, but the entire sector in relation to the processing industry. The gradual establishment of farming has contributed to the change in the structure breeds to improve reproductive characteristic, including the current time incomparable result of insemination and also across the board resolution in Czech farms. This blanket extension insemination was quite unique in Europe. Conformation with maximum vigor had increase the number of pigs with very good conversion of nutrients. (Abrahamová, 2013)

Situation after 1989

According to Poláčková (2010) in 1989 started the transformation of agriculture changes, major changes in ownership, which influenced the development in pig sector significant way. Compare to the economy costs per unit is production. The increase in real estate cost need for companies new acquisition (for inconsistent conditions) are in accordance with the established legal order before the obligation has not been built. Also pig farms which arose from a cooperative association (mean that several entities and enterprises were privatized) as landless and didn't provide additional links with agricultural land experience a shock that stemmed from fatal neglected diversification of risk in business. The sector also experience a significantly positive time periods, which were the years 2000-2002.

In these years, the pork meat in Czech Republic cost significantly higher than the breeders in developed nations of Europe. Pig farming in the Czech Republic was profitable sector of livestock production. This period explained the reason for another, bigger field of depression which came from middle of 2002, when it was in preparation for accession to EU breeding solution, company built before the fulfillment of international agreement on liberalized trade. The development in progressive liberalization of the form of duty-free bilateral quota import and export of pork meat was completed after the referendum on join the EU. (Abrahamová, 2010)

Czech Republic EU membership

Since the 1st May 2004 the Czech Republic has become member of EU and became a part of the common market for more than 500 million people. Pig farming industry stood face to face to competition that had not stood before. Breeders were forced to spend considerable costs of investment in livestock facilities to meet applicable standard imposed on technology for the welfare of livestock, sanitary regulations, health regulations and the need to maintain the best quality of the environment without negative effects on future generations. It was necessary to refurbishment of buildings and technological devices which have been neglected in recent years. (Abrahamová, 2013)

Increasing the legislative requirements for pig farmers had resulted in increased costs of pig breeding and reducing profitability that has been invested in technological equipment, livestock equipment and technology in the manufacturing industry. The other negative manifestation was a sharp rise in cereal prices in middle of 2007. Cereals are an essential component used in compound feed, significant cost item in pig breeding. Calculating the list of factors increasing pressure from imports of live pigs and pork from EU countries and fluctuation in agricultural producer prices for slaughter pigs, we come to the logical reasoning why pig farmers in Czech Republic proceeded to decline the number of pigs. (Růčková, 2010)

However, worldwide development in pork production has gone in the opposite direction. The increase in production was noticed in some EU countries, while reducing sales opportunities in third countries. Pork surpluses made traders and manufacturers from countries that were EU members before 2004, apply markets in neighboring countries (enlargement of the EU with ten new countries including the Czech Republic). In Czech Republic was imported pork mainly from Germany, Austria, but also from Poland. That had the effect on increasing competitive pressure on the domestic market. It can be observed trade barriers by increasing competition. Following liberalization, which was completed by Czech membership in EU in May 2004, has allowed easier access to foreign pork meat on Czech market, especially within the rules of the single market of the EU and its Common Agricultural Policy. (MZe, 2013)

Pig breeding development in Czech Republic directly affects the profitability of the industry, which strongly influences the cost of agricultural producer prices of slaughter pigs and imports of live pigs and pork. Foreign trade is also affected by the current exchange rate of the Czech crown.(MZe, 2011)

Tab. 4: Pork meat consumption in Czech Republic

Pork meat consumption (kg/cap/year)		
Year	Total meat on the bone	From that pork meat
2004	80,5	41,1
2005	81,4	41,5
2006	80,6	40,7
2007	81,5	42,0
2008	80,4	41,3
2009	78,8	40,9
2010	79,1	41,6
2011	78,6	42,1
2012	78,3	41,3

Source: Czech Statistical Office

Consumption of food in the Czech Republic is monitored by Czech Statistical Office. It is processed by balance method using following statistical information:

- Livestock production
- Definitive data on crop production
- Industrial production
- Initial and final inventory of agricultural enterprises
- Initial and final stocks at producers of food products
- Import and export of food products from the statistics of foreign trade
- Self-supply food products
- And further data provided by the Ministry of Agriculture, Department of Agricultural Economics and Information, food-unions and other organizations (Czech Statistical Office, 2014)

According to the mid-year population the average the annual consumption per capita was than calculated. Consumption of meat is monitored in carcass weight in kilograms and according to the methodology of Czech Statistical Office consists of poultry, pork, beef, veal, sheep, goats, horses, game and rabbits. The consumption of sheep, goat and horse meat is not monitored individually but together in one group. (Czech Statistical Office, 2013)

3.8 Pork meat situation in Hungary

After the accession of Hungary to the European Union the meat sector in the country underwent a concentration process, as a result of which the number of producers (also the number of slaughtered animals) decreased significantly. The prices are more or less the same as the EU average, their movements follow the international tendencies. (Hungarian Central Statistical Office, 2013)

Hungary has lost its net exporter position, and the volume of imported live pigs and pork meat is higher than ever. Seemingly there is a market for the Hungarian pork meat in the Far East, especially in Korea and Japan, and the imported meat is mostly used by the meat processing industry.

The Hungarian government recently launched the Darányi Ignác Plan, which determines the future of the Hungarian rural sector in the period 2012-2020. This plan aims to gradually restore the role of animal husbandry in the agriculture. Within the coming 2 - 3 years they intend to increase the number of pigs by 1 million. (Hungarian Central Statistical Office, 2014)

According to the forecasts the production of pork meat in the EU will reach 21, 9 million tons in 2013, which exceeds the previous year by 4%. The production will grow faster in the new member countries. The consumption per capita was between 2005 – 2013 increase by 1kg in the EU15 countries, and by 4 kg in the new member countries.

The significant 1, 3 million tons net export of the EU will grow by 100 thousand tons by the end of 2012. The import will not exceed 15.000-30.000 tons. Although the consumption of pork meat (27 kg/ capita) is approximately 60% of the volume of 10 years ago, its significance did not change proportionally (about 30-35% of the total meat consumption). The quality of the local products can be characterized with an average of 46-47% lean meat, while that of the products in Western Europe is in average 56-57%. (Hungarian Central Statistical Office, 2013)

4. CHARACTERISTIC AND INTRODUCTION OF THE COMPANY

4.1 Mavela a.s. Dynín



For the diploma thesis was chosen the company Mavela a.s. Dynín. Company is located in the region of Southern Bohemia, residence in Dynín 81, 373 64 Dynín. Municipality Dynín is approximately 30 km far from České Budějovice to the north-east direction to the city Tábor, which is situated 40km from Dynín. Company has a wide range of specialization. The company's management policy leads to facilities and equipment modernization of facilities, personal training, improving the quality of working environment and resulting products. The company maintains contact with foreign countries. Export makes an important feature in economic strategy of the company but it's not the main financial source.

Company was established by transformation of former Common agriculture farm Dynín in the year 1993. Since the year 1996 is very close connect with slaughterhouse Hradský s.r.o. Strakonice which is the largest customer of slaughter pigs. This long – term cooperation clearly contributes to interconnect primary production and processing. Both companies are better to adapt the requirements of final product and help target the investment development to the desirable direction.

Wide range of company activities makes it unique. Mavela a.s. Dynín is specialize in rearing pullets and broilers production in the village Dolní Bukovsko, consuming eggs production in Dynín, chicken fattening in Plavnice, piglets production in RCHP Bzí and Hroznějovice, and pigs fattening in Mazelov.

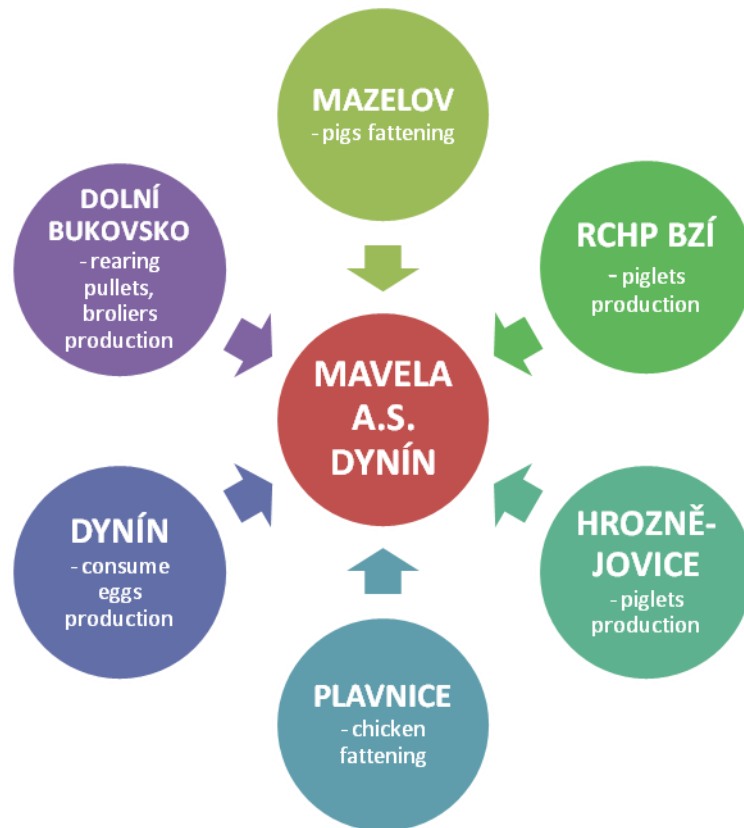
Currently the company has 78 employees and annually producing 33 million eggs, breeds 110 thousand pullets. 65% of pig fattening needs the company provides itself. Since 1996 is the company increasing own production, therefore only 35% of pigs for fattening are supply from two suppliers.

Also in pig meat field has company very wide range of expertise. It owns nucleic pig farms which represents 80 pieces of cattle. The aim of this breeds is pure production in breeding purebred parent breeds for own needs and the needs for breed reproduction. Mavela a.s. Dynín also owns one with 200 pieces of pigs, where it crosses the parent breeds. Finally the company focuses on utilitarian breeding to produce hybrids in the final fattening in the application of three or more breeding utility crossings.

The company owner bought the processing and slaughter capacity in order to ensure stable raw materials for these capacities. Connecting primary production and processing is a prerequisite for the further development of both of these areas. It allows better adaptation for the requirements of the final production and direction of investment resources in the desired direction. It also enables ecological knowledge in the primary problems and their solutions according to the processing needs. The experience of both sectors can be effectively used for protection against periodic market fluctuations by concrete measures operation in invest development can be achieved by the partial elimination. Experience from previous operation of both services demonstrates good experience in this direction.

4.1.1 Mavela a.s. Dynín farms structure

Graph 1: Farms structure



Source: Own processing

4.1.1 Pig farming in Mavela a.s. Dynín

Pig farming in the company is doing in two phasis: 1) the production of piglets
2) pigs fattening

The aim of the production of piglets is to ensure maximum number of weaned piglets for own fattening while achieving required quality parameters. The company conducts its own breeding in the nuclear breeds of BU. Furthermore produce breeding sows BU x L in breeding section for company's own use and for piglets suppliers needs. Recently produce final hybrid for own fattening in utility breeding.

NUCLEIC BREEDING - classical breeding techniques are use, begin with yield control and end by estimating the breeding values. Goal of breeding is to achieve maximum fertility and growth pig's ability.

REPRODUCTIVE BREEDING - are use sows from nucleic breeding and boars Landrace seeds from various insemination centers. Hybrids BU x L are primarily intent for utilitarian own breeding or rearing, which deliver piglets for fattening to Mavela a.s. Dynín.

UTILITY BREEDING - is for sows BU x L (from reproductive breeding) are use boars systemize line seeds. Now after many years of experience are use mainly the lines SL 34 (D x BO) and SL 48 (BO x Pn). These lines company buy from Reprogen Planá nad Lužnicí – ISK Radouňka. These lines favorably affect meant content of final hybrids and their adaptability to the production technology use in pigs fattening.

4.2 Kométa 99 ZRt.



Kométa is one of the Mavela a.s. Dynín subscriber. Cooperation between these two companies lasts already more than two years. Pigs from Mazelov farm are delivering to Kaposvár in live weight, which is the aim of Mavela's management.

Kométa 99 ZRt. is one of the largest meat processing companies in Hungary. With world class products, it has become a prominent market challenger nationwide and also in several countries of the European Union.

Products are of excellent quality meeting the demands of modern nutrition and packaging. Kométa developed exclusive product lines to meet the needs of high end customers. R&D Department is ready to keep up with the latest trends in the field of the ever-changing consumer preferences. Parallel to its traditional product lines with typical Hungarian seasoning, it has already introduced novel products to the market flavored with the more and more popular herbs and spices of the Mediterranean.

Company has great abroad success. Approximately half of our revenues come from export. The most important markets for products are Italy, Spain, South-Korea, Japan, Germany, the Balkan States and the countries in Eastern Europe. The majority of exports products take meat from pre-cooled and deep-frozen pork (ham, loin, loin steak, boneless pork belly and collar).

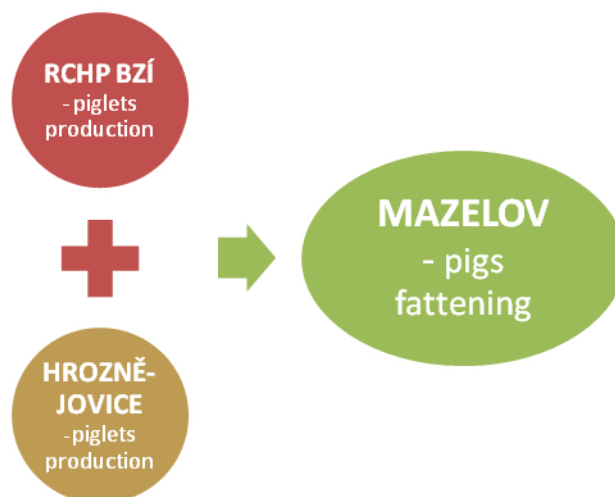
Kométa 99 ZRt. is located in Pécsi Street 67-69, 7400 Kaposvár, Hungary. Main industrial activity is slaughterhouses and is categorized under Meat Packing Plants. Estimated number of employees is 500. Number of slaughter pigs is approximately 9 000 pieces a week and company does slaughter process three times a week. During the days when slaughtering is not in process employees are making final products such as Hungarian salami, frankfurters, hams, sausages, etc.

5. ANALYSIS OF OBTAIN RESULTS

5.1 Piglets production 2007-2013

In Mavela a.s. Dynín exist two different located farms focusing on piglets breeding. Both of these two farms produce piglets, sows and supply Mazelov farm by fattening piglets (under 25kg). Although both farms focusing on piglets breeding, it exist the difference between these two. The main difference is mostly in using technology and farms equipment. Capacity of Hroznějovice farm is smaller than capacity of Bzí farm.

Graph 2: Mazelov farms structure



Source: Own processing

Tab. 5: Piglets production – Hroznějovice farm

Year	Hroznějovice							
	Fodder	Average sows	Breeds	Turnover	Newborns	Newborns /breed	Weaning	Weaning/ 1 sow
2007	68 931	189	437	2,31	4 601	10,53	4 205	22,27
2008	67 958	186	451	2,42	4 828	10,71	4 057	21,79
2009	66 548	182	438	2,40	4 570	10,43	4 116	22,58
2010	65 893	181	406	2,25	4 548	11,20	4 056	22,47
2011	71 974	197	431	2,19	4 993	11,58	4 683	23,75
2012	68 646	188	440	2,34	5 320	12,09	4 731	25,16
2013	70 029	192	401	2,09	4 829	12,04	4 326	22,55

Source: Mavela a.s. Dynín

In this season from the year 2007 to 2013 Hroznějovice farm had obtained very stable results in all chosen sections. Hroznějovice farm shows relatively stable results in piglets production in researched time period. In the thesis was not mentioning the nationwide trend of increasing number of weaned piglets in last year which, despite the worse results of weaned piglets and economy of Bzí farm. Significant is the worsening trend in sows turnover births per year.

Tab. 6: Piglets production – Bzí farm

Year	Bzí							
	Fodder	Average sows	Breeds	Turnover	Newborns	Newborns /breed	Weaning	Weaning/ 1 sow
2007	382 939	1 049	2 375	2,26	21 636	9,11	19 684	18,76
2008	448 752	1 229	2 766	2,25	27 006	9,76	23 602	19,20
2009	439 856	1 205	2 767	2,30	28 515	10,31	24 200	20,08
2010	487 950	1 337	3 140	2,35	34 229	10,90	26 640	19,93
2011	502 151	1 376	3 287	2,39	36 613	11,14	27 614	20,07
2012	502 863	1 378	3 148	2,28	35 556	11,29	28 085	20,39
2013	485 465	1 330	3 163	2,38	36 386	11,50	27 360	20,57

Source: Mavela a.s. Dynín

Bzí farm numbers are very positive in all indicators. Far is showing better results every year, especially in turnover section which was 2, 26 in the year 2007 and increase by 0, 12 to 2, 38 in the year 2013. The number of born piglet rises up in the 2007 it was 2375 pieces and in the year 2013 3163 pieces, which make an increase by 788 pieces in this period.

Weaning pigs number had increase from 19 684 pieces in the year 2007 to the number of 27 360 pieces in the year 2013.

Tab. 7: Piglets production - total Mavela a.s. Dynín

Year	Total							
	Fodder	Average sows	Breeds	Turnover	Newborns	New-borns/birth	Weaning	Weaning/ 1 sow
2007	451 870	1 238	2 812	2,27	26 237	9,33	23 889	19,30
2008	516 710	1 416	3 217	2,27	31 834	9,90	27 659	19,54
2009	506 404	1 387	3 205	2,31	33 085	10,32	28 316	20,41
2010	553 843	1 517	3 546	2,34	38 777	10,94	30 696	20,23
2011	574 125	1 573	3 718	2,36	41 606	11,19	32 297	20,53
2012	571 509	1 566	3 588	2,29	40 876	11,39	32 816	20,96
2013	555 494	1 522	3 564	2,34	41 215	11,56	31 686	20,82

Source: Mavela a.s. Dynín

In total calculation of both farms - Hroznějovice and Bzí is clear that the average numbers are increasing. The average number of sows had increase by 284 pieces in last seven years. The number of breeds had rapidly increase from the number 2 812 in the year 2007 and seven years later it reached 3 564, where the difference is 752 breeds. All indicators show increasing numbers by the same technological conditions for all measured year. It is occurred that in both farms are better zoo - technological specialization and more productivity team work and work organization in the same conditions.

5.2 Self-supply of piglets to Mazelov farm

Tab. 8: Self-supply of piglets from Hroznějovice and Bzí to Mazelov farm (Pc)

Year	Hroznějovice			Bzí			Total		
	Mazelov (pc)	Mazelov total weight (kg)	Mazelov (kg)	Mazelov + rearing (pc)	Mazelov total weight (kg)	Mazelov (kg)	Mazelov + rearing (pc)	Mazelov total weight (kg)	Mazelov (kg)
2009	4 112	10 6752	25,96	22 580	571 274	25,30	26 692	678 026	25,40
2010	4 222	10 8346	25,66	24 953	633 778	25,40	29 175	742 124	25,44
2011	4 315	10 2495	23,75	25 000	609 385	24,38	29 315	711 880	24,28
2012	4 539	10 4550	23,03	25 456	639 250	25,11	29 995	743 800	24,80
2013	4 454	10 0990	22,67	26 407	645 895	24,46	30 861	746 885	24,20

Source: Mavela a.s. Dynín

From the table is significant that supply from Hroznějovice shows similar numbers in all five years of research. The slowly decreasing number of average unload weight is caused by load needs to Mazelov farm. In the case of Bzí farm, the average number of rearing pigs is increasing and concurrently unloads weight is stable. Both farms supplied in total Mazelov farm by 30 861 pigs in the year 2013 compare five years before it was 4 169 pieces less.

5.3 Piglet costs

5.3.1 Fodder costs

Tab. 9: Fodder costs per sell piglet from Hroznějovice farm to Mazelov

HROZNĚJOVICE	2009	2010	2011	2012	2013
Fodder costs (CZK)	2 263 067	2 242 386	2 742 740	2 798 378	3 240 322
Fodder costs (%)	42,01	44,58	50,42	52,59	55,11
Costs/1 pc of sell piglet (CZK)	1310,14	1191,27	1260,60	1172,41	1320,18
Fodder costs/1 pc of sell piglet	550,36	531,12	635,63	616,52	727,51
Costs/1 kg of live sell piglets (CZK)	50,47	46,42	53,07	50,90	58,22
Fodder costs/1 kg of live sell piglets (CZK)	21,20	20,70	26,76	26,77	32,09
Costs/1 mixture per sow (CZK)	80,95	76,33	75,58	77,52	83,97
Fodder costs/1 mixture per sow (CZK)	34,01	34,03	38,11	40,77	46,27

Source: Mavela a.s. Dynín

Tab. 10: Fodder costs per sell piglet from Bzí farm to Mazelov

BZÍ	2009	2010	2011	2012	2013
Fodder costs (CZK)	13 287 764	15 470 520	19 517 617	22 813 975	23 844 860
Fodder costs (%)	40,92	43,97	44,56	51,56	53,60
Costs/1 pc of sell piglet (CZK)	1438,21	1430,58	1751,99	1738,25	1684,62
Fodder costs/1 pc of sell piglet	588,47	629,06	780,70	896,21	902,97
Costs/1 kg of live sell piglets (CZK)	56,85	55,51	71,88	69,22	68,87
Fodder costs/1 kg of live sell piglets (CZK)	23,26	24,41	32,03	35,69	36,92
Costs/1 mixture per sow (CZK)	73,83	72,10	87,22	87,99	91,64
Fodder costs/1 mixture per sow (CZK)	30,21	31,71	38,87	45,37	49,12

Source: Mavela a.s. Dynín

Bzí farm economy for the first view shows significantly unfavorable results in production piglet costs. The main cause is a high mortality of nursing piglets. Trend in births turnover per sow per year, the number of live born piglets, the number of weaned piglets and finally the number of piglets transfer for fattening to Mazelov is increasing each year.

In costs analysis and from own observation is significant that the in the company is slightly higher ration of the fodder consumption, where farm use more KPK fodder which is more expensive than KPB fodder. Higher consumption is caused by the worse technological continuity between the births and gravid with effort to achieve higher turnover of birth.

5.3.2 Total costs per one piglet

Tab. 11: Piglets costs from Hroznějovice farm to Mazelov

HROZNĚJOVICE	2009	2010	2011	2012	2013
Piglets sell (pc)	4 112	4 222	4 315	4 539	4 454
Piglets sell (kg)	106 752	108 346	102 495	104 550	100 990
Fodder sows	66 548	65 893	71 974	68 646	70 029
Total costs (CZK)	5 387 303	5 029 549	5 439 491	5 321 550	5 880 092
Total costs (%)	100,00	100,00	100,00	100,00	100,00
Feedings costs (CZK)	2 263 067	2 242 386	2 742 740	2 798 378	3 240 322
Feedings costs (%)	42,01	44,58	50,42	52,59	55,11
Labor costs (CZK)	1 249 586	1 200 831	1 072 762	1 155 680	1 112 428
Labor costs (%)	23,20	23,88	19,72	21,72	18,92
Energy costs (CZK)	350 916	300 392	329 983	366 657	367 723
Energy costs (%)	6,51	5,97	6,07	6,89	6,25
Fuel costs (CZK)	83 087	87 533	64 326	68 942	91 256
Fuel costs (%)	1,54	1,74	1,18	1,30	1,55
Medicines costs (CZK)	223 021	140 094	134 524	113 445	86 511
Medicines costs (%)	4,14	2,79	2,47	2,13	1,47
Insemination doses costs (CZK)	173 720	191 215	214 380	196 430	174 321
Insemination doses costs (%)	3,22	3,80	3,94	3,69	2,96
Other costs (CZK)	1 043 907	867 098	880 776	622 019	807 531
Other costs (%)	19,38	17,24	16,19	11,69	13,73
Costs/1 pc of sell piglets (CZK)	1310,14	1191,27	1260,60	1172,41	1320,18
Costs/ 1 kg life weight of sell piglets (CZK)	50,47	46,42	53,07	50,90	58,22
Costs/ 1 fodder per sow (CZK)	80,95	76,33	75,58	77,52	83,97

Source: Mavela a.s. Dynín

Labor costs bother prize of breed pig less in Bzí than in Hroznějovice due to higher labor productivity. Higher productivity has also negative effect on the piglets life in farrowing.

Energy costs are also lower in Hroznějovice farm, but in the effect of very low environmental comfort especially for newborn piglets.

Tab. 12: Piglet costs from Bzí farm to Mazelov

Bzí	2009	2010	2011	2012	2013
Piglets sell (pc)	22 580	24 593	25 000	25 456	26 407
Piglets sell (kg)	571 274	633 778	609 385	639 250	645 895
Fodder sows	439 856	487 950	502 151	502 863	485 465
Total costs (CZK)	32 474 801	35 182 170	43 799 721	44 248 783	44 485 755
Total costs (%)	100,00	100,00	100,00	100,00	100,00
Feedings costs (CZK)	13 287 764	15 470 521	19 517 617	22 813 976	23 844 860
Feedings costs (%)	40,92	43,97	44,56	51,56	53,60
Labor costs (CZK)	5 308 945	5 703 768	5 818 174	6 083 562	6 239 525
Labor costs (%)	16,35	16,21	13,28	13,75	14,03
Energy costs (CZK)	1 428 082	1 522 761	1 471 191	1 528 691	1 598 741
Energy costs (%)	4,40	4,33	3,36	3,45	3,59
Fuel costs (CZK)	47 6639	676 014	612 521	52 6690	410083
Fuel costs (%)	1,47	1,92	1,40	1,19	0,92
Medicines costs (CZK)	1 735 348	1 729 583	1 640 763	1 903 591	1 791 594
Medicines costs (%)	5,34	4,92	3,75	4,30	4,03
Insemination doses costs (CZK)	1 230 689	1 187 515	1 261 305	1 351 090	1 522 675
Insemination doses costs (%)	3,79	3,38	2,88	3,05	3,42
Other costs (CZK)	9 007 333	8 892 009	13 478 150	10 041 183	9 078 276
Other costs (%)	27,74	25,27	30,77	22,69	20,41
Costs/1 pc of sell piglets (CZK)	1438,21	1430,58	1751,99	1738,25	1684,62
Costs/ 1 kg life weight of sell piglets (CZK)	56,85	55,51	71,88	69,22	68,87
Costs/ 1 fodder per sow (CZK)	73,83	72,10	87,22	87,99	91,64

Source: Mavela a.s. Dynín

Medical costs for veterinary drugs increasingly burden the overall costs. In the case of induce births the costs are expecting, because due to its result substantial medical care improvement in newborn piglets have occurred, farm decrease the number of death newborn piglets. In after birth care is obvious the positive effect on subsequent reproduction. Relative additional costs compare to conventional hormone is the application of hormone to induce oestrus. Due to technological sequences do not exist other solution how to involve gilts to reproduction.

Costs per insemination doses show relatively higher number. Is it cause by breeding activity in Bzí farm, where the insemination doses are due to company breeding specialization more expensive. Insemination doses consumption per one imbedded sow is lower in Hroznějovice farm, what indicate better understanding of insemination system. Higher insemination doses costs in breeding are compensate by subsidies for breeding sector.

Another costs problem is higher level of culling sows cause by technology reasons. Approximately 60% of culled sows for slaughterhouse are eliminated due to the impossibility of feeding in automatic feeding boxes.

Revenues per one slaughter sow almost cover the rearing gilt costs from company own breeding, but high number of gilts have significant effect on the final number of produce piglets (gilts have about 0,5 – 1,5 more newborn piglets, comparing to 3 birth per sow).

This fact substantially influences worsening results in weaned piglet number. In the objective point of view is necessary to mention the fact that the lower results in Bzí farm are compensate from the breeding animals production, for the recovery of basic herd in both farms, eventually for foreign companies and breeding sector subsidies.

5.3.3 Pig feeding and its consumption

Pigs are omnivores. In intensive farms are feed with compound feeds, which are composed mostly of cereals (maize, wheat, barley meal) and proteins (mainly soy proteins). These compounds are served in dry form, liquid or slurry. Since 2003 is forbidden to add bone meal in EU countries. Also is forbidden to use antibiotics as growth promoters in mixtures. Feeding is providing by feed carts and fodder feed is distributed by pipeline. For liquid feeds are used nozzle or bowl drinkers.

Mixtures use in Mavela a.s. Dynín:

- **KPK** – a complete feed mixture for lactating sows classical type. It is feed several days before the expecting farrowing until several days before weaning piglets. The system is designed to ensure timing for preparation for lactation before weaning, then stop lactation, successful weaning of piglets and starting sows estrogen cycle soon after weaning. Dosage during lactation 5-7 kg/ feed ration is related to the number of piglets per birth.
- **KPB** – a complete feed mixture for pregnant sows, with higher fiber content work dietetic. It is mainly use for classical type of pigs. It is usually serve one week before expecting embedding until a week before birth, where a

mixture is replaced with a mixture KPK. High content of vitamin E favorably influences earlier onset of estrus with significant symptoms and consequently the number of piglets in birth.

- **ČOS** – a mixture for rearing piglets with lower crude proteins complying with dietary requirements during weaning. Contents of full amino acids fully cover the needs for intensively growing animals.
- **PCH** – a complete feed mixture for breeding sows in reproductive and breeding farms. Mixture which ensures an optimal skeletal development of breeding material, eliminates the risk of fatty degradation of the ovaries following estrus for sows.
- **P1** – a mixture with higher proportion of essential amino acids, which are mixed in accordance with the proportion determined by the used feed curve.
- **P2** – a mixture with lower proportion of essential amino acids, which are mixed in accordance with the proportion determined by the used feed curve.

Tab. 13: Summary of average fodder consumption per sow – farm Hroznějovice

Hroznějovice	2009	2010	2011	2012	2013	Average
KPK (t)	88,52	104,26	109,54	112,80	112,82	105,59
KPB (t)	137,79	128,76	115,32	112,08	118,05	122,40
KD	66 548	65 893	71 974	68 646	70 029	68 618
kg KPK/KD	1,33	1,58	1,52	1,64	1,61	1,54
kg KPB/KD	2,07	1,95	1,60	1,63	1,69	1,79
kg KKS total/KD	3,40	3,54	3,12	3,28	3,30	3,33
% KPK	39,11	44,74	48,72	50,16	48,87	46,22
% KPB	60,89	55,26	51,28	49,84	51,13	53,78

Source: Mavela a.s. Dynín

From the table it is clear that in Hroznějovice the fodder consumption is higher than in Bzí. In total Hroznějovice average fodder consumption shows the number 3,33 and in Bzí 3,23. In calculation for feeding curve of KPK and KPB is set 40: 60.

Tab. 14: Summary of average fodder consumption per sow – farm Bzí

Bzí	2009	2010	2011	2012	2013	Average
KPK (t)	717,40	790,74	814,30	908,30	892,92	824,73
KPB (t)	688,64	754,42	760,59	765,44	710,21	735,86
KD	439 856	487 950	502 151	502 863	485 465	483 657
kg KPK/KD	1,63	1,62	1,62	1,81	1,84	1,70
kg KPB/KD	1,57	1,55	1,51	1,52	1,46	1,52
kg KKS total/KD	3,20	3,17	3,14	3,33	3,30	3,23
% KPK	51,02	51,18	51,71	54,27	55,70	52,81
% KPB	48,98	48,82	48,29	45,73	44,30	47,19

Source: Mavela a.s. Dynín

In calculation for fodder ration Bzí has savings 483 657 x 0,1 kg which is 48,4 tons and in CZK 6 350. Bzí far has great balance consumption of fodder KPB especially due to automatic computer control of feeding boxes and higher KPK consumption caused by missing technology. Technological problems which appear in Bzí farm causes harder technological continuity, for example sow goes to farrowing 14 – 21 days before breed instead of 7 days before.

5.3.4 Fodder prices

Tab. 15: Summary of complex fattening feeds for pigs (CZK/tons)

Kind	2006	2007	2008	2009	2010	2011	2012	2013
KPK	3 550	4 870	6 950	5 300	5 300	6 630	7 730	7 130
KPB	3 210	3 420	5 600	4 420	3 650	4 880	6 510	5 570
ČOS	6 860	7 050	8 360	7 490	7 210	8 340	9 520	10 480
PCH	4 060	4 270	6 400	5 250	5 730	7 030	7 630	8 100

Source: Mavela a.s. Dynín

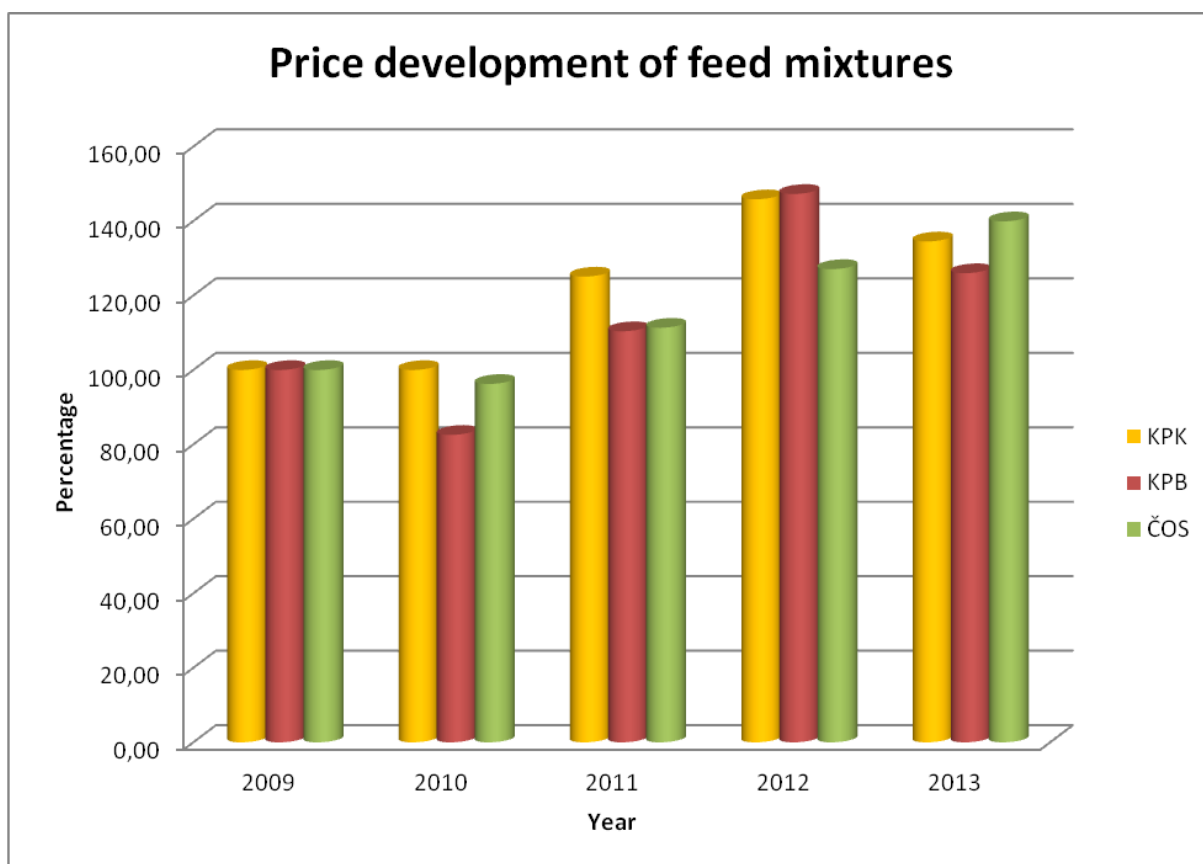
The main factor that decisively influences costs in feeding is the fattening feed mixtures price. The price of fattening feeds has constant fluctuation trend in recent years.

Tab. 16: Comparison of feed mixture price from the year 2009 (100%)

Kind	2009	2010	2011	2012	2013
KPK	100,00	100,00	125,09	145,85	134,53
KPB	100,00	82,58	110,41	147,29	126,02
ČOS	100,00	96,26	111,35	127,10	139,92

Source: Mavela a.s. Dynín

Graph 3: Feed mixture price development

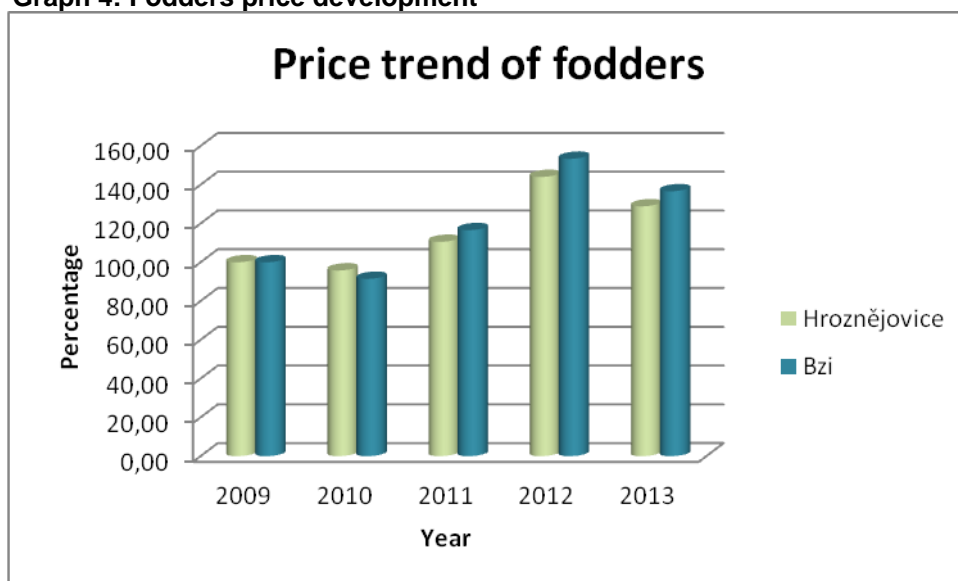


Source: Mavela a.s. Dynín, own processing

Tab.17: Feed mixture use in Bzí and Hroznějovice farms 2009 (100%)

	2009	2010	2011	2012	2013
Hroznějovice	100,00	95,78	110,54	144,00	128,85
Bzí	100,00	91,44	116,57	153,38	136,61

Graph 4: Fodders price development



Source: Own processing

Tab. 18: Feed mixtures use in Bzí and Hroznějovice farms 2009 (100%)

	2009	2010	2011	2012	2013
Hroznějovice	100,00	95,75	110,54	144,00	128,85
Bzí	100,00	91,44	116,57	153,38	136,61

Source: Mavela a.s. Dynín

From the costs analysis and from own observation is significant that the in the company is slightly higher ration of the fodder consumption, where farm use more KPK fodder which is more expensive than KPB fodder. Higher consumption is caused by the worse technological continuity between the birth and gravid with effort to achieve higher turnover of birth.

5.4. Mazelov farm

5.4.1 Purchase piglets, self – sufficiency of piglets

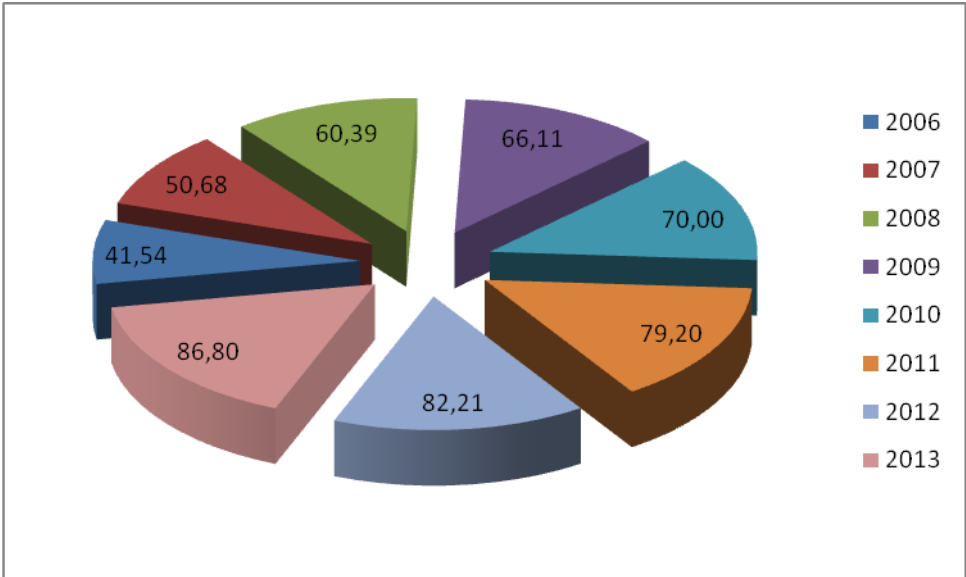
Tab. 19: Overview of raise piglets to Mazelov

Year	Number of pieces included piglets	Own piglets	Import	% own
2006	36 487	15 158	23 129	41,54
2007	38 275	19 397	18 878	50,68
2008	36 343	21 948	14 395	60,39
2009	36 446	24 095	12 351	66,11
2010	37 781	26 445	11 336	70,00
2011	32 666	25 872	6 794	79,20
2012	31 871	26 202	5 669	82,21
2013	31 352	27 212	4 140	86,80

Source: Mavela a.s. Dynín

Obtained results during last eight year show positive numbers in Mazelov piglets self – sufficiency and rapidly decreasing the number of imported piglets. It is one of the most important management target to be independent and have more own piglets.

Graph 5: Self-sufficiency of piglets



Source: Own processing

From the upper table clearly show company’s strategy to obtain more and more percentage of own production piglets for its use. The number of extraneous importers of piglets is every year changing and successfully decreasing. In the year 2006 company had 41, 54% of its own piglets and eight years later just 86, 80%. Self-sufficiency is one of the most important features for company’s future plan.

5.4.2 Costs in fattening

Tab. 20: Total pig costs from Mazelov farm

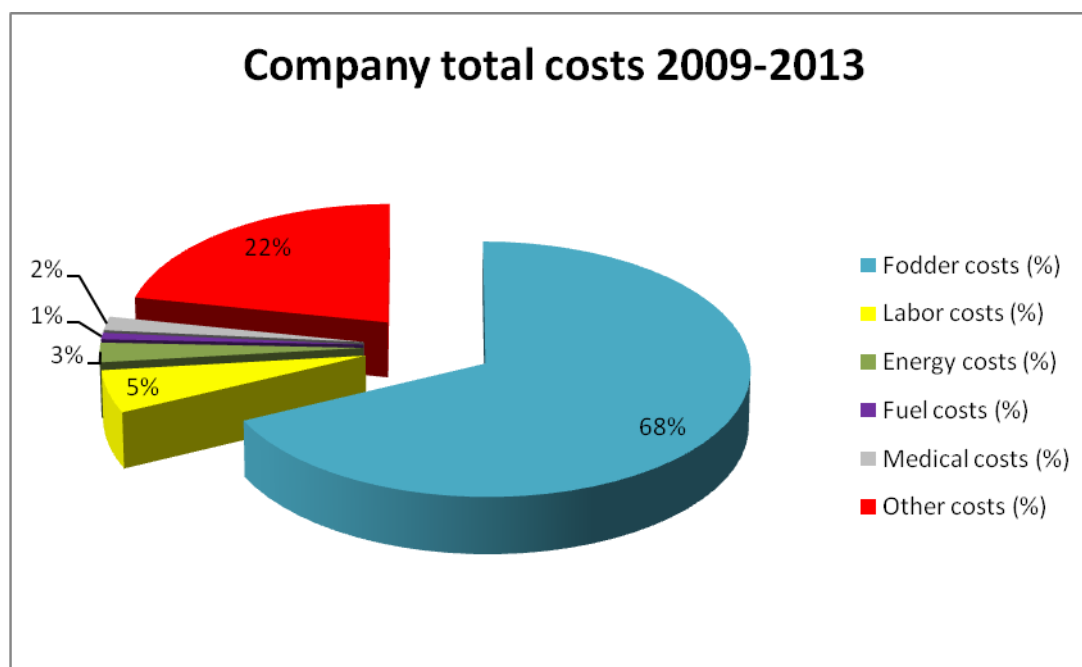
MAZELOV	2009	2010	2011	2012	2013
Slaughter pigs (pc)	32 815	33 055	30 980	26 143	26 997
Slaughter pigs (kg)	3 685 909	3 538 226	3 446 861	2 816 816	2 845 975
Fodder pigs	4 144 291	4 002 890	3 599 615	3 448 280	3 326 056
Total costs (CZK)	53 891 249	48 040 985	47 099 220	47 508 812	52 909 477
Total costs (%)	100,00	100,00	100,00	100,00	100,00
Fooder costs (CZK)	36 515 851	33 045 149	39 166 960	37 811 341	38 311 413
Fooder costs (%)	67,76	68,79	83,16	79,59	72,41
Labor costs (CZK)	2 914 732	2 952 181	2 513 676	2 406 410	2 491 141
Labor costs (%)	5,41	6,15	5,34	5,07	4,71
Energy costs (CZK)	1 348 452	1 127 945	1 183 933	1 232 597	1 316 156
Energy costs (%)	2,50	2,35	2,51	2,59	2,49
Fuel costs (CZK)	450 512	643 309	530 729	361 970	346 428
Fuel costs (%)	0,84	1,34	1,13	0,76	0,65
Medical cost (%)	950 859	1 032 368	961 515	632 338	554 615
Medical cost (CZK)	1,76	2,15	2,04	1,33	1,05
Other costs (CZK)	11 710 843	9 240 033	2 742 407	5 064 156	9 889 723
Other costs (%)	21,73	19,23	5,82	10,66	18,69
Costs/1 pc slaughter pig (CZK)	1642,27	1453,37	1520,31	1817,27	1959,83
Costs/ 1 fooder per pig (CZK)	13,00	12,00	13,08	13,78	15,91
Costs/ 1 kg life weight of slaughter pig (CZK)	14,62	13,58	13,66	16,87	18,59

Source: Mavela a.s. Dynín

From the table is significant that for pig production the most important indicator is the fodder price. It has the highest impact on all pig production. From the data set of the Mavela a.s. Dynín is clear that the number of fodder is more or less stable, what is done by the good management ability and communication with suppliers.

In pig fattening farm Mazelov costs are slightly worse per feed mixtures conversion per 1 kg of body weight, but this conversion is necessary to involve to the context of production efficiency of feed and the price of each feeding mixture. The company conception of fattened animal sale to slaughterhouses is well elaborate, where due to responsible pigs preparation and sorting are achieving high prices for 1 kg live slaughter pig weight at the relatively higher slaughter weight. Due to large production of slaughter animals without any problems to adhere the concept of sales, animals of higher live bodyweight are selling for export abroad. Animals with ideal weight are sell to other slaughterhouses in Czech Republic and the remaining pigs (problematic or slowly growing) are sell to cooperating companies.

Graph 6: Average total costs 2009-2013



Source: Own processing

5.4.3 Fodder costs in Mazelov

Tab. 21: Fodder costs

	2009	2010	2011	2012	2013
Slaughter pig (pc)	32 815	33 055	30 980	26 143	26 997
Slaughter pig (kg)	3 685 909	3 538 226	3 446 861	2 816 816	2 845 975
Fodder pig	4 144 291	4 002 890	3 599 615	3 448 280	3 326 056
Fodder costs (CZK)	36 515 851	33 045 149	39 166 960	37 811 341	38 311 414
Fodder costs (%)	67,76	68,79	83,16	79,59	72,41
Costs/1 pc of slaughter pig (CZK)	1642,27	1453,37	1520,31	1817,27	1959,83
Fodder costs/1 pc of slaughter pig (CZK)	1112,78	999,70	1264,27	1446,33	1419,10
Costs/1 kg live weight of slaughter pig (CZK)	14,62	13,58	13,66	16,87	18,59
Fodder costs/1 kg live weight of slaughter pig (CZK)	9,91	9,34	11,36	13,42	13,46
Costs/1 mixture per pig (CZK)	13,00	12,00	13,08	13,78	15,91
Fodder costs/1 mixture per pig (CZK)	8,81	8,26	10,88	10,97	11,52

Source: Mavela a.s. Dynín

Fodder costs are generally one of the most important indicators in pig breeding.

Fodder per one ration is one of the most comparable indicator between farmers.

5.4.4 Fodder prices

Nutrition pigs fattening in liquid feeding system is providing by the Genpro system. There are two kinds of compound feed P1 and P2 – the first with higher and second with lower proportion of essential amino acids, which are mixed in accordance with the proportion determined by the used feed curve. Feed curve company handle itself in accordance with specific experience. Different curves are adjusted according to actual needs, in accordance with the market.

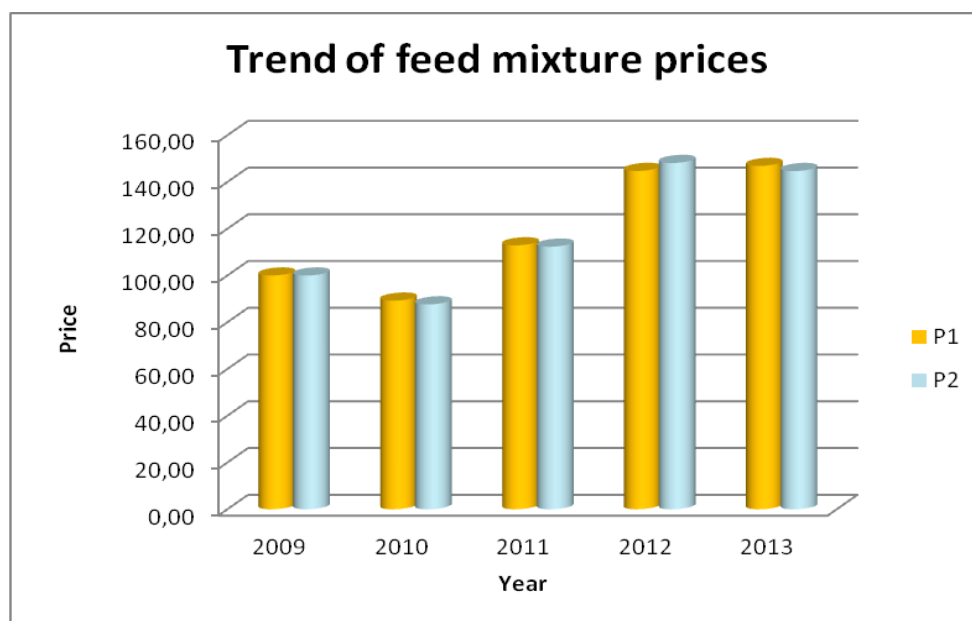
Tab. 22: Feed mixtures price in CZK/t

Kind	2006	2007	2008	2009	2010	2011	2012	2013
P1	3 900	4 170	6 700	4 650	4 150	5 250	6 730	6 830
P2	3 100	3 370	6 110	4 050	3 550	4 550	6 000	5 860

Source: Mavela a.s. Dynín

From the data set is clear that the price of feed mixtures is very instable. The price is one of the most important feature in company strategy so the choice of supplier is major. Due to long time cooperation with one local agricultural company Mavela a.s. Dynín has tolerable prices.

Graph 7: Trend of feed pig mixture prices 2009 (100%)



Source: Own processing

5.4.5 Fodder conversion and gain

Tab. 23: Average growth and nutrients conversion

Year	Average status	Average growth	Consumption KKS/ 1kg life weight	Consumption KKS/ 1KD
	Pc	kg	kg	kg
2009	11 354	0,703	3,01	2,12
2010	10 967	0,673	3,10	2,08
2011	9 862	0,740	2,93	2,17
2012	9 447	0,696	2,87	2,00
2013	9 112	0,645	3,17	2,05

Source: Mavela a.s. Dynín

The average growth is decreasing and it is mainly caused by deteriorating health conditions. The conversion of feed mixtures might be lower -2,70.

5.5 Sell slaughter pigs from Mazelov

Here are reserves in slaughter pig production in chosen company but the management is intensively working on elimination in all possible company extent. One of the major impact on pig breeding in Mavela a.s. Dynín company had necessity to modernize technology for laying hens, to fulfill European Union conditions for this farm. This modernization necessitated big financial investment and pig breeding sector was suspended. For the future development company suppose with modernization of technology per pigs and want continue to reach the aim of complete self – sufficiency in pig production.

5.5.1 Pig sell from Mazelov in CR

Tab. 24: Supply from Mazelov to all companies

Year	Slaughterhouse Strakonice			Slaughterhouse ČB			Export			Other CR slaughterhouse			Slaughterhouses total		
	Number	Total weight	Average weight	Number	Total weight	Average weight	Number	Total weight	Average weight	Number	Total weight	Average weight	Number	Total weight	Average weight
	pc	kg	kg	pc	kg	kg	pc	kg	kg	pc	kg	kg	pc	kg	kg
2009	18 724	1 995 880	106,59	70	7107	101,53	5210	619305	118,87	8811	1063617	120,71	32815	3685909	112,32
2010	18 131	1 812 594	99,97	893	83729	93,76	3540	426995	120,62	10491	1214908	115,80	33055	3538226	107,04
2011	19 048	2 039 816	107,09	959	97907	102,09	4571	559613	122,43	6402	749525	117,08	30980	3446861	111,26
2012	19 703	2 061 761	104,64	922	90276	97,91	4888	589867	120,68	630	74912	118,91	26143	2816816	107,75
2013	17 869	1 800 127	100,74	2274	198344	87,22	6854	847504	123,65	0	0	0,00	26997	2845975	105,42

Source: Mavela a.s. Dynín

Graph 8: Pig sells from Mazelov



Source: Own processing

Mavela a.s. Dynín and its pig production is mainly offer to Jatky Hradský s.r.o. slaughterhouse in Strakonice, where this supply takes more than 80% needs of this slaughterhouse. Mavela a.s. Dynín, Jatky Hradský s.r.o. and Jihočeská masna are proprietarily connected and all three companies have the same owner, who is also the director and the manager of all. Logically Mavela a.s. Dynín focus mainly on supply of these three companies.

In last few years Mavela a.s. Dynín management tends to export more. Company mainly export to Hungary, Kométa slaughterhouse in Kaposvár is the biggest subscriber. For Mavela a.s. Dynín is very profitable to export to Hungary especially due to higher price per pig. Other subscribers are from Czech Republic and these subscribers are not regular.

Mavela a.s. Dynín target is to increase pig production to cover all subscribes needs. The owner priority is to fulfill Jatky Hradský s.r.o. demand and maximize pig and piglets production. One of the biggest advantage which slaughterhouse Strakonice has is its regularity of pig consumption. Other subscriber's demand is irregular and depends on Mavela a.s. Dynín current offer.

5.5.2 Export and domestic weight and price of pigs

Tab. 25: Pig price and weight in CR

Czech Republic	2009	2010	2011	2012	2013
Average slaughter weight (KG)	101,09	94,91	96,19	93,39	78,76
Average strike price (CZK)	28,87	26,97	27,97	31,13	30,83

Source: Mavela a.s. Dynín

Obtain results show that the average price rise each year, except in the year 2010 there was a gap. Same situation appear strike price indicator.

Tab. 26: Pig price and weight for export

Export	2009	2010	2011	2012	2013
Average slaughter weight (KG)	118,67	120,54	122,08	121,1	122,24
Average strike price (CZK)	30,04	25,94	28,41	34,76	35,49

Source: Mavela a.s. Dynín

From the data set is clear that the average strike price is each year increasing except the year 2010. The average weight is also increasing.

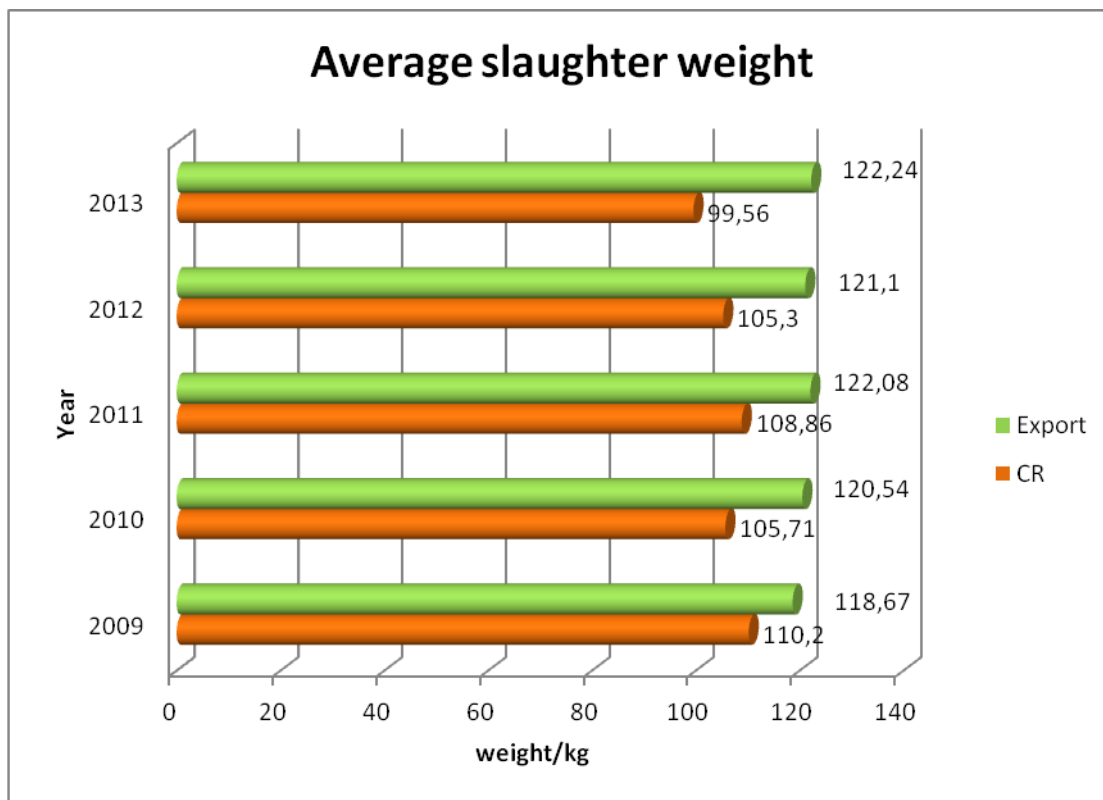
Tab. 27: Sum of pig price and weight in CR and export

Total	2009	2010	2011	2012	2013
Average slaughter weight (KG)	108,1	103,54	106,95	105,19	100,5
Average strike price (CZK)	29,24	26,76	28,24	32,82	33,16

Source: Mavela a.s. Dynín

In the comparison to average weight and price in CR and export it is nicely significant the difference between these indicators. The domestic price is quite much lower than the price to export and in the average for the Mavela a.s. Dynín the price increases, except the year 2010. The same situation occurs in weight indicator. The export weight is much higher than domestic weight. That is why company's aim is to export more pigs because to the export go heavier pigs and sell for higher price.

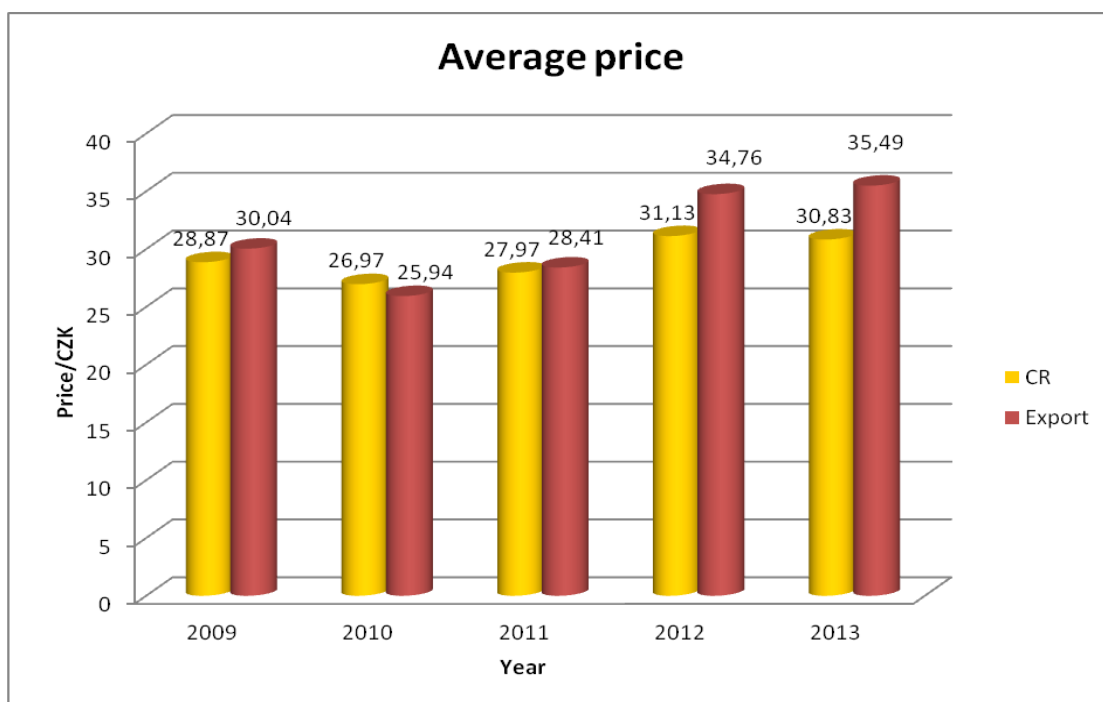
Graph 9: Average slaughter weight to the CR and to export



Source: Own processing

From the graph is clear that the slaughter weight of pig for export is in all years higher than for domestic supply.

Graph 10: Average price of pigs to the CR and to export



Source: Own processing

From the graph is significant that the average pig price of domestic pigs is almost always lower (exception is the year 2010) compare to the export strike price. For the company is more efficient to sell the pigs abroad because the price is measure in live weight, despite in domestic supply in carcass weight.

5.6 Total costs

Tab. 28: Total cost and profit (loss) per one slaughter pig sell from Hroznějovice farm

Hroznějovice (CZK)	2009	2010	2011	2012	2013
Costs/1 pc of sell piglets	1310,14	1191,27	1260,60	1172,41	1320,18
Costs/1 pc of slaughter pig	1642,27	1453,37	1520,31	1817,27	1959,83
Total costs/1pc of sell slaughter pig	2952,42	2644,64	2780,91	2989,67	3280,01
Revenue/1 pc of sell slaughter pig – CR	3206,71	2843,35	3058,14	3261,66	3058,23
Revenue/1 pc of sell slaughter pig – export	3570,72	3128,58	3477,87	4195,32	4387,82
Revenue/1 pc of sell slaughter pig – total	3284,66	2864,08	3141,61	3535,92	3495,29
Profit-loss/1 pc of sell slaughter pig - CR	254,29	198,71	277,23	271,99	-221,78
Profit-loss/1 pc of sell slaughter pig-export	618,31	483,94	696,96	1205,65	1107,81
Profit-loss/1 pc of sell slaughter pig - total	332,24	219,44	360,70	546,25	215,28

Source: Mavela a.s. Dynín

Tab. 29: Total cost and profit (loss) per one slaughter pig sell from Bzí farm

Bzí (CZK)	2009	2010	2011	2012	2013
Costs/1 pc of sell piglets	1438,21	1430,58	1751,99	1738,25	1684,62
Costs/1 pc of slaughter pig	1642,27	1453,37	1520,31	1817,27	1959,83
Total costs/1pc of sell slaughter pig	3080,49	2883,94	3272,30	3555,51	3644,45
Revenue/1 pc of sell slaughter pig – CR	3206,71	2843,35	3058,14	3261,66	3058,23
Revenue/1 pc of sell slaughter pig – export	3570,72	3128,58	3477,87	4195,32	4387,82
Revenue/1 pc of sell slaughter pig – total	3284,66	2864,08	3141,61	3535,92	3495,29
Profit-loss/1 pc of sell slaughter pig - CR	126,22	-40,59	-214,16	-293,85	-586,22
Profit-loss/1 pc of sell slaughter pig-export	490,24	244,64	205,57	639,81	743,38
Profit-loss/1 pc of sell slaughter pig - total	204,17	-19,86	-130,69	-19,59	-149,16

Source: Mavela a.s. Dynín

The facts from the costs analysis and own observation are concluding that the company should better pay more attention to feedings technique and fodder consumption which is slightly higher than in normal practice.

Labor costs are slightly higher in second farm that is achieved due to better results in weaned piglets and construction of wages as a direct proportion to the results of production. Energy costs are very consistent with better thermal comfort for birth and nursing piglets, which have a significant impact on the welfare of piglets and their mortality.

Higher fuel costs are caused by the technology which is excessively and highly dependent on mobile technology. Savings potential can be seen in the insemination system improvement where there is a higher consumption of semen doses for breeding sows. Furthermore in responsible use of straw for bedding, this is an external input.

5.6.1 Solvency and profitability

SOLVENCY

CF

----- x 100 (%)

(short - term liabilities + long-term liabilities)

Tab. 30: Solvency of the company

Year	Current assets	Short-term liabilities	Index
2003	104 391	27 336	3,82
2004	116 749	28 138	4,15
2005	111 152	22 041	5,04
2006	126 244	33 504	3,77
2007	134 089	38 190	3,51
2008	132 195	37 039	3,57
2009	108 062	31 660	3,41
2010	104 709	31 844	3,29
2011	103 198	40 329	2,56
2012	115 903	47 451	2,44

Source: Mavela a.s Dynín

The company solvency is the ability to pay debts. It is the ability of a company to meet with long-term financial obligations. A company that is insolvent must go bankrupt. A company that lacks liquidity can also be forced to enter bankruptcy even if it is solvent. In the company the solvency indicator is decreasing. It is caused by increasing the number of short-terms.

PROFITABILITY

$$\frac{\text{profit}}{\text{output consumption}} \times 100 (\%)$$

Tab. 31: Profitability of the company

Year	2006	2007	2008	2009	2010	2011	2012
Profitability	1,12	0,72	-8,03	-6,68	-1,03	-9,29	6,89

Source: Mavela a.s Dynín

Profitability is the primary goal of all business ventures. Without profitability the business will not survive in the long run. Therefore measuring current and past profitability and projecting future profitability is very important. Mavela a.s. Dynín report wide range profitability indicator. During the observed period had change from positive to negative numbers. In the last year of research the profitability of the company reached the highest positive number.

6. CONCLUSION

One of the most important indicators which measure the efficiency of pig farming is the profitability of pigs fattening. The main part on the input side takes the development of feed mixtures prices and on the output side strike price for slaughter pigs. Costs are directly related to the development of feed cereal and compound feed prices. It is because the feeding mixtures are the most important costs item representing more than half of the total costs.

Another key factor which affecting the economy is the efficiency of sows, express as a number of weaned piglets per sow, the production intensity express by yielding in pigs breeding.

The Czech Republic within the EU market belongs to those member countries, where is the highest significant outflow of pigs and highest decrease in pork production. Parallel decline is in pork EU industry observe for many previous years. The exception represents Germany and the Netherlands, but in other member countries was not the decline that big such as in the Czech Republic. One of the main reasons was the increase of feeding mixture prices, the variability of pig prices, which together affect the economic production of piglets and pork meat. The Czech Republic contributes with one percent and takes the fourth - tenth place behind Romania in the total EU pig meat production. The same place takes in the evaluation of pig's number.

The Czech Republic is a country, where the tradition of pork meat has big tradition, especially the consumption and consistently maintains the first place in the rivalry by the other kinds of meat. Total pig meat production, means total sales from pig farms including self-sufficiency and export, is not only affect by negative pig economy development, but also due to dynamically increasing imports, which are reflected in the reducing number of pigs.

Pork production in the Czech Republic is going through a period of big change, and it might be expect that in pork production will stay only those companies, which are able to adapt to international competition. The prerequisite to have low costs is the high utility of sows and fattening pigs, high health herd status, high labor productivity, effective energy use and others. Currently breeder cannot ignore the requirements, which on pig production final

consumers and public have. Quality and food safety, animal welfare, environmental protection, these are the terms which should modern farmer understand and adapt to them in their daily decision making.

Suggestions for the improvement of Mavela a.s. Dynín

From the analysis done in thesis is clear that the production of piglets for fattening is intend for both farms (Bzí and Hroznějovice) and more or less losing. Therefore the company should rather prefer import of piglets from abroad more than domestic suppliers. Because abroad are the prices of piglets slightly lower than in the Bzí farm during the last years. While estimating the long – term (approximately 2 000 piglets) consumption it is realistically expect the possibility to deal with more favorable prices of import piglets (compare to the regular price of piglets in domestic markets). Conversely a big risk is the health situation in pig sector in Europe.

Above proposed logical measures do not respond long – term period and do not proof company concept. The company's major aim is the self – sufficiency and diversification in production within the company without the possibility to have farmland, possibly in the framework of cooperation company cluster. Therefore the company focuses on costs optimizing in the various sectors of production and its individual farms.

HROZNĚJOVICE farm recommendations:

- Follow the right fodder technology principles
- Improve the using of straw
- Better heating regulation using thermal panels and infra lamps as much as it is need for piglets
- Improve reproductive system in imbedding, especially with regard to the insemination doses consumption and more effective use of boars while detecting oestrus
- By the technological modification reduce the use of high moveable devices

BZÍ farm recommendations:

- Resolve thermal comfort regulation for piglets sooner after birth – add infra lamp for heating thermal plate or commissioning gas heater in farrowing (reuse reconstructed heaters from pre – fattening)
- In farrowing solve ventilation issue with ventilation equipment use from reconstructed pre-fattening halls
- Remake existing pipelines feeding for farrowing and thereby reduce the losses cause by falling fodders from opened transport feed mangers
- Remake feeding boxes in pregnant sows area, what will cause the reduction of culling sows and subsequently reduction the number of include gilts to basic sows herd, thus reduce the production of auction gilts
- Create a new working place for one obstetrician, whose job will be only take care of farrows and care of piglets until 3 days after birth
- Resolve technological sequences in farrowing – individual boxes for imbedded cows, boxes for oestrus cows by using the unused pre – fattening halls
- Solve the technological sequence for gilts after auction in participating in the reproductive process without injecting hormonal stimulation by utilize unused pre – fattening halls

MAZELOV farm recommendations:

- Analyze the current feed conversion in cooperation with the feeding mixtures supplier
- Consider the possibility of pigs fattening by gender with subsequent implementation according to quality requirements of individual slaughterhouses

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8. SUPPLEMENTS

8.1 Abbreviations

BU	Large White
BO	Large White - parental
CF	Cash-flow
CR	Czech Republic
CZK	Czech Crowns
ČOS	feed mixture
D	Duroc
EU	European Union
KG	kilograms
KPB	feed mixture
KPK	feed mixture
L	Landrace
PCH	feed mixture
Pn	Pietrain
ROA	return on Assets
ROE	return on Equity
ROS	return on sale
T	tons
THS	thousands
SL	synthetic line

8.2 Summary of tables

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8.3 Summary of graphs

Graph 1: Farms structure

Graph 2: Mazelov farms structure

Graph 3: Feed mixture price development

Graph 4: Fodder price development

Graph 5: Self – sufficiency of piglets

Graph 6: Average total costs 2009 – 2013

Graph 7: Trend of complex feed mixture prices

Graph 8: Pig sells from Mazelov

Graph 9: Average slaughter weight to the CR and to export

Graph 10: Average pig price to the CR and to export

8.4 Appendices

Tables 31: Export from Mavela to Hungary in years 2009-2013

2009	PC	CZK	KG
January	760	29,5	91821
February	380	29,5	43097
April	380	31,2	44756
June	380	33,0	46123
July	370	32,0	43165
August	1130	31,7	132609
September	560	31,0	65669
October	715	26,5	87269
November	370	26,0	44872
Sum/ave.	5045	30,0	599381

2010	PC	CZK	KG
January	360	25,7	44756
February	370	25,5	44572
March	760	25,5	91278
April	530	25,6	64292
May	190	26,0	22339
September	380	27,8	45124
November	380	25,2	46346
December	570	26,2	68288
Sum/ave.	3540	25,9	426995

2011	PC	CZK	KG
January	205	24,5	24153
February	570	25,3	69801
March	580	26,5	71635
April	380	27,8	46036
may	380	29,3	48403
June	380	30,0	46308
August	570	30,6	66484
September	195	29,5	23746
October	740	29,1	93391
November	571	31,5	69656
Sum/ave.	4571	28,4	559613

2012	PC	CZK	KG
February	558	31,9	67018
March	600	31,8	73331
April	370	33,5	44407
May	190	34,0	22931
July	370	34,3	44203
August	730	34,7	85186
September	385	37,1	45939
October	380	37,6	47171
November	360	36,9	43436
December	380	36,0	48219
Sum/ave.	4323	34,8	521841

2013	PC	CZK	KG
January	740	33,7	91965
February	695	33,1	87436
march	875	33,2	112074
April	530	33,2	65421
May	1065	33,0	133007
June	519	34,5	62022
July	365	37,0	42292
August	365	37,0	43999
September	380	39,0	45376
October	190	37,5	23144
November	560	37,2	68793
December	380	37,5	45650
Sum/ave.	6664	35,5	821179

Source: Mavela a.s. Dynín

Tab. 32: Financial economic results in Hroznějovice and Bzí

HROZNĚJOVICE	COSTS
2009	5 387 303
2010	5 029 549
2011	5 439 491
2012	5 961 550
2013	8 350 092

Source: Mavela a.s. Dynín

BZÍ	COSTS
2009	37 944 751
2010	40 998 966
2011	50 535 036
2012	55 396 540
2013	58 194 119

Source: Mavela a.s. Dynín

8.5 Photos



Photo 1: Entrance to Kométa, Kaposvár



Photo 2: Employees in Kométa, Kaposvár



Photo 3: Kométa products

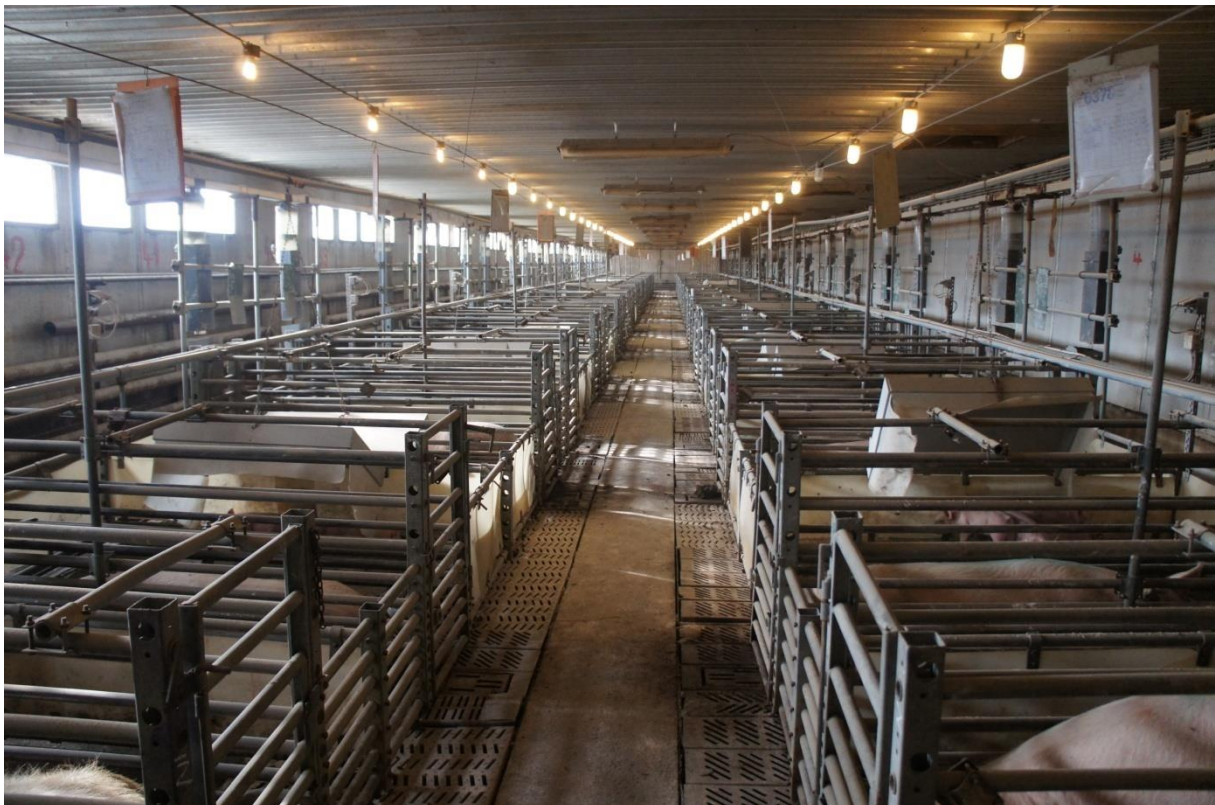


Photo 4: Sows in Bzi farm



Photo 5: Sows with piglets in Bzí farm



Photo 6: Piglets before transportation to Mazelov