



UNIVERSITY OF AGRONOMIC SCIENCES
AND VETERINARY MEDICINE OF BUCHAREST

FACULTY OF MANAGEMENT
AND RURAL DEVELOPMENT



170
years

International Conference

"Agriculture for Life, Life for Agriculture"

BOOK OF ABSTRACTS

SECTION 7

MANAGEMENT AND ECONOMICS
OF RURAL AREAS



2022
BUCHAREST

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SECTION 7

MANAGEMENT AND ECONOMICS OF RURAL AREAS

2022
BUCHAREST

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**SUBSECTION
PRODUCTION ECONOMICS
AND AGROMARKETING**

**STATISTICAL ANALYSIS AND ECONOMIC EFFICIENCY
OF FODDER PRODUCTION FROM NATURAL
GRASSLAND (TYPE *CHRYSOPOGON GRYLLUS* L.)
FERTILIZED WITH HUMATE FERTILIZERS**

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Abstract

*During the period 2013-2015, a field experiment was conducted on a natural grassland of *Chrysopogon gryllus* L. type, fertilized with phosphorus humate, boron and molybdenum humate and their combination. On the basis of the obtained yield, on average for the study period, economic indicators were determined and correlation dependences, economic efficiency and regression equations were calculated. It was found that fertilizing with humate biofertilizers showed a high positive correlation dependence between dry matter yield and gross income ($r = 1.0000$); cost price and production costs ($r = 0.9708$); profitability with gross profit ($r = 0.8241$). The coefficient of determination $R^2 = 0.9675$ of the very good regression dependence between production costs and cost price is high enough to represent the regression dependence equation ($y = 150.72x + 1.5118$). The high coefficient of economic efficiency in fertilizing with boron humate (2.90) gives grounds for the application of fertilizer for practical purposes in mass production of fodder in a natural meadow of *Chrysopogon gryllus* L type.*

Key words: economic efficiency, natural grassland, statistical analysis.

PRODUCTIVITY AND ECONOMIC EFFICIENCY IN THE PRODUCTION OF SEEDS OF BIRD'S FOOT TREFOIL CULTIVARS

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Abstract

During the period 2017-2019 in the experimental field of RIMSA-Troyan by the block method in four replications, were tested the following bird's foot trefoil cultivars: 'Targovishte 1' (Bulgaria), 'Alvena', 'Lotanova' and 'Frilo' (Italy), 'Polom' (Slovakia), 'Bonnie' (France), 'Bull' (Canada). The economic efficiency and the economic indicators were determined on the basis of reported seed yield. The obtained results show that 'Lotanova' achieved the highest seed productivity (0.39 t.ha⁻¹), with the lowest cost price (33.10 BGN/t) and the highest profitability rate (509.04%), which makes it suitable for growing in mountain conditions. The established strong correlation dependence between the yield with the gross income and the gross profit of 'Lotanova' determines the economic effect of the introduction of this cultivar for production in practice.

Key words: bird's foot trefoil, cultivars, economic indicators, seed productivity.

COMPARATIVE ANALYSIS OF ECONOMIC EFFORTS AND EFFECTS IN MILK PRODUCTION AT RUMINANTS

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Abstract

In milk production, as in any economic activity, in order to obtain favourable economic results, it is necessary to allocate a certain level of resources, of different types. The present research is based on 157 case studies carried out on ruminant farms of various species, as follows: 54 on dairy farms, 47 on sheep farms, 33 on goat farms and 23 on buffalo farms, and aim at the comparative analysis of the economic results, in relation to the allocations of resources, in the direction of milk production. For this, a series of indicators are analysed such as average milk production, different categories of expenses, unit cost, profit/loss, taxable income rate, etc., highlighting the minimum, maximum and average levels of indicators calculated by species. The results of the analysis indicate, among others, that species such as goats and buffaloes, whose notoriety on the market is below that of cow's or sheep's milk, can obtain superior economic results compared to them.

Key words: milk, cows, sheep, goats, buffaloes.

ECONOMIC ANALYSIS OF THE PRODUCTION AND PRODUCTION COSTS OF CARP FISH FARMS IN IRAQ

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Abstract

Fish farming is the fastest growing sector in fish production, so it is seen as a major source of fish production in large quantities. Therefore, Iraq has moved towards developing fish farming, as it has a major role in investment expansion and a pillar of economic development. Environmental diversity has led to the availability of the vast water bodies in Iraq, which allow the breeding of different types of fish, lead to the success of fish farming projects in Iraq. The results of the research showed that the cost of fingerlings, pesticides and rented labor is the highest, as it constitutes 20% of the total variable costs, followed by the cost of fodder, then the costs of medicines, and finally the costs of transportation. As for the total fixed costs, the cost of renting land constitutes the highest percentage, followed by the construction of ponds and family work. The results of the research also showed that there is a big difference between the area and the optimum size of fish production, which is equal to 74 dunums of area and 693 tons of production with the actual level of area and production, which equals 46 dunams of area and 166 tons of production. So farmers must be helped to increase production that achieves economic efficiency by increasing areas through participation and union between farmers

Key words: economic analysis, fish farms, fixed costs, variable costs.

METHODOLOGICAL APPROACHES TO OPTIMIZING THE STRUCTURE OF OWNED AND LOAN CAPITAL OF AGRICULTURAL ENTERPRISES

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Abstract

The success of the functioning of agricultural business entities largely depends on the ratio of all types of owned and loan financial resources used to finance their assets. Currently, there is no single approach to choosing the optimal ratio of equity and debt capital. And this applies not only to various economic enterprises engaged in the same type of activity, but also to a single participant in the agricultural business in a changing commodity and financial market environment. Therefore, optimization of the capital structure of an economic entity is a continuous process that requires adaptation to a constantly changing market situation and justification of methodological approaches to choosing the best ratio of its components. The urgency of the identified problem justified the need to analyze the composition and movement of equity and land capital of individual participants in the agricultural business of the Penza region. In the current research: an assessment of the main factors that determine the structure of capital is discussed, and the influence of sectorial agricultural specifics on the formation of the share of owned and loan capital in asset financing and in determining the level of financial leverage was observed. Based on the results of the research, a methodology for determining the optimal structure of the capital of a subject of agricultural business was proposed. The ratio of maximizing profitability and minimizing financial risk was chosen as an optimality criterion, which would ensure the success of the implementation of the financial strategy of an economic enterprise.

Key words: owned capital, loan capital, capital structure, return on equity, financial risk

**FIXED ASSETS AS AN ELEMENT
OF THE PRODUCTION POTENTIAL OF THE
AGRICULTURAL SECTOR IN REGIONS**

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Abstract

The purpose of the study is to assess the current state of fixed assets of the agricultural sector in the Penza region and their use. The information resources were the results of scientific research by leading scientists in the field of the use of fixed assets, as well as data generated by the authors on the basis of official statistical materials for the Penza region. For analytical data processing, methods of scientific generalization, systematization and statistical groupings were used. In the course of the current research, indicators of the provision of agricultural organizations with fixed assets were calculated and systematized, and trends in their change were determined. For the period from 2014 to 2020, the indicators of capital ratio and capital-labor ratio of agricultural organizations in the region increased by more than 4 times. In order to identify the influence of factors on the capital ratio per 100 hectares of agricultural land, 125 agricultural organizations of the Penza region were examined and grouped. In the group with the highest capital ratio (5 million rubles or more of fixed assets per 100 hectares of agricultural land), the maximum return on fixed assets is 5.5% and the profitability of production is 17.9%. The article identifies strengths and weaknesses in the use of fixed assets, opportunities and threats. Opportunities to improve the efficiency of the use of fixed assets by agricultural organizations of the Penza region can be achieved through the technical improvement of machinery and equipment, production technologies; focus on the high technical level of fixed production assets; fuller use of available fixed assets.

Key words: production potential, fixed assets, capital ratio, efficiency

VARIATION OF FLOWERING TIME IN CROCUS IN RELATION TO THE PLANTING PERIOD AND THE GROWING SUBSTRATE

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Abstract

The flowering period of the crocus was studied in relation to the planting period and the growing substrate. The "Queen of the Blues" variety was used as biological material. Sand (Gs1), a mixture of sand and compost (Gs2) and garden soil (Gs3) were used as growing substrate. Crocus bulbs were planted on three different dates in 2020: October 20 (PD1), November 3 (PD2), and November 17 (PD3), simultaneously on each of the three types of substrate used. Flowering time (FT) was assessed in the spring of the following year (2021). By planting the bulbs on the three substrates at three different times, the whole experiment recorded flowering in the spring between March 2 and April 1, 2021, but differentiated depending on the planting date and substrate. The earliest flowering (March 2) was recorded in the case of planting on PD1Gs2 conditions. The latest flowering (March 22) was recorded in the case of planting on PD2Gs3 condition. The longest flowering time was recorded in the case of planting on PD1Gs2 condition, with a period of 29 days, between March 2 and March 30. Regression analysis facilitated the obtaining of models that described the variation of FT in relation to the time from the date of planting (PD) to the beginning of flowering (B-Flo), considered as T1, and the time from the date of planting (PD) to at the end of flowering (E-Flo), considered as T2. According to PCA, PC1 explained 81.613% of variance, and PC2 explained 18.387% of variance.

Key words: *crocus, floral attributes, flowering time, growth substrate, model, open field, regression analysis*

ROMANIAN WINE CONSUMER BEHAVIOUR ANALYSED IN 2021: PARTICULARITIES OF GENDER, AGE GROUPS AND INCOME GROUPS

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Abstract

The paper analyses the Romanian wine consumer behaviour and expectations in 2021, based on a questionnaire administered online to a representative number of people, including 166 men and 97 women. The analysis is taking into account the gender, age groups and income groups, to point out the segments of consumers who are more interested in wine consumption and to find the most appropriate ways to stay informed and engaged, as well as offer some additional informal education. Evaluated aspects included the wine consumption frequency as a part of the diet, the preference for certain types of wines, the self-assessment of the level of basic knowledge of viticulture and winemaking and the interest to participate to organized wine events. The main findings show that 40.6% of the men and 18.6% of the women drink wine several times a week, most of those drinking wine several times a week being men in the age group of 40-49 years old (23.5%) and with a monthly income of over 5,000 RON. Also, it was observed that men tend to prefer dry red wines, dry white wines, semi-dry whites and semi-dry reds, while the women tend to favour sparkling wines, semi-dry rose wines, semi-dry aromatic wines, dry red wines and sweet white wines. Compared to women, men tend to be more confident around wine, especially those having faculty or master degrees declaring that they have average to above average knowledge on viticultural and winemaking practices. People interested and very willing to participate at wine events are men aged 40-49 and women aged 30-49. The study shows the particularities of the Romanian wine consumers, with implications for the wine market and event organisation.

Key words: Romanian wine consumers, wine preferences, consumption behaviour, wine events

INFLUENCE OF HYBRID AND WEATHER CONDITIONS ON YIELD, PROTEIN AND OIL CONTENTS IN GRAIN OF MAIZE

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Abstract

Considering the role of maize in both animal feed and human consumption, improving the quality of maize grain should be investigated with the same perseverance as the grain yield. The main objectives proposed in this research were to evaluate the influence of the hybrid, weather conditions and their interaction on the yield, protein and oil contents in grain maize, and to investigate the relationships between these traits. Field experiments were performed for two consecutive years at ARDS Șimnic. The results obtained showed that the weather conditions during the study years were the determinant factor of variability in grain yield (88%), and the hybrid was the determinant factor of variability in protein and oil contents (84% and 83%, respectively). In average, in 2018, a significantly higher grain yield (9.05 t/ha) and a significantly lower oil content (4.2%) were registered compared to 2019 (6.08 t/ha and 4.5%, respectively), while the protein content was almost similar in both years (12.5% and 12.3%, respectively). The hybrids P 9903 (7.88 t/ha) and DK 5068 (7.79 t/ha) obtained the highest average grain yields. The hybrid F 376 had the lowest average grain yield (7.03 t/ha) but the highest average protein content (13.4%) and oil content (5.3%). Negative correlations between traits suggested that an increase in the grain yield meant a decrease in the grain quality traits (protein and oil contents).

Key words: grain protein content, grain oil content, maize yield, weather conditions

THE CLIMATE VARIABILITY OF THE YEAR 2019 AND THE IMPACT ON THE MAIZE PRODUCTION IN THE SOUTHERN-WESTERN DEVELOPMENT REGION OF OLTENIA, ROMANIA

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Abstract

In the current context of the global warming, knowing the impact on different economic sectors can be achieved by analyzing the climate variability in both short and long term. The agricultural production is closely linked to short-term climate variability at the year level. The main purpose of the study is to analyze the temperature and precipitation regime of the year 2019, for the Southern-Western Development Region of Oltenia, in relation to the bio-climatic requirements of the maize. The year 2019, in Romania, is the warmest year from 1900 to present, according to the National Meteorological Administration (NMA). The analysis of the thermic and precipitation resources will be performed based on the meteorological-climatic data from 15 meteorological stations belonging to the National Meteorological Administration. There will be used statistical methods and GIS techniques, complemented by using the Hellmann classification for establishing the types of the thermic and precipitation weather type of the year 2019. According to this classification, the year 2019 in the study area, was a warm and normally rainy year on average. Based on these variations of the temperature and precipitation regime, at the level of the study area, there was an average production per hectare of grain maize of 5,707 kg/ha, with 1,647 kg/ha less than in 2018, which was considered a record production year from 2000 to 2020.

Key words: thermic regime, pluviometric regime, climate variability, maize

CONSUMER BEHAVIOUR AND SENSORY TESTING OF HONEY BY ROMANIAN UNIVERSITY STUDENTS

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Abstract

Honey consumption has started to increase in recent years in Romania, according to statistics. In this context, the main objective of the paper was to study consumer behaviour and sensory perception of honey by Romanian young segment. The research was based on blind sensory testing of two honey samples (one commercial sample with country of origin indicated as “Blend of EU and non-EU honeys” and one from a local Romanian beekeeper). The sensory analysis was complemented with a questionnaire survey. In total, 100 university students from Cluj region participated. The results showed that the majority of participants consume honey only occasionally and their annual consumption is lower than 1 kg. Honey is mostly used as sweetener in beverages (tea, lemonades). The most preferred type of honey is acacia, followed by linden honey. Sensory testing showed that young people perceived the quality of honey and their preference by using mostly the taste. In addition, interesting results were acquired by respondents which decision was based also on aroma. Almost 83% of them indicated preference for honey from Romanian beekeeper.

Key words: honey consumers, sensory attributes, youth, Romania

CONSUMERS' PERCEPTIONS OF FOOD SUSTAINABLE DESIGN PACKAGING: A SYSTEMATIC LITERATURE REVIEW

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Abstract

Packaging plays an essential role in ensuring that goods are delivered safely and in good condition to the final consumer within supply chains. Packaging also has many potentials to help with the long-term development of food products. This review paper investigates consumer perceptions and understanding of design food packaging and how design packaging can help the environmental pillar of sustainable development. A literature analysis was conducted using the search strategy in Web of Science as well as other suitable international databases based on their global accessibility and researchers' library access. The result indicates that, from the consumer's standpoint, the essential aspect of sustainable packaging is represented by packing materials, and the packaging design must contain information about recycling actions. Considering the current issues, such as plastic waste and plastic packaging, the consumers believe that sustainable packaging is not as available on the food market as expected.

Key words: consumer perceptions, design packaging, food packaging, packaging materials, sustainable packaging

THE RELATIONSHIP BETWEEN THE VOLUME OF OUTPUT AND THE LEVEL OF UNEMPLOYMENT IN THE RURAL AREAS OF THE REGION

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Abstract

The problem of unemployment for rural residents of municipalities in the region has become very relevant in recent years, as well as for all residents of Russia. In the current conditions, there was a massive reduction in jobs and depreciation of the labor force. Extremely low wages at vacant jobs, does not even ensure the simple reproduction of an employee. The empirical method of grouping Sturges is used to determine 6 groups of districts depending on the level of unemployment. A methodical approach to planning the unemployment rate based on the interpretation of Okun's law is proposed. The paper estimated the empirical sensitivity coefficient and adjustment of the potential size of agricultural production per capita of the working population for all categories of farms (agricultural enterprises, peasant farms, personal subsidiary plots). Also, it aims to identify the dependence of changes in economic indicators based on the increase of employment level. It shows the possibility of reducing the unemployment rate from 0.77 to 4.30 points with an increase in production by 7%; (taking into account the estimated sensitivity factor of 1.12).

Key words: agricultural products, employment, potential, unemployment, working-age population

STUDY ON THE NEW MANAGEMENT STRATEGY FOR AGRICULTURAL FARMS IN ROMANIA, AS A RESULT OF THE ENERGY CRISIS FROM 2021-2022

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Abstract

In Romania, in 2020-2022, a series of events took place which led to the need to rethink and adapt the management of agricultural farms to the new conditions. It is about the health crisis caused by the Covid-19 pandemic, which overlapped with one of the driest agricultural years (2019-2020), but also about the energy crisis, that for agriculture meant the unprecedented price increase for inputs and technologies. Under these conditions, the cost of food has increased from the very first stage of the production process, namely obtaining the raw material. Analyzing the data provided by the Romanian Commodities Exchange, the upward trend in prices starting with January 2020 and lasted until February 2022 can be observed. For the main crops in Romania, namely wheat, corn and sunflower, trading prices increased with 26-73%. At the same time, there are significant increases in inputs, which in turn are caused by higher prices in the energy sector – 443% for natural gas and 194% for electricity. Petroleum products were no exception, with a doubling of the price between the beginning of 2020 and February 2022. All these have led farmers to look for new solutions in order to ensure, at least partially, the necessary fertilizers from natural sources, through crops that are able to bring nitrogen into the soil. Reducing costs per hectare by introducing legumes (especially soy) into crop rotation and merging technological works are only the first proposed solutions, and in the coming years more innovations will be implemented in agricultural management.

Key words: energy crisis, inputs, yields, technologies, agricultural management

ALFALFA PRODUCTION COSTS AND PROFITABILITY STATUS IN AKSARAY PROVINCE IN TURKEY

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Abstract

This study aims to determine alfalfa's production costs and profitability in Aksaray Province. Clover producers were visited directly, and prepared forms related to the subject were applied to 70 clover producer enterprises. The surveyed enterprises were selected by chance. Data from clover-growing enterprises cover the 2019 production season. On average, the cost of clover per decare is 0.90 TL/kg, the sales price is 1.09 TL/kg, and the profit margin is 0.19 TL/kg for clover-producing enterprises. The relative profit in enterprises was calculated as 1.21. The average value of gross profit and absolute profit for enterprises was determined as TL 890.11 and TL 373.70, respectively.

Key words: alfalfa, production cost, profitability, relative profit, Turkey

DEVELOPMENT OF DRY ONION PRODUCTION, FOREIGN TRADE AND SEASONAL PRICES IN TURKEY

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Abstract

This study examined the change in the dry onion market in the world and Turkey. The study used data from FAO and TURKSTAT institutions from 1980-to 2021. Considering the developments in the production and foreign trade of dry onions in the world and Turkey, the world production of dry onions, which was 21.71 million tons compared to the average of 1980 at the beginning of the period, increased by 382% rose to 104.55 million tons in 2020. India occupies the first place in the world production of dry onions 8% of the onions produced in the world are exported. During the studied period, the amount of world dry onion exports increased by six times, and its value increased by 12.8 times. The Netherlands has the highest share of dry onion export values (22.10%). According to the period of 1980, the production of dry onions in Turkey has increased by 2.5 times. Compared to 1980, the production area increased by 3%. Therefore, productivity improvements have a primary impact on production growth.

Key words: dry onions, production, foreign trade

THE DEVELOPMENT OF APRICOT PRODUCTION AND FOREIGN TRADE IN THE WORLD AND IN TURKEY

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Abstract

In this study, the apricot market situation in the world and Turkey was examined. The study used the 1980-2020 period data of FAOSTAT and TURKSTAT institutions. It was determined that apricot production in the world and Turkey increased due to the enlargement of the planted areas in the examined period. Turkey, Uzbekistan, Italy, Algeria, and Iran have the highest apricot production. Turkey ranked first for apricot production and planting areas, and apricot yield was below the world average of 7,942 kg per hectare. Spain, Turkey, France, and Italy are the countries that export the freshest apricots. Of the 406 thousand tons of apricot exports globally, 54.84 percent belong to Spain, 21.69% to Greece, and 6.45% to Turkey. In the export of dried apricots, Turkey ranks first with a share of 67.6%. The essential dried apricot importing countries are the USA, Russia, England, and Kazakhstan. The important countries to which Turkey exports fresh apricots are Iraq (49.6%), the Russian Federation (29.8%), and Syria (5.2%). The important countries to which Turkey exports dried apricots are the USA (11.1%), France (7.7%), and Germany (7.4%). In the periods discussed, Turkey's apricot planted area increased by 185%, 368% in production, and a 64% increase in yield. Accordingly, the expansion in planted areas affected the production increase more. Apricot production in Turkey is concentrated in Malatya, Mersin, Elazığ, Iğdır, and Isparta provinces. Most of the apricots produced in Malatya are offered for consumption in dried form. As a result, world apricot production increased with significant improvements in planted area and yield. In Turkey, this situation mostly affected output because of the developments in the planted areas. The yield level of apricots, whose fruit and seeds are used in many fields such as food, medicine, and cosmetics in Turkey, should be brought to the average world level and prevent fluctuations in prices.

Key words: apricot, production, foreign trade, Turkey, World.

CHAIN MANAGEMENT - AN IMPORTANT STEP FOR A SUCCESSFUL BUSINESS IN THE COVID-19 CONDITIONS

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Abstract

Chain management is an important aspect of running any business. In this article, we look at advances in chain management. At the beginning we present basic definitions and key issues related to the types of channels, followed by a discussion of the degrees of complexity of the chain. We then discuss chain flows - a step forward in chain management, supply chain efficiency indicators and so on. Finally, a brief summary of research to date and a discussion of future challenges for supply chain management are presented. The outbreak of COVID-19 introduced an unprecedented and extraordinary situation of supply chains whose survival requires a large-scale resilience.

Key words: management, supply chain,, business, complexity

ROMANIA'S AGRO-FOOD FOREIGN TRADE CONCENTRATION WITH THE EUROPEAN UNION COUNTRIES, 2013-2021

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Abstract

The paper analyzed Romania's agro-food export, import and trade balance with the EU-27 countries in the period 2013-2021 using the empirical evidence from National Institute of Statistics. Fixed basis and structural indices, as well as Herfindahl-Hirschman Index (HHI), Gini-Struck Index (GSI) and the Coefficient of Concentration (CC) were used to characterize the concentration degree of the agri-food trade. In 2021, export value accounted for Euro 5,471.8 Million, import value for Euro 8,459.7 Million and the trade balance registered a deficit of Euro -2,987.9 Million. The figures reflect an increase both in export and import, but import exceeded the export reflecting that Romania is a net importer of agro-food products. The highest market share in Romania's export is kept by Italy, Bulgaria, Netherlands, Spain, Germany, Hungary, France, Greece, Belgium and Poland, while the main import partners are Germany, Hungary, Poland, Netherlands, Bulgaria, Italy, Spain, France, Greece and Belgium. The concentration degree both in case of export and import is small as proved by the values of HHI, ranging between 0.0845 and 0.0996 for export and between 0.1065 and 0.1106 for import. GSI values ranged between 0.2220 and 0.2406 for export and between 0.2687 and 0.2764 for import. CC values were below 0.5 also reflecting a competitive market. To diminish the dependence of imports, agro-food export has to be stimulated by the increase of agricultural production which has to provide more products with high value added and of a higher quality to enhance competitiveness, and also imports have to be revised and a better resource allocation is needed to strengthen internal production and cover better domestic consumption.

Key words: agro-food foreign trade, **export**, import, trade balance, Herfindahl-Hirschman Index, Gini-Struck Index, Concentration coefficient, Romania

ECONOMIC EFFICIENCY OF THE TABLE GRAPES SECTOR

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Abstract

The paper addresses the concept of economic development and efficiency which is most comprehensively expressed in an economic activity, evaluated in terms of resources consumed to carry out these activities. Viticulture has a well-defined place in the agricultural economy and national economy, the importance of which can be appreciated from several points of view. Currently, in the Republic of Moldova are planted approximately 126 thousand ha of vineyards, of which 18.9 thousand ha are planted with table varieties. Viticulture is an intensive sector in agriculture characterized by a high coefficient of land use. It has been calculated that the economic efficiency of viticulture is 10 times higher than that of field crops. The value of production obtained from one hectare, cultivated with vines is equivalent to 7 ha of cereal crops. The research was conducted based on data provided by the National Bureau of Statistics through methods of analysis, synthesis, tabulation and graphics.

Key words: economic efficiency, viticulture, vineyards, table grapes

ECONOMIC AND ENERGY EFFICIENCY OF SOYBEAN GROWING UNDER NO-TILL AND SALICYLIC ACID IN SOUTHERN UKRAINE

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Abstract

The research is devoted to a comprehensive approach to the study of soybean productivity depending on the different tillage technologies and plants' spraying of salicylic acid of climate change in Southern Ukraine. The proposed measures will save water resources up to 30% through the use of portable moisture meters to control soil moisture and the no-till technology; increase the soybean yield by up to 14% by spraying plants of salicylic acid. It was determined that the density of soybean plants during the growing season decreased on variants with traditional technologies in comparison with no-till the deviation makes almost 6%. The soybean water consumption coefficient in the experiment varied significantly in the range from 1,710 to 2,330 m³/t. Soybean plants used water reserves most rationally in variants where traditional technologies were used. The average increase in yield according to the experiment under traditional technologies was 5.4%, with no-till was 20.3%. In terms of economic and bioenergy efficiency, no-till does not have significant advantages over traditional technologies. Reduction of costs in the introduction of no-till for energy consumption of machinery, fuel, electricity is fully offset by the growth of indirect energy costs, in particular, the cost of herbicides, due to high weed infestation of uncultivated crops.

Key words: soybean, salicylic acid, yield, economic efficiency, energy efficiency

THE EFFICIENCY OF SUNFLOWER CULTIVATION ON DIFFERENT LEVELS OF BIOLOGIZATION

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Abstract

The article presents experimental materials on the assessment of economic, bio-energy and ecological efficiency of the elements of the levels of technology biologization for sunflower cultivation. The study was dedicated to evaluation of the following cultivation technology elements: sunflower hybrid (factor A); the level of biologization of cultivation technology (factor B). All the elements of biologization of the cultivation technology for sunflower hybrids resulted in significant improvement of basic indexes of economic efficiency. The analysis of the indexes makes it possible to state that, by Factor A, the highest economic attractiveness is characteristic of the variants of an extensive (minimum) cultivation technology, in which the level of profitability during the years of the research was 160.1% on average, and organic technology - 159.9%, respectively. If the manufacturer is certified and a batch of commercial sunflower has organic status, it is possible to increase this index to 211.9%, taking into account 20% organic bonus. The highest energy efficiency in the experiment was characteristic of the variants without the use of the most energy-intensive components - mineral fertilizers. The variants of biologized I and organic technologies ensured the value of this index at the level of 4.76 and 5.73, respectively. Analysis of the environmental suitability of the crop hybrids that formed the gradation of factor A of the experiment allows drawing a conclusion that the advantage of the hybrid PR64F66 F₁ in the main indexes reflects its ecological tolerance, and primarily in the plasticity bi (1.06 compared to 0.96 for the variant of the hybrid Tunca F₁) and stability Sd_i² (0.00091 vs. 0.00077, respectively).

Key words: sunflower, economic efficiency, energy efficiency, ecological efficiency, organic technology

MONITORING, ASSESSMENT AND DEVELOPMENT PROSPECT OF THE CEREAL CROP MARKET IN UKRAINE

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Abstract

The cereal industry in the aspect of ensuring the food security of the country, is a strategically important component of the grain food market, but requires solving a number of important problems in achieving sustainable development, increasing production volumes and increasing export potential on the world market. The production of cereals remains a problem industry, as demonstrated by the significant fluctuation and high level of prices for the main types of cereals. Mixed research methods were used in the analysis of cereal crop market data. The theoretical and methodological basis of the study was a dialectical method of cognition, a systematic approach to the use of general provisions of economic theory. Conducted studies of cereal crop cultivation in Ukraine evidenced that gross yield of buckwheat increases on an intensive basis - with a decrease of 11.3 per cent, an increase in yield of 21 per cent; tends to decrease in gross millet yield (62.3 per cent) under the influence of reduced acreage and yields, rice production remains stable. Growing and processing of cereals are concentrated in the Eastern and central regions of Ukraine, and rice - in the Southern part. Increase the efficiency of cereal crop production in Ukraine can be achieved through the use of production reserves associated with the intensification and optimization of the organizational and economic mechanism of the industry.

Key words: buckwheat, rice, millet, economy, production dynamics, Ukraine

SPECIFIC FEATURES OF ENVIRONMENTAL RISK MANAGEMENT IN ENVIRONMENTAL PROJECTS

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Abstract

The selection and justification of the feasibility of any environmental, including water projects, are always associated with the analysis of future events and uncertainty of the outcome of the project. Therefore, one of the most important tools of project management is a risk management framework. Risks usually arise from the uncertainty and variability of the economic, environmental, political, social environment, as well as the different operation conditions of a particular object. Weather and climate risk, as a subtype of general environmental risk, reflects the degree of loss of potential yields, and consequently the amount of income, as a result of uncontrolled meteorological factors. Reducing such risk provides a decrease in the impact of adverse natural factors on the efficiency of economic activity, and hence on the degree of technological excellence and environmental reliability of the selected alternative design solutions.

Key words: environmental risk, weather and climatic risk, project management, environmental governance, modeling

PROBLEMS AND PROSPECTS OF THE MARKET OF FODDERS FOR ANIMAL HUSBANDRY IN UKRAINE

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Abstract

The research is devoted to studying the problems of fodder production in Ukraine, which are caused by the mismatch between demand and supply, impact of the world grain prices on the pricing processes in fodder production, disparity of prices of agricultural and industrial products, weak innovative activity of enterprises engaged in fodder production, low purchasing capacity of agricultural enterprises and population. It is determined that the balance between demand, supply, competition, state regulation, level of infrastructure development positively influences development of commercial fodder production. The work identifies participants of the fodder market (producers, consumers, intermediaries) and their features. The research outlines the dynamics of fodder production and tendencies of relationship between the volume of fodder production and the stock of agricultural animals and poultry. The authors of the work composed a model of fodder market performance in Ukraine. It is noted that fodder market can be regulated by such instruments as marketing, institutional support, state support, cooperation and clusterization.

Key words: market, fodder, demand, supply, animal husbandry, fodder producers, fodder consumers

FACTORS EVALUATION AFFECTING SUNFLOWER OIL PRICES IN UKRAINE

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Abstract

In the article were evaluated factors that influence on Ukrainian sunflower oil prices. There was made price analysis, where domestic sunflower seed prices and European sunflower oil prices were taken into account. The research results showed that nowadays the sunflower oil production increased twofold compare to 2010. It could be explained by using modern processing technologies and growth demand for vegetable oils on the world market. Thus, it leads to increase Ukrainian export of sunflower oil more than twofold worldwide in 2021. Our research has shown Granger causality between the series of Ukrainian sunflower oil and European sunflower oil using VAR modeling. Indeed, European sunflower oil prices Granger-causes Ukrainian sunflower oil price at 0.01 significance level. In turn, it means that the past changes in European sunflower oil prices make it possible to forecast current changes of Ukrainian sunflower oil prices. Opposite interactions are also significant. However, there was not confirmed causality between the series of Ukrainian sunflower oil and Ukrainian sunflower seed. The absence of causality between Ukrainian sunflower oil and Ukrainian sunflower seeds could be explained due to the fact that sunflower seed prices domestically more influenced by the conjuncture formed at vegetable oil market and not vice versa.

Key words: sunflower oil, sunflower seeds, market, price analysis, VAR modeling, linkage

EVALUATION OF BULL-BREEDERS ACCORDING TO THE LONGEVITY INDICATORS OF THEIR DAUGHTERS

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Abstract

Assessment studies of sires by indicators of lifelong performance of their daughters were performed in the herd of the raising Ukrainian Red-and-White dairy breed of the Mayak agricultural company, Zolotonosha district, Cherkasy region in Ukraine. The significant influence of bull-breeders on the lifespan, rates of productive use and lifelong performance of offspring, which was determined by personal inheritance of breeders, has been established. Changeability of daughters' lifespan of estimated breeders differed over a wide range – 3.005-3.462 days, terms of productive use – 2.188-2.626 days, and number of used lactations from 2.5 to 5.6. By the best rates of lifelong dairy productivity was differed the progeny of breeders with higher lifespan and productive use. The highest yield for one day of life and productive use was obtained by offspring of sires, which had higher rates of milk production during the first lactation and shorter longevity. The level of relationship between the yields for 305 days and lifespan indicators of sire's offspring differed by significant variability from moderate negative with longevity ($r=-0.244$) to positive with productive use ($r=0.259$). Obtained correlations between milk yield value for the first lactation and lifelong productivity of the offspring of evaluated breeders by the degree ($r=0.055-0.659$) and reliability ($P<0.05-0.001$) were characterized by positive and reliable values. This was certifying the possibility of milk yield during the first lactation to be a predictor of cows' lifelong production. The high productivity of daughters of the estimated breeders during the first lactation did not provide a similar growth in their economic use, but will guarantee lifelong milk productivity. The offspring of sires of domestic selection were not inferior by the productive longevity indicators to the offspring of purebred Holstein breeders.

Key words: Holstein, Ukrainian Red-and-White dairy, sires, duration of use, lifelong productivity, milk yield, milk fat

**SEASONAL DEPENDENCE OF THE PRODUCTIVITY
OF IRISH ORIGINS SOWS FROM THE TYPE
OF MICROCLIMATE SYSTEMS
IN THE FARROWING ROOM**

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Abstract

The aim of the article was to compare the annual dynamics of reproductive qualities of Irish origin sows during keeping them in farrowing rooms with different valve and geothermal microclimate systems. It was found that the number of piglets at weaning, which were kept in geothermal microclimate systems, outnumbered peers kept under classical ventilation by 0.37 goals or 2.98% ($p < 0.05$) in winter, by 0.63 goals or 5.08% ($p < 0.05$) in spring, by 0.58 goals or 4.73% ($p < 0.05$) in autumn and by weight of the nest of piglets when weaned by 3.92 kg or 5.85% ($p < 0.01$) in winter months, by 5.90 kg or 8.44% ($p < 0.001$) in spring months, by 4.13 kg or 6.35% ($p < 0.01$) in summer months and by 4.37 kg or 652% ($p < 0.01$) in autumn months. During the autumn, the predominance of pigs kept in the geothermal microclimate system was found over the analogues kept in the valve system in terms of preservation by 4.27% ($p < 0.05$). In terms of absolute, average daily and relative growth of piglets growing in farrowing room with different ventilation had no significant difference during the year.

Key words: sow, stillbirths piglet, type of ventilation, growth intensity, weight of one head, safety of piglets

**SUBSECTION
FARM AND COOPERATIVES
MANAGEMENT**

EXPLORING ROMANIAN AGRI-FOOD COOPERATIVISM AS A WAY OF CONSOLIDATING SUSTAINABLE RURAL DEVELOPMENT

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Abstract

European agriculture is a sector that is in a decisive moment of transformation. The transition from small farms to viable and sustainable businesses is difficult and often traumatic. One of the ways to face these changes is through the grouping of farmers creating agri-food cooperatives. This model has proven successful in Sweden or Finland but has not been developed equally in all territories. Romania is a country with no deep-rooted cooperative tradition. However, it has exciting and promising initiatives that may represent an alternative development path, especially in rural areas. This paper addresses the current situation of agri-food cooperatives in Romania, analysing its immediate past and exploring the opportunities that arise in the future through a scientific literature review. Results help to better address future actions on cooperative promotion.

Key words: associationism, agri-food sector, cooperativism

IMPROVING THE SYSTEM FOR ASSESSING THE EFFECTIVENESS OF THE FINANCIAL MANAGEMENT OF AGRICULTURAL ORGANIZATIONS

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Abstract

The article discusses cost models for assessing the effectiveness of financial management based on the MVA method of market value added, the EVA method, the SVA method of equity value added. The authors assessed the elements of the financial management of an agricultural organization for 2015-2019, including an evaluation of the state of fixed assets, inventories, accounts receivable, analysis of cash flows, sources of financing assets, liquidity of the balance sheet, financial stability, business profitability and business indicators of activity. For a comprehensive assessment of the effectiveness of the financial management of an agricultural organization, it was used a methodology based on the relationship of indicators, in which the indicator of economic value added acts as a criterion for the level of efficiency of financial management. A scale for quantitative and qualitative assessment of the level of financial management efficiency has been developed.

Key words: financial management, efficiency, agricultural organizations, added value, assessment methodology

FORMATION OF A PROJECT ACTIVITY MANAGEMENT SYSTEM IN THE AGRO-INDUSTRIAL COMPLEX OF THE REGION

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Abstract

Modern challenges, limitations and risks of the socio-economic development of the region's agro-industrial complex require concentration of efforts, finances, managerial competencies in strategically important areas and tasks. The basis for the effective functioning of the agro-industrial complex of the Penza region is the application of the principles of project management in the activities of agribusiness entities. Project management is a tool both for managing the creation of new products and services, and for implementing targeted changes within individual organizations, as well as entire socio-economic systems. In the Penza region, project management is widely used by agribusiness entities in the implementation of both large and local projects in various fields of activity. The paper presents the results of the analysis of project management in the agro-industrial sector of the region, which indicates both positive and negative trends. The identified problems indicate a low level of quality of the processes of initiation and planning in the project management of business entities. In the current research the system of project management of agribusiness is considered taking into account state support. As a result of the analysis of the relevant projects, the main directions for improving the elements of project management were identified. In the frame of the current research the following research methods were used: the analogy method, the abstract-logical and analytical methods, the method of comparative legal assessment.

Key words: project management, agribusiness entities, project activities, promising areas of project management, government support

THE INFLUENCE OF MAIN FACTORS ON STRENGTHENING COMPETITIVENESS AND ENTERPRISE FINANCIAL POSITION

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Abstract

Entrepreneurship development is a powerful factor in reforming the economy: creating a socially oriented market mechanism, overcoming the current crisis decline in production and providing the preconditions for economic growth in the region. Entrepreneurship is recognized as one of the main factors of political and social stability of society. Therefore, the effective functioning of business entities is a prerequisite for the economic well-being of the country's citizens, and hence national security. The main source of data for the study was the State Statistics Service of Ukraine, which publishes a set of indicators that characterize various aspects of business. In particular, data from the section 'Activities of enterprises' on the official website of the State Statistics Service of Ukraine and official data on the websites of its regional offices, as well as information from the collections 'Activities of economic entities' and 'Activities of large, medium, small and micro enterprises' were used. The development of entrepreneurship for the period of 2016–2020 has been analyzed in the article. The analysis of the dynamic changes in the development of entrepreneurship in the context of enterprises and individuals-entrepreneurs has been conducted. The quantitative data of the State Statistics Service of Ukraine, illustrating the distribution of subjects of Ukrainian entrepreneurship by size, types of economic activity, volumes of sold products, works and services, and financial results of entrepreneurial activity have been considered and analyzed. It is important to monitor the financial performance of enterprises continuously. It promotes response and the efficiency of their activities increase, optimizing the use of resources and management potential.

Key words: entrepreneurship, factor, business entity, enterprise, economic activities, trends of development

FINANCIAL MANAGEMENT OF EUROPEAN FUNDS FOR ROMANIAN AGRICULTURE

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Abstract

The goal of this study is to look into how to finance the agricultural sector in Romania. The study emphasizes public institutions and their contribution in financing Romanian agriculture, as well as the results obtained by analyzing the effects of public funding on the agricultural sector, which are critical to the economy. In this regard, we present the functionality and involvement of two important national public institutions, APIA and AFIR. The research methodology is based on qualitative methods that employ both inductive and deductive reasoning. The study's main conclusion is that European funding leads to higher in the number of new farmers as well as an increase in agricultural entrepreneurial income. Moreover, the findings of the study can help public decision-makers understand the agricultural sector's financial needs as well as its importance to the economy.

Key words: European funds, farmers, investments, revenues, agriculture, Romania

IMPLICATIONS OF LEADERSHIP IN ORGANIZATIONAL AND MANAGERIAL CULTURE IN ROMANIAN ORGANISATIONS. PRELIMINARY STUDY

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Abstract

The study aimed to approach the leadership style practiced in various organizations in Romania operating in the private sector, because in the current context of the globalization of the markets and activities, of rapid growth of competition at an unprecedented level, the role of managers/leaders becomes more and more important. The term manager does not overlap with the term leader, but it is desirable that this should happen in practice. If the manager has a position and influence that come from his formal place in the hierarchy of the the organization, the leader gains sympathy and support through the qualities he possesses and uses in relationships with the others. A questionnaire of 10 questions was applied during this study. 80 people, working in management positions within various private organizations, including the field of agriculture, from the western part of the country were interviewed. The correctness of the results obtained largely depended on the objectivity of the answers of the interviewees. There is a temptation to give ideal answers while avoiding the real ones. This observation is characteristic of most empirical research on leadership in organizations.

Key words: leadership, manager, organizational culture

FERTILISATION MANAGEMENT OF WHEAT CONTAMINATED WITH *FUSARIUM GRAMINEARUM* AT ALBOTA AGRICULTURAL DEVELOPMENT AND RESEARCH STATION, ARGES COUNTY, ROMANIA

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Abstract

As it is well known, Romania is an important cultivator and producer of wheat in the European Union. Due to the pedo-climatic conditions that our country has, wheat is found in all development regions, and especially in the South-Muntenia Region. Here, in 2020, 602,794 ha were cultivated, representing 28% of Romania's total area cultivated with wheat. The production obtained was 1,753,248 tons, and accounted for 27% of Romania's total wheat production. Unfortunately, this crop faces diseases and pests that can affect plant nutrition and development, and ultimately influences indicators such as the average production and total production. Contamination of cereals with toxic fungal metabolites is one of the main problems of contemporary agriculture. Fusarium species are the most dangerous pathogens of cereals and have a high level of toxicity. These metabolites are the main cause of the development of cereal fusarium (FHB). Under the existing natural conditions at Albota-Pitesti Agricultural Research and Development Station (ARDS), Arges County the paper presents several studies on the mineral nutrition of winter wheat subject to the risk of contamination with Fusarium toxins. It should be noted that the types of soil on which the experiments were performed were Vertic Luvisols. Five winter wheat varieties were selected for testing: Delabrad, Dropia, Faur, Glosa and Gruia. The phenophases in which the mineral nutrition of the plants was characterized with macro and micronutrients, were those of the ear emergence-flowering.

Key words: fertilisation, Fusarium toxins, Romania, wheat area and production

ASPECTS REGARDING THE ACTIVITY OF AGRI-FOOD COOPERATIVES, IN GERMANY

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Abstract

It is already proven that associative forms, producer groups and horizontal and vertical cooperation are an opportunity for the development of small farms. Agricultural cooperatives in Germany, a major cultivator, farmer and producer in the European Union, which is at the forefront of the top agricultural products, come to emphasize this. Agricultural cooperatives represent associations of farmers and family farms, which cultivate their land together. They are legally constituted in order to increase their efficiency and strengthen their market position. At the same time, they take responsibility for the environment, with all that it represents, and thus the preservation of landscapes and the maintenance of the biodiversity of plant and animal species. On the one hand, many cooperatives use the most modern technology, in areas such as: soil cultivation, fertilizer application, crop protection, and the introduction of digitalization in production processes allows the development of an environmentally friendly management. Following the reunification of Germany, the existing economic entities were dissolved or transformed. Those who continued their activity took on the legal form of agricultural producer cooperatives, which were supported and represented by the cooperative audit associations and the German Raiffeisen Association.

Key words: agri-food cooperatives, German Raiffeisen Association, Germany

**SUBSECTION
AGRICULTURAL AND RURAL
POLICIES**

SOCIO-ECONOMIC CHALLENGES FOR REGIONS AND AGRICULTURE IN THE NEW MEMBER-STATES

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Abstract

The regional inequalities in the EU are an essential part of policy agenda and public discussions. The new Member-States remain in the group of "lagging regions" that includes low-income areas facing a number of challenges. Agriculture is a crucial sector in most of these regions, and it is seen as a major source of local employment and income. The survey aims to present the characteristics and the implication of regional disparities and outline recommendations for more balanced development. The study shows that divergence is growing at a national, regional and local level. Regions are experiencing low growth, high unemployment rate, social exclusion and poverty. However, it can be concluded that many of the regions have unexplored potential. In order to address the disparities, then policymakers should focus on the regions' specific features. The regional programs should be directed to their unique characteristics and challenges. In this regard, the implementation of targeted support should be associated with coordination and cooperation between different stakeholders.

Key words: inequality, poverty reduction, regional development

INCLUSIVE EDUCATION IN UKRAINIAN RURAL AREAS: PROBLEMATIC ISSUES AND SOLUTIONS ON THE EXAMPLE OF THE TERRITORIAL COMMUNITY IN THE VILLAGE OF KURLIVKA

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Abstract

The article proposes the definition of the essence of inclusive education and its compliance with the civilizational strategies of the XXI century. In the framework of the research project, the authors analyzed the European and world experience of implementing inclusion in the educational space. The main models and legal aspects of the implementation of inclusive education in Ukraine are considered. The authors of the article identified key issues that hinder the successful integration of inclusive education into the national education system (on the example of the village of Kurylivka) Mechanisms of effective implementation of the inclusive component of the national education system (for example, the village of Kurylivka) are proposed. General and special methods of cognition, namely institutional, systemic, structural-functional, statistical, analytical, comparative and descriptive, became the theoretical and methodological basis for the study of inclusive education in rural areas of Ukraine.

Key words: social inclusion, rural areas, territorial community, tolerance, social policy

ACADEMIC PERFORMANCE OF TEACHING AND RESEARCH STAFF IN AGRICULTURAL HIGHER EDUCATION OF MOLDOVA

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Abstract

Moldova traditionally relies on the agricultural sector, rural population representing one third of labor force. The agricultural education and research system in Moldova is characterized by the aging of the teaching and research staff, the reduction of the number of students below the critical level, unattractiveness of science and education for the young generation, the weak connection between education, science and production, but also the inefficiency of the institutional activity. All these represent a major danger for the sustainable development of the rural areas. The aim of this paper is to analyze the major factors affecting the academic performance of research and teaching staff in agricultural higher education of Moldova. The study is based on field surveys of academic personnel of State Agricultural University, the only agricultural higher education institution in Moldova. The data set includes 120 respondents. Main analyzed indicators are related to academic performance as: professional motivation, research activity in projects, published research results and achievements, main problems and challenges within the institution related and other relevant factors. As result, income level remains an important factor for staff motivation in achieving higher performance.

Key words: agriculture, academic performance, higher education, university, research

STUDY ON THE USE AND MARKETING OF PESTICIDES IN ROMANIA IN THE CONTEXT OF APPLYING THE FARM TO FORK STRATEGY

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Abstract

The use of pesticides represents a step forward for agriculture, in terms of the fight against the main diseases and pests, in order to ensure some productions destined for the market and implicitly for food safety. The world consumption of pesticides was captured in the main European Union countries highlighted in statistics such as NIS, Faostat, Eurostat and ITC, the position occupied by Romania being highlighted, in terms of quantities used and the surfaces on which they were applied (2010-2019). The comparative analysis of Romania's situation with the other member countries in terms of pesticides is presented in this paperwork in terms of the quantities of pesticides used, the areas with registered pesticides, imports and exports. At Romania's level, the analysis focused on the evolution of the main indicators that characterize pesticides, both at national level and at the level of the development regions, concluding that, at this level, pesticides are applied differently, depending on a series of exogenous and endogenous factors. But, the European agriculture and implicitly the one in Romania, must respond to a new challenge, that of reducing the quantities of pesticides used, according to the requests of the Farm to Fork strategy, component of the Green Deal, which requires that 25% of the agricultural area to be destined for organic agriculture and a 50% reduction in the use of pesticides, an aspect that we will detail in this scientific communication.

Key words: Farm to Fork Strategy, pesticides, consumption, areas with pesticides, import, export, Romania

TRAINING AND EMPLOYMENT OF YOUNG SPECIALISTS IN THE AGRO-INDUSTRIAL COMPLEX OF THE REGION

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Abstract

Agriculture moved to a higher level of development of innovative technologies. The digital transformation of production and economic relations in the agro-industrial complex involves the formation of managers and specialists of a new formation and the creation of high-tech jobs for them. The implementation of the goals and objectives of the training and employment of young agricultural specialists is carried out through personnel policy. It acts as an instrument of state regulation and is associated with the formation and use of human resources focused on solving the problems of digitalization of the agro-industrial complex economy. The article analyzes the dynamics of the number of personnel of managers and specialists of the agro-industrial complex, the training and employment of young agricultural specialists in the Penza region. In the current research the authors based on statistical, computational and constructive methods, as well as systemic, structural, abstract-logical approaches. The authors summarize the conclusions made about the unsatisfactory quantitative and qualitative composition of the specialists observed. Recommendations are given for improving the process of hiring and supporting young specialists in the agro-industrial complex and developing the staff policy of the state.

Key words: personnel policy, rural areas, young professionals, digitalization of the agrarian economy

**IDENTIFICATION OF COMMERCIAL
ORGANISATION FINANCIAL RISKS
AND MECHANISMS TO NEUTRALISE THEM**

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Abstract

The article provides an assessment of the financial risks of a poultry company over the last three years. Particular attention was paid to insolvency risk, credit risk and inflation risk. The calculations proved the presence of rather high financial risks in the organization's activity. The company in the first two years of the analyzed period had a high probability of insolvency and therefore the risk of bankruptcy is maximum, in the current year the situation has normalized. An assessment of the credit risk of the company from the perspective of both the borrower and the lender showed that this risk was reduced during the analyzed period. But the organization may face the risk of not securing its liabilities, i.e. a peculiar form of credit risk, since the amount of borrowed capital exceeds equity by 75.3 times. The level of inflation risk in the current period is high due to rising inflation in the country. The authors proposed mechanisms to ensure financial stability of the studied company, which are divided into internal and external. The main types of internal mechanisms of financial recovery of the company were strategic tactical and operational ones.

Key words: commercial organizations, financial risks, mechanism, assessment, company

EVOLUTION OF THE LIVESTOCK SECTOR OF THE REPUBLIC OF MOLDOVA

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Abstract

The livestock sector of the Republic of Moldova has been in a continuous decline since the collapse of the USSR, with sharp reductions in the production of pork meat (by 2.5 times), beef (by 13 times), poultry (-50%) and milk (by 5.2 times). Revitalization of the livestock sector has become one of the priorities of the current public policies implemented in the country, new measures of public support like direct payments per head of livestock being implemented in order to boost the sector's performance. The paper aims to analyse the current state of the livestock sector in the Republic of Moldova, with an emphasis on the subsectors with the most competitive potential that require an improved or additional public support. The descriptive, comparative and analytical research methods have been used in order to develop conclusions and recommendations with respect to the further development of the livestock sector in the Republic of Moldova.

Key words: livestock, Republic of Moldova, production, public support

EVOLUTION OF THE AGRICULTURAL LAND FUND OF THE REPUBLIC OF MOLDOVA IN THE CONTEXT OF THE TRANSITION FROM THE HYPER-CENTRALIZED ECONOMIC SYSTEM TO THE MARKET ECONOMY

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Abstract

Efficient management of the agricultural land fund is one of the basic priorities of each state. The given resource represents the totality of the agricultural lands within a territorial-administrative unit. The Republic of Moldova, having a specific geopolitical position, during the twentieth century was subjected to various areas of influence, which imposed their own views on how to manage the land. As a result, all the political and administrative changes involved the fundamental reform of the agricultural sector and, directly, of the agricultural land fund. The paper is a reflection of the evolution of the country's land fund in the context of social and political change during the XX-XI century. The analysis of that period showed that the only viable and efficient method of managing the land fund agricultural is private property based on the implementation of modern production technologies. The general research methods (empirical and theoretical methods) were used in the process of elaborating this report, the analysis of statistical data reflecting the evolution of the national land fund as well as of the agricultural land areas were widely applied.

Key words: agriculture, land fund, reform, agricultural enterprise, consolidation, efficiency

TRENDS IN ECOLOGICAL AGRICULTURAL PRODUCTION IN ROMANIA

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Abstract

The "Farm to Fork" European Union Strategy sets as key strategic objective to reach "at least 25% of the EU's agricultural land under organic farming and significant increase in organic aquaculture by 2030". The purpose of this paper is to assess the main ongoing trends of the organic farming in Romania. Statistical data was collected from the official website of the Romanian Ministry of Agriculture by studying the conversion and ecological attestation certificates published by the local certification bodies. In Romania there are 11 inspection and certification bodies that have certified 7,977 producers in 2021, mainly having as main activity the vegetable sector. The results reveal that in Romania around 3% of the land is under organic certification that is far below the above-mentioned EU thresholds. In conclusion, Romanian organic agriculture has many farmers who own small plot of land. Although there has been a growing trend of the organic certification over the past few years, the number and area of organic land is largely dependent on the CAP incentives and to a less extent to market opportunities.

Key words: Green Deal targets, ecological agriculture, leverage points, Romania.

AGRICULTURAL LAND, RENT SEEKING AND TRANSACTION COSTS

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Abstract

The study aims to assess the dualistic impact of the rents and transaction costs on the farmers regarding agricultural land use. The theoretical framework is based on Rent-seeking (RS) theory and the Transaction cost of economics (TCE). The review of both doctrines explains the "outflow" or "absorption" of value. The study observes the negative aspects of maximizing the functions of farmers with rents. They lead to distortions related to monopolies or unlimited market power. On the one hand, transaction costs are setting market inefficiencies due to the lack of consolidation of property rights and loss of time. On the other hand, rents can positively contribute to the mobility of other factors and, hence, the more efficient allocation of the resources. The transaction costs represent a positive effect of the risk distribution associated with the use of resources, which determines their positive role in protecting property rights. The study uses different methods, such as comparative institutional analysis, which retrospectively shows the effect of the institutional change and, more importantly, the impact of rent-seeking and transaction costs on main actors in the agricultural sector. The study aims to answer the question: rent-seeking or transaction costs are more important for agricultural activities, and how should they be reduced to maintain better agricultural land use.

Key words: agricultural land, rent seeking, transaction costs

ECONOMIC GROWTH OF THE AGRARIAN SECTOR AND IMPROVEMENT OF LIVING STANDARD IN THE REPUBLIC OF MOLDOVA IN THE CONTEXT OF THE SUBSIDY PROCESS

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Abstract

The Republic of Moldova is a country deeply dependent on agriculture holding sub-branches with most tangential areas, encompassing the economic and social sphere and defining the way of life in rural areas and the standard of living of the population. Subsidizing agriculture is one of the main mechanisms through which the state can promote its policies in this sector. The aim of this paper is to analyze the subsidy process and its impact on the economic growth of the agricultural sector. The research was carried out based on data provided by the Agricultural Intervention and Payments Agency and the National Bureau of Statistics. Several methods were used in this paper such as: comparison, average and relative magnitudes method, graphical and tabular, logical and synthetic analysis. Based on the results obtained, it was found that the impact of the subsidy process in the agricultural sector is positive, because through it, the state sends a clear message to agricultural producers regarding the priority directions of investment, which generating increased profits will result in an increase in the quality of life of the population.

Key words: agriculture, quality of life, economic growth, agricultural producers, subsidies

MANAGERIAL IMPLICATIONS OF THE NEW CAP VISION - FROM COMPLIANCE TO PERFORMANCE

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Abstract

The new Common Agricultural Policy radically changes the way the Union views agriculture and rural development. If until now the focus was on compliance, written documents and records, the new vision of the EC is focused on results and performance. The new CAP highlights the diversity that exists in the agriculture of the Member States and on rules built as close as possible to everyday reality, geared to local needs and conditions. By moving from the uniformity of most CAP instruments to the ability of states to plan their agriculture strategy and needs, it will radically change the way national strategic management handles issues. First of all, it is expected that the bureaucracy will decrease significantly once the rules, the norms will be reduced, both in number and in terms of complexity. The managerial implications are obvious, the focus on impact and achievements leading to another type of management characterized by advice, assistance, focused on achievements, cost-effective tools and sustainable development. The purpose of the paper is to analyze the managerial implications of the new CAP vision from compliance to performance.

Key words: Common Agricultural Policy, compliance, performance, National Strategic Plan, vision

SAFFRON (*CROCUS SATIVUS*) AS AN ALTERNATIVE CROP IN SUSTAINABLE AGRICULTURAL SYSTEMS. A REVIEW

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Abstract

Saffron (Crocus sativus) is a bulbous perennial of the iris family Iridaceae. The plant of C. sativus is generally planted for the production of the most valuable part in its flower the stigmas, the commercial name of the dried stigmas being saffron. Crocus plant was considered as 'red gold' and the most expensive spice in the world. This paper aims to pay attention to the world distribution of saffron, its application in various fields and the possibility for its cultivation as an alternative crop in sustainable agricultural systems. The materials used in the research paper cover a wide range of information that credibly cites the authors who reported or referenced the important information about saffron. Available scientific literature enriching information on saffron was used. The collected scientific material is analyzed theoretically, as the article is a review. From antiquity, saffron was widely used as a spice for culinary purposes and food colorant, as well as a dye, preparation of perfumes, preparing tea. In particular, saffron is gaining increasing attention as an alternative crop in sustainable agricultural systems due to its unique biological, physiological, and agronomic traits, such as the capability to exploit marginal land. From an agronomic point of view, saffron is well adapted to different environmental conditions and in recent years a growing interest has been reported in growing saffron in low-cost systems, for example in mountainous regions.

Key words: *Crocus sativus, Saffron, sustainable agriculture*

**FORMATION AND DEVELOPMENT OF
AN ECONOMIC MECHANISM FOR MANAGING
LAND RESOURCES IN THE CONTEXT OF
DIGITALIZATION OF AGRICULTURE**

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Abstract

The purpose of paper consists in developing the economic mechanism for increase in effective management of land resources in agriculture. Theoretical provisions of institutionalism, management, system approach, the general scientific and special methods were used in the course of the research. Considering influence of negative externalities on the market of the agricultural land and a deviation of the prices from equilibrium level, it is expedient to influence a market turnover of agricultural grounds by means of the priority directions of development: reductions of transactional costs for execution of transactions and registration of the property rights to the land plots, updating of cadastral cost of the land plots, accelerations of differentiation of the lands which are in federal, regional, regional property, etc. As a result of a research authors constructed the regional economic mechanism of management of land resources in agriculture on the basis of use of digital technologies. Thus, the mechanism includes the executive power, scientific centers, higher educational institutions, software products providing accumulation, updating, structuring, storage of cartographic and thematic information for adoption of optimal management decisions. The offered economic mechanism is recommended to be used when developing state programs.

Key words: economic mechanism, land resources, agriculture, digital technologies, science

IMPROVING THE ORGANIZATIONAL MECHANISM OF LAND MANAGEMENT IN AGRICULTURE

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Abstract

The developed organizational mechanism of management of land resources is intended for improvement of the land legislation on the basis of activization of initiatives from legislative and executive authorities by means of attraction of law-enforcement practice, the Russian Academy of Sciences, scientific institutions and universities of the country. Acceleration of process of formation and development of the mechanism of public-private partnership in the field of the land relations on mutually advantageous conditions is provided in it, at respect for the balance of interests allowing to unload a part public sector of economy, to delegate in a contractual order separate powers in the private sector. It is recommended to form in regional divisions of the Management of the land relations in agriculture the departments of digital development and management of land resources designed to integrate, generalize in the interactive mode information obtained from different databases on possession, use, the order of the agricultural land for the purpose of the effective leadership in this process.

Key words: organizational mechanism, management of land resources, agriculture, scientific potential, qualitative management decisions

THE CONCEPT OF THE MECHANISM FOR THE CONSOLIDATION OF AGRICULTURAL LAND

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Abstract

Purpose of the paper is to form a mechanism of consolidation of the agricultural land on the basis of benchmarking of foreign experience. For research used methods of scientific abstraction, analysis, synthesis, comparison, monographic. The scientific novelty of the research consists in the offer the concept of the mechanism of consolidation of the agricultural land which is directed to creation of norm for constructive interaction of authorities and other participants of the land relations in the sphere of effective management of the agricultural land. The concept provides existence of legislative justification, definition of subjects of the mechanism of consolidation, decomposition of elements on organizational and economic, algorithmization of process of consolidation of the agricultural land. SMART-purpose of consolidation consists in providing the land owner with close located land plots of the established size in concrete time. The practical value of the work is that its results contributes improvement of management of land resources in agricultural industry on a national level, increase in economic interest in intensive agricultural production on a private level. The development of mechanism of consolidation of the agricultural land are recommended for agricultural organizations of various legal forms of ownership, executive authorities and management of the agro-industrial complex at the federal, regional, municipal levels. This mechanism are significant for scientific community in terms of development of the sphere of the land relations, defragmentation of the agricultural land.

Key words: *mechanism, consolidation, agriculture, land, SMART*

YOUNG FARMERS - A FUNDAMENTAL FACTOR IN THE DEVELOPMENT OF THE AGRICULTURAL SECTOR

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Abstract

Generational renewal plays an important role in strengthening resilient agriculture at EU level. The low number of young people working in agriculture is, on the one hand, a major concern both in Romania and at EU level, but also the subject of political stimulus measures. The purpose of this study is to analyze the changes that occur at the level of agricultural structure according to the age group of farm managers in Romania between 2005 and 2016. Thus, the analysis carried out assesses the effects of agricultural policies aimed at generational renewal. Although a number of measures to stimulate the young people's entry into agriculture have been introduced in recent years, there is a significant decrease in this category between 2010 and 2016. The ratio between young farmers and farmers aged 65+ indicates that the agricultural community is aging. In order to highlight the significant potential that young farmers have in supporting the sustainable economy, economic growth and competitiveness, a number of key variables were analyzed in relation to the age group, such as: number of holdings, agricultural area, number of livestock farms, standard production (SO), but also the number of farms with self-consumption. The analysis shows that farms run by young farmers are much more profitable compared to older farmers, but the factors that encourage young people to remain in the agricultural sector as farms leaders it does not seem sufficient to enough maintain it in this sector.

Key words: young farmers, generational renewal, potential, agricultural policies

INCENTIVES FOR AGRICULTURAL HOLDINGS IN ACCESSING INVESTMENT FUNDS FOR THEIR MODERNISATION THROUGH CAP MEASURES

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Abstract

The investment support for the modernisation of agricultural holdings is an essential type of agricultural support in rural communities. This support could be accessed depending on many agronomic and socio-economic criteria. This article aims to observe whether the attractiveness in accessing the projects can be influenced by the size of the agricultural holdings and the level of direct payments received by development regions. It is also desired to see if access to these projects is sustained by the presence of agricultural income needs in the respective regions. By evaluating the data available on the Eurostat platform, we have assessed the number and average size of agricultural holdings in Romania at the level of NUTS 2 regions. In addition, with the help of the Farm Accountancy Data Network database, we have analysed the level of direct payment subsidies per farm. The results of this paper can provide relevant information on the current income needs of the analysed region. This can help us determine if, together with the number and size of the farms, it can influence the access to investment support projects through rural development measures.

Key words: investment support, direct payments, Common Agricultural Policy, support measures, modernisation of agricultural holdings

SOCIAL STATUS AND STANDARD OF LIVING OF THE RURAL POPULATION AS PREREQUISITES TO CHANGE THE SOCIAL PARADIGM OF THE DEVELOPMENT OF RURAL TERRITORIES IN RUSSIA

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Abstract

The purpose of the study In preparing the article, data from the Federal State Statistics Service of the Russian Federation, materials collected as a result of a survey of residents of rural areas, scientific works of Russian and foreign scientists were used. The study was based on the works of T. Kuhn and the theory of structural functionalism of T. Parsons and R. Merton. To determine the social status and standard of living of the population of rural areas, a questionnaire survey was conducted, during which the following were determined: the level of education, pension and social security, the amount of income from labor activity, wages of residents, as well as infrastructure provision of villages. The results of such a study showed that the current socio-economic situation in the countryside is characterized by a high level of unemployment, poverty, and negative trends in the social sphere.

Key words: social status, standard of living, rural population, social paradigm, Russia

POPULATION MIGRATION PROCESSES AND DIGITAL COVERAGE IN RURAL AREAS OF BULGARIA

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Abstract

Geodemographic as a scientific discipline includes the mechanical movement in its nomenclature, which, in turn, contains demographic processes of settlement and emigration, which form the mechanical growth of the population. It is interesting to trace the intertwining of migration processes with Internet access and the extent of its use in rural areas. The development includes research and analysis of the mechanical movement of the population in rural municipalities (region) and districts of the country, united in their regions according to the NUTS classification for the period 2015-2019. The mechanical movement of the population in tables and figures is visualized, indicating the dynamics of numerical values in per thousand (‰) and their change during the study period. On the other hand, data on the share of Internet access and its regular use are presented. Conclusions are presented in the conclusion of the review of the mechanical movement of the population in rural areas of the country and how this may affect the trends for accessibility and coverage of digital services.

Key words: rural areas, mechanical traffic, migration, internet access and digital services

THE IMPACT OF IMPLEMENTING THE FARM TO FORK STRATEGY REGARDING THE USE OF FERTILIZERS AND PESTICIDES IN THE EU

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Abstract

This paper analyzes the existing situation in Romania, Germany, France, Poland, Hungary and the United Kingdom, European countries cultivating cereals, technical plants and oleaginous plants, in the period 2010-2019, regarding the quantities of fertilizers and plant protection substances. This analysis has responded to the requests from farmers' associations regarding the effect of the FARM TO FORK strategy, as a essential element of the European Green Pact, has serious implications within the agricultural sector. Agricultural producers question the survival of the agricultural sector as the implementation of the Farm to Fork strategy will lead to a significant decrease in agricultural production in the EU and an increase in food prices. In the present study, a descriptive research was performed on the situation existing in each studied country, using the bibliographic method but also the processing of statistical data, using the correlational method, this aspect directing the study to a predictive research, thus establishing how the quantities of fertilizers and pesticides used in different crops in the EU member states will be allocated, if the Farm to Fork strategy is applied in the current form, the conclusion being that their reduction should be applied to the European average of consumption in the EU member states.

Key words: farm to fork strategy, cultivated surface, chemical fertilizers, pesticides

ANALYSIS OF THE LEGAL BACKGROUND REGARDING THE ACCESS TO SPACE IN ROMANIAN AQUACULTURE

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Abstract

In Romania the largest spaces used for aquaculture are under the management of the National Administration "Romanian Waters", of the National Agency for Fisheries and Aquaculture and of some territorial administrative units. Each have separate regulations regarding the transmission of space use. Each has separate regulations on the use of space use. This paper has looked for an answer to the question: would it be beneficial if there was a single regulation for the cost and other conditions of use of aquaculture space? For this purpose, were studied data from national institutions and community institutions, there were talk with specialists in the fisheries sector, and has been studied the position of one Romanian fish farmers association. The study concludes that the road to a common interest, both economic and social, is bearing fruit and is above a self-interest, and does not violate the right to property or the good manifestation of property.

Key words: aquaculture, spatial planning, access to space, governance

RESULTS REGARDING *PRIMULA OFFICINALIS* HILL. TECHNOLOGY AND POSIBILITY FOR INTRODUCTION INTO CULTURE

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Abstract

The oldest form of treatment, over time, was phytotherapy, which was probably born with human being. Popular medicine has developed on an empirical basis in the context of a magical world where analogy and coincidence have played an important role in choosing remedy plants. Regarding the multiple biological effects of Primula officinalis Hill., the scientific literature highlighted anti-asthmatic, anti-inflammatory and strong antiviral properties. Glycosides contained in this plant have a role in the treatment of kidney and biliary disorders, bronchitis and some gastrointestinal diseases. Primrose is an endangered plant in many Western European countries. In Romania, the plant is found in hills, pastures and alpine meadows up to about 2300-2400 m altitude. Research regarding introduction to culture are ongoing at National Institute of Research and Development for Potato and Sugar Beet Brașov. This paper presents the results obtained regarding the cultivation technology and the establishment of the possibility for introduction into culture. To establish these experiences, the plants were harvested from the spontaneous flora in 2016 and then acclimated to the greenhouses in the Technology Department, Laboratory of medicinal and aromatic plants. In the second experimental year, during the vegetation, observations and measurements were made in dynamics on each experimental variant to highlight the phenological stages regarding the formation of vegetative and generative organs in Primula officinalis (the emergence, the development of the foliar apparatus, the initiation of the floral buttons, the appearance of flowering stems, flowering, capsule and seed formation).

Key words: *primula officinalis*, biology, technology, phytotherapy, culture

NEW DIMENSIONS OF RURAL COMMUNITIES' DEVELOPMENT IN ROMANIA - SMART VILLAGE CONCEPT

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Abstract

Preserving the rural identity by establishing communities that develop through intelligent use of local resources and technology, represent new challenges regarding the increase of the living standard in the rural environment. The development of smart villages supposes, first, economic and social development with a direct impact on the quality of life of the members of the rural community as well as on their expectations in relationship to the actions of the public authorities. In this sense, the ability to meet social, educational, economic and environmental challenges, using the strengths and opportunities of a community, but also the involvement of local authorities, are an integral part of the new concept of Smart Villages. Current paper concentrates on defining this novel concept for the Romanian rural area and highlights the implications of its implementation and oversees the structural availability of resources required for optimal fit. The applicability of the concept results from the fund absorption analysis and its implementation is structured in a multi-stage action proposal. Using the financial performance of past projects through various measures to observe the historical trends and indicate future opportunities and introducing the applicable plan as the main research methods, the smart village emergence in rural Romania could directly impact socio-economic development. As the main results present, the ICT infrastructure is tuned in and ready to support various encouraging projects therefore, the Romanian digital rural society is becoming closer to reality. For the Romanian rural communities to be compliant with the international standards, the smart village approach represents a viable action plan.

Key words: smart village, rural development, Local Action Group, sustainability, digitalization, EU funds

AGRICULTURE IN MOUNTAIN AREAS OF PODKARPACKIE VOIVODSHIP, POLAND: DEFINITION, CHARACTERISTICS, LIMITATIONS IN AGRICULTURAL PRODUCTION, DEFICITS AND DEVELOPMENT OPPORTUNITIES

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Abstract

Exogenous and endogenous factors influencing the condition of agriculture in mountain areas of Podkarpackie voivodeship were presented. The scope of the research includes the determination of characteristic features, limitations in agricultural production, deficits and development opportunities as well as ways of using/reinforcing existing trends in the agri-food sector in the aspect of mountain farming development in the areas of Podkarpackie voivodeship. Preservation of agricultural production in this valuable natural area is very important due to the numerous social, economic, environmental, but also cultural functions performed by agriculture and farms here. Departure of inhabitants from agriculture may cause irreversible negative phenomena resulting in reduction of landscape attractiveness and consequently tourist attractiveness. Mountain areas have development opportunities which should be utilised by coordinating actions at the regional and macro-regional level.

Key words: mountain areas, foothill areas, less favoured areas (LFA), agriculture, farmstead, agricultural production, Podkarpackie region, Poland

DECLINING RURAL AREAS - DEMOGRAPHIC IMPLICATIONS

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Abstract

The rural area is of particular importance from a socio-economic point of view, whose economic activities are closely linked to the specific nature of the area. Rural localities are at different stages of development, depending on their specific characteristics. The aim of this paper is to identify the demographic effects of the poor economic development of rural localities, with particular emphasis on those in the South-Muntenia development region, which is known for its predominantly agricultural economic activities. In order to carry out the work, the main demographic indicators were qualitatively and quantitatively analysed and the main location and dispersion indicators were determined. The social outlook is not at all positive, both at national level and especially in rural areas. The population tends to decrease, influenced by the existing lifestyle, to which various factors contribute, such as the COVID-19 pandemic, but also the military conflicts in the area, which generate concerns.

Key words: rural areas, rural development, demography

LAND MARKET OF LAND PLOTS OF LAND SHARE OWNERS IN UKRAINE: STATE AND INSTITUTIONAL PROBLEMS

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Abstract

During the research, it has been highlighted that there are no two countries in the world where the legal regulation of land relations would be identical, and the following four typical models of platform interactions have been established: closed market model, open market model, with some minor restrictions for agricultural and natural real estate (lands); closed for foreigners; open with restrictions. It has been substantiated that there is a stereotype in Ukraine as regards the efficiency of large-scale agriculture, and has been highlighted that most European countries prefer family farms, by ownership, and try to maintain small/medium-sized farm size, rather than increase the influence of monopolistic companies with large-size land use. Also, the paper highlights the factor of land consumption, in the process of which it has been found that in European countries this indicator is much better as compared to that in Ukraine. The authors' correlation analysis revealed a close relationship between these factors and the average value of agricultural lands. SWOT analysis tools have been applied to study the institutionalization of the land market. In addition, the authors have analyzed the average value of land plots of the owners of land shares(units) after the lifting of the moratorium on the turnover of agricultural lands, which allowed to state a significant regional difference in the value of these lands. Where twelve regions of Ukraine have a lower market value of land plots compared to the lowest limit of normative monetary valuation of arable lands. Using the diagram, the authors have shown the lack of mutual coordination between the indicators of the normative monetary valuation of arable lands and the average value of sold land plots of the owners of land shares (units).

Key words: value of land plots, owners of land shares (units), turnover of land plots, normative monetary valuation.

NATURAL FODDER LANDS OF UKRAINIAN STEPPE ZONE: CURRENT STATE AND MAIN WAYS OF PRODUCTIVITY RESTORATION

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Abstract

The results of scientific research on the current state of agro-landscapes of the Southern Steppe and the main agro-technological measures to reduce the manifestation of the mentioned negative phenomena are presented. The latter is achieved by creating high-yielding mono-species agrophytocenoses of perennial legumes and leguminous grass mixtures resistant to regional climate changes, which have been observed in recent years in the southern region. Systematic expansion of lands under cereals and industrial crops which are in demand on the international market, has led to the unstable state of agricultural lands in the steppe zone of Ukraine, their area at the beginning of the XXI century being one of the highest in the world and amounting to 90.2% in Kherson region. It was found that the plough land on the territory significantly exceeds the ecologically permissible limits, as a result of which the physical and chemical degradation of soils began to increase intensively, which leads to a significant reduction in the formation of high crop yields. The consequences of these changes were highly unfavorable for the development of agriculture in all regions of the Southern Steppe of Ukraine, which is due both to plowing up extensively the agricultural landscapes and changes in the sown area structure. The main way to reduce physical and chemical degradation of areas under crops under the natural moistening conditions is the creation of high-yielding mono-species agrophytocenoses of perennial legumes and poly-species leguminous - grass mixtures resistant to extreme weather conditions of southern steppes.

Key words: evaporation, precipitation, lack of moisture supply, land degradation, perennial grasses, grass mixtures, growth regulator, peat

FORMATION OF DIFFERENTIAL LAND RENT AND DIFFERENTIAL RENTAL INCOME ON SOILS OF UKRAINE

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Abstract

The article examines the essence, peculiarities and factors of forming differential land rent and differential rental income, as well as the methodological aspects of their determination on individual soils by economic indicators of growing small-grain crops (without corn) in the current economic conditions of agricultural production in Ukraine. These economic categories are allotted important role of land relations regulation and the effectiveness of agricultural land use assessment. Differential land rent and differential income it is necessary to install market value of agricultural land. The possibility is shown of using the standards of small-grain crops, production costs for their cultivation and the stock-exchange price of grain sales for a specific year as input data in determining the earning yield of arable land. Identified are the parameters and patterns of the formation of differential land rent (I and II) and differential rental income (I and II) for soils of different genetic nature according to yield standards and production costs for growing grain and leguminous crops in case of natural and potential fertility. The paper presents methodological aspects of distinguishing forms of differential land rent (I and II) obtained during the cultivation of crops with applying fertilizers in accordance with current standards. Differential rent income II under the studied conditions is formed only on soils with higher fertility, and differential rent II — on the least fertile soils.

Key words: differential rental income, differential land rent, natural soil fertility, potential soil fertility, standard yield

**RESEARCH REGARDING THE METHODS
OF VALORIZATION OF VEGETABLE PRODUCTION
AT THE LEVEL OF AGRICULTURAL HOLDINGS
IN ROMANIA**

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Abstract

Perhaps one of the most difficult stages in the entire production process is the sale of vegetable production at a price high enough to cover production costs, and especially profitability which is a key factor contributing to the continuation of the activity. In this sense, the present study aims to identify the main ways to capitalize vegetable production of agricultural holdings in Romania. In order to identify the ways of capitalizing the production, a questionnaire was applied to 180 respondents, represented by the managers of some agricultural farms from all over the country. The purpose of the application of this questionnaire was to identify the aspects that hinder the capitalization of vegetable production. According to the study, the majority of farms in Romania are still run or managed by mostly men. At the same time, according to the analyzed sample, young people have the highest share of total respondents, so that the measures pursued through the two Rural Development Programs, namely to rejuvenate generations of farmers, we can say that they have achieved the goal.

Key words: agriculture, capitalization, vegetable production, Romania

COMPARATIVE STUDY ON THE LEVEL OF PRODUCTION COSTS IN ORGANIC AND CONVENTIONAL AGRICULTURE IN ROMANIA

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Abstract

The concept of sustainable development appeared in the attempt to reconcile agri-food production with measures to conserve non-renewable resources, but also the attempt to protect the environment, and in this process the farmer has an important role given the effects that specific activities have so much on the environment. Because of this, more and more actors involved in this process, from farmers to consumers, but also politicians have begun to pay more attention to organic farming, as an advantageous means of reconciliation between man and nature. In this paper we aim to analyze the production costs recorded in six crops, both in the case of applying the conventional production system and in the case of applying the ecological system, in order to determine the profitability of those crops. The research methodology involved the use of existing data in domestic and international databases, but also data collected through the project ADER 23.1.1. Technical and economic substantiation of the production costs and estimates regarding the capitalization prices of the main vegetal and animal products, obtained in conventional system and in ecological agriculture, data that were processed, analyzed and which formed the basis for formulating conclusions.

Key words: organic agriculture, conventional agriculture, cost, profitability

COMPARATIVE ANALYSIS OF THE MAIN TECHNICAL INDICATORS FOR RAPESEED CROP IN ROMANIA

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Abstract

The growing demand for rapeseed oil has led to an increase in cultivated areas and the improvement of rapeseed cultivation techniques. The paper analysed the main technical indicators related to area, total production and average production for rapeseed. A comparative analysis was also carried out for the mentioned indicators, in two distinct periods, delimiting the period before accession and after accession to the European Union. The averages of the two periods were compared, using the Student Test method, and the SPEC Forecast function estimated the area, production and average rapeseed production by 2030. The aim was to identify from a statistical point of view, if the averages of the two periods are dependent, as well as to predict the evolution of the main technical indicators.

Key words: rapeseed, area, production, forecast, estimation

ANALYSIS OF THE MAIN TECHNICAL INDICATORS OF CORN CROPS, WHEAT AND SUNFLOWER AT THE LEVEL OF THE EUROPEAN UNION

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Abstract

The content of this paper aims to analyze the main technical indicators of three of the most important crops in the European Union, namely corn, wheat and sunflower. Wheat, corn and sunflower crops were chosen for this analysis because they are some of the most widespread crops in the European Union and especially because these three crops produce some of the three staple foods found in any household, namely flour, corn and sunflower oil. By interpreting the statistical data provided by Eurostat on the cultivated area, the total production and the average production of the three crops mentioned above, an analysis of the Member States of the European Union will be carried out in order to determine which of them dominates the crop sector of corn, wheat and sunflower.

Key words: cultivated area, total production, average production, wheat, corn, sunflower

RESEARCH ON THE PROTECTION OF AGRI-FOOD PRODUCTS IN ROMANIA - NORTH-WEST AREA

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Abstract

The European Union statistics show that almost 3.400 names of agri-food products such as agricultural products and food, also covering fishery aquaculture products; wines, spirit drinks, and aromatized wine products- are being protected under the EU quality schemes. The main purpose of this research is to identify the specific food products which fulfill the requirements to be TSG certified. According to national statistics data in the N-W area we can find around 265 agricultural cooperatives. In order to conduct this research, the data had been performed by using the "document analysis" a method of data collection. Document analysis is a form of qualitative research, in this case, we use as an analysis tool the following sources: national public records, European Union statistics. Based on both collected data (National Public Records and European Union statistics) it was able to identify the main agri-food products category that has been certified as a TSG in other European countries. In Romania the certified process is still ongoing, the agri-food sector in the N-W area annually develops products with high potential to be certified.

Key words: agri-food products, European schemes, regional development, traditional specialty guaranteed

**SUBSECTION
AGRIBUSINESS
AND AGRICULTURAL
EXTENSION**

MATHEMATICAL-ECONOMIC METHODS FOR STUDYING DATA ON HOUSEHOLD CONSUMPTION OF FOUR BASIC FOOD PRODUCTS

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Abstract

The article presents mathematical-economic methods for studying data on household consumption of four basic food products in Bulgaria for the period 2004-2020. The mentioned information concerning meat, yoghurt, potatoes and dry beans has been structured and saved in a built relational database. Certain sets of criteria are used to form queries from the database. Subsequently, the obtained information from the queries has been processed. The pace of growth, respectively decrease of the considered indicator for the listed products has been analyzed. Hierarchical cluster analysis has been applied to these data on household consumption, average per person. The results showed a relative increase of the indicator for two foods (meat and yoghurt) during the last five years of the period. The indicator values for potatoes declined significantly for 2012-2017. The same dependence has been established for dry beans from 2011 to 2015. Grouping the indicated foods according to the values of the household consumption shows two clusters. Three clusters are obtained by grouping the relevant years according to the values of this studied indicator.

Key words: analysis, data processing, relational database, basic food products, household consumption

**THE AGROECONOMIC VALUE OF
RUBUS LOGANOBACCUS L.H. BAILEY CULTIVATED
IN THE CONDITIONS OF THE REPUBLIC OF MOLDOVA**

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Abstract

The introduced Rubus loganobaccus cultivars 'Lincoln Logan', 'Tayberry Buckingham', 'Tayberry Medana' were studied under the conditions of the Republic of Moldova. The experiments were conducted in the National Botanical Garden (Institute), Republic of Moldova. It has been found that the plant of studied cultivars produces 65-75 fruits per floricanes, with an average weight of 4.37-6.20 g, their sugar concentration was 9.6-11.8% and the vitamin C 21.1-26.2 mg/100 g. The antioxidant value of the leaves constitutes $IC_{50} = 53-56$ mg/ml. The leaf dry matter of the researched cultivars contained 15.2-18.7% crude protein, 81-13.6% ash, 7.9-12.5% cellulose, 12.7-13.9% hemicellulose and can be used to feed animals or as organic fertilizer in the hybrid berry plantations. When pruning the floricanes after harvest, the wood biomass obtained contained 48.5% cellulose, 25.4% hemicellulose with energy value of 18.5 MJ/kg and theoretical ethanol potential 557 L/t, it can be used to produce renewable energy. In the Republic of Moldova, the studied Rubus loganobaccus cultivars have agro-economic value as a food, medicinal plants, also as fodder and energy biomass.

Key words: agro-economic value, cultivars, floricanes, fruits, leaves, Rubus loganobaccus

MARKETING STRATEGIES IN KOSOVO INSURANCE COMPANIES - CONCEPTS AND APPROACHES

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Abstract

In today's market conditions of living and working, the insurance market is constantly increasing in volume. As a result, competition is very high and the relationship between insurers is constantly changing. The strict approach to increasing insurance profits has shown insurers that they need to abandon the solid base offered to customers. The need for insurance service is constantly growing, so it is imperative that it is constantly improved and adapted to the conditions and needs of customers. For this reason, insurance institutions need to monitor and know what is happening in the insurance market in order to be able to respond in a timely manner to changes in the development of the insurance business. Increasing insurance profits is unthinkable without implementing a marketing strategy. The purpose of this article is to justify the need to develop marketing strategies in agricultural insurance activities in Kosovo. The research is carried out with a qualitative and quantitative method, or with the help of empirical parameters and indicators that the expert literature knows. The main conclusion that the authors make is that insurance is a complex category, as well as a profession. The reason is that it refers not only to the observance of methodological principles, but also to the ideas, enthusiasm and creativity of marketing in providing certain tasks in the field of insurance, especially in the field of agriculture.

Key words: marketing strategies, approaches, agriculture, insurance market, insurance services

LABOUR COST IN RELATION TO FARM SIZE, MOTIVATION AND EMPLOYEE PROFILE

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Abstract

Current and future demographic, geopolitical and environmental challenges have led to research focused on analysing the cost of labour in agriculture in relation to farm size, motivation and employee profile. TwoStep Cluster analysis formed: Cluster 1 - average emotional motivation of 1.1 points and financial motivation of 3.6 points formed by employees with work experience between 0 to 20 years (frq. - frequency 69.8%), farms under 500,000 SO (frq. 72.3%). Cluster 2 (24.4%) average emotional motivation of 2.8 points and financial motivation of 2.1 points: employees with experience over 40 years (frq. 97.2%), women (frq. 44.2%) and SE Development Region (frq. 58.1%). Cluster 3 (33.9%) average emotional motivation of 3.6 points and financial motivation of 1.2 points: with experience between 3 – 40 years (frq. 63.2%), financial benefits 2-4 euro/hour (frq. 94.3%), farms over 750,000 SO (frq. 43.4%), male (frq. 51.1). The average level of net financial benefits is 4.8 euro/hour from 2.0 euro/hour for unqualified employees to 10.3 euro/hour for highly qualified employees; from 4.7euro/hour in farms of sizes between 100,000 SO to 250,000 SO to 6.5 euro/hour in farms under 100,000 SO. Gender shows a difference of 9.1%. The average level of emotional motivation is 1.9 points and increases from 1.5 points for 0-10 years of experience to 2.7 points for experience over 40 years; from 1.9 points in farms between 100,000 SO to 250,000 SO to 2.4 points in farms over 750,000 SO. Gender differentiates women from men by 7.0%. Pearson analysis of motivations – employee characteristics indicates a strong and significant inverse correlation between emotional motivations and financial benefits. The inflection point is at 28 years of experience and 4.9 euro/hour. The results suggest the need for managers to recognize employees emotional motivations and manage them dynamically and individually.

Key words: labour cost, employee motivations, financial motivations, emotional motivations, employee profile

THE ROLE OF CLUSTERS IN BUILDING COMPETITIVENESS

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Abstract

The paper aimed to present the framework that clusters can provide to member entities for developing and increasing their competitiveness. The European cluster development model was the reference guide in presenting it as a feasible type of cooperation. The same steps have been taken to find the interest of South African's economic actors in establishing a reliable partnership. The European and South African models have been compared here in terms of the business model and cluster approach as a whole. The research was carried out through an in-depth bibliographic study on national policies and legislation also on how they establish partnerships or trade relations. The second step focused on finding actors interested in being part of a partnership built on a European model. It could be observed that the economic actors from South Africa have created cooperative relations in a naturally informal way. Moreover, relations are based on the complementarity of the fields in which they operate.

Key words: cooperation, competitiveness, clusters

**SUBSECTION
AGRITOURISM
AND RURAL TOURISM**

ROMANIAN CONSUMER PREFERENCES FOR OENOTOURISM IN 2021

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Abstract

With 190,000 ha of vineyards and ranking 13th in the world for wine production and 14th for wine consumption, Romania has a high potential for oenotourism, which has been underexploited for years. In order to find solutions to encourage oenotourism, Romanian consumers were questioned regarding their preferences for winery visit experience such as: the distance which they would have to travel, the number of days and the amount of money they would be willing to spend and their expectations from a visit to a winery. To improve the offer and to make the information easily available to the interested wine tourists the survey included also questions regarding the approaches for obtaining information and recommendations, as well as the frequency of social media usage. The main results pointed out that Romanian wine consumers would prefer to go on trips to wineries recommended by friends rather than travel agencies, with a group of friends, for 2 or 3 days, especially in autumn, expecting to pay between 750-1,200 RON. Romanians would mostly go anywhere in Romania rather than abroad, men especially preferring to go to places reachable within 3 hours drive from their residence. The second most important information source, after the recommendation from friends, is the social media, showing the importance of advertising more on such media.

Key words: Romanian wine consumers, tourism and oenotourism preferences, consumption behaviour, wine events

ROMANIAN-MOLDAVIAN TOURISM ANALYSIS AND RECOMMENDATIONS

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Abstract

Romania and Moldova are committed to encouraging the mutual exchange of data and information in the field of tourism, as well as the exchange of experience in organizing and developing touristic activities. Specialized articles, open access from Clarivate Analytics and Research Gate were used for documentation. The data necessary for the research were collected from the information of the National Institute of Statistics of Romania, respectively of the National Bureau of Statistics of the Republic of Moldova. The research results showed that Romania is the third country as a tourist destination in the preferences of Moldovan tourists, while Romanian tourists are the main category of visitors to the neighboring country. Wine tourism and tourist attractions in the Lower Prut Meadow are the main attractions for Romanian visitors, while Moldovan tourists are attracted by the ski resorts and the Black Sea beach of Romania. The results of the study may be useful for tour operators, officials with responsibilities in this economic sector and for the development of more in-depth research in doctoral studies.

Key words: tourism, Romania, Moldova, evolution, trends

ROMANIA'S TOURISM OFFER AND DEMAND IN THE COVID-19 PANDEMIC OF 2020 AND 2021 COMPARED TO 2019. A STATISTICAL OVERVIEW

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Abstract

The goal of the study is to analyze Romania's tourism in the years of the COVID-19 pandemic, 2020 and 2021, in order to quantify the gaps compared to the highest performance achieved in 2019 and in what measure tourism started to recover. Offer in terms of units with function for tourists' accommodation, their number, structure and evolution, number of places and their dynamics by accommodation type, and demand in terms of arrivals, overnight stays both at national level and in rural tourism, index of net use of accommodation capacity, incoming and outgoing tourism were the main studied indicators using fixed basis and structural indices and comparison method. Compared to 2019, in 2021 the number of accommodation units reached 9,146, being by +8.8% higher and the number of places accounted for 364.5 thousand (+2.2%). In 2020, tourist arrivals represented 47.8% and in 2021 accounted for 69.3% of the 2019 level, and the overnight stays followed a similar situation. The main destinations were the seashore, mountain and spa resorts, Romanian tourists having about 90% share in total arrivals. The pandemic was an incentive for Romanians to "Rediscover Romania" and the holiday vouchers were of much help. In a low measure, mainly in 2021, outgoing tourism to Bulgaria, Greece, Turkey, Maldives, Egypt exceeded the incoming tourism. The year 2021 was better than 2020, as the relaxed measures started earlier than in 2020 and tourism managers adopted flexible offers, personalized packages, last minute, early booking, free cancellation, lower tariffs, bonuses etc. The increasing trend is a hope that in 2022 tourism will have a much better dynamics and there are chances to recover!

Key words: tourism, agro-tourism, trends, Covid-19 pandemic, Romania

HOW THE NATIONALITY AND TYPOLOGY OF TOURISTS INFLUENCE THE LENGTH OF STAY PRIOR AND DURING PANDEMIC CONTEXT - CASE OF FULL- SERVICE HOTELS FROM MAMAIA RESORT, ROMANIA

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Abstract

The length of stay of a tourist is an index having a high significance for tourist destination management given that a longer length of stay leads to a higher occupancy hotel rate and higher revenues. The aim of the present paper is threefold. Firstly, it determines the average length of stay in the most popular Romanian Black Sea resort - Mamaia, for the four, respectively five-star hotels. Secondly, it concisely examines the extent to which the typology and nationality of tourists influence their average length of stay in this seaside resort. Finally, it examines the extent to which season's year and the months of summer season influences the average length of stay. The data was collected from the platform Booking.com. The results indicate that, in Mamaia resort, the length of stay is mainly explained by the residential status of the tourists, their nationality and typology, respectively by the season's month.

Key words: tourist behaviour, length of stay, nationality, typology of tourists, Mamaia resort, Romania

**SUBSECTION
ENVIRONMENTAL
ECONOMICS AND
BIOECONOMY**

ECONOMIC ASPECTS OF SUSTAINABLE PRODUCTION OF APPLE ROOTSTOCKS, ACCORDING TO BIOECONOMY’S CIRCULAR USE OF ORGANIC MATTER

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Abstract

The quality of rootstocks is very important for the long term production results of apple trees. It depends on many factors, such as good air and water regime of the soil, good supply of nutrients etc. Different methods of enriching the soil are practiced in order to produce high quality planting material. Bearing in mind the concepts of sustainable agriculture and bioeconomy’s principles of production, the authors of this paper, also scientists at the Agricultural University – Plovdiv, Bulgaria undertook a 3 year experimental project aiming to discover efficient ways for improving quantity and quality of apple rootstocks per unit area, while using cheap soil additives or even organic wastes in an environmentally friendly manner. To what extent the use of natural humates and pyrolysis residue from biogas production can change soil conditions and improve quality of apple rootstocks; have positive environmental impact; reduce production cost and guarantee higher economic results was the unifying idea of the project. This article’s main objective is to evaluate the impact of the use of natural humates and pyrolysis residue on apple rootstock’s production efficiency from technical and economic perspectives. Natural humates contain a certain amount of moisture-absorbing crystals and pressed organic substances, the use of which drastically reduces the use of water and fertilizers in the production system. These have positive economic as well as environmental impact. Pyrolysis residues are obtained as a result of using biogenic fuels for heating greenhouses. They are waste, but can be used as a valuable resource for soil improvement.

Key words: apple rootstocks, natural humates, pyrolysis residue, bioeconomy, economic assessment

GREEN POLICIES TO INCREASE CLIMATE RESILIENCE AND WATER SECURITY FOR RURAL DEVELOPMENT

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Abstract

The paper aimed to present the research results on some environmental challenges and priorities of climate resilience. The research work was carried out in 2021 and referred to the analysis of the transcendence character corresponding to the environmental policies according to the strategic guidelines of recovery and resilience for sustainable development and green transition. Although sustainable development of the Romanian water sector has been approached in the past, the present paper has new research related to the water security and its role in building the climate resilience of agriculture and rural development in the European Union and our country. From a methodological view, there are used accumulations and outcomes from the specialty literature, from previous researches, the own data processing in figures and tables to describe some conceptual relationships, comparative analyses of the developmental state and the climatic vulnerability of the Romanian water infrastructure sector. The conclusions and recommendations highlight backlogs, needs and opportunities in the context of implementing the European Green Deal and the National Recovery and Resilience Plan.

Key words: climate change, resilience, water security, irrigation, adaptation

MEASURES AND TOOLS TO STREAMLINE THE TRANSITION TO GREEN ECONOMY IN ROMANIA

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Abstract

The green economy is currently a hotly debated global pillar as it has a significant impact on sustainable development. The implementation of this concept aims to identify viable solutions for the development, conservation and protection of the environment as a result of economic and social aggression. At the same time, international organizations are generating alternatives to combat the long-term negative factors that may affect the well-being of the population. In order to reach the proposed objective, that of implementing a sustainable economy, a coalition is needed between the private sector and the legislative power in Romania. The private and public spheres must reach a common point through which they can reduce the wear and tear of economic growth with the aim of reducing environmental risks, enhancing the use of resources and increasing the quality of life. This paper aims to identify the tools needed to adopt a Green Economy by analysing current opportunities for economic development based on sustainable policies and investments. In the context of those presented, the paper proposes some measures and tools to streamline the transition to a green economy in Romania. To reach the result of this descriptive analysis, research methods were used based on reports, studies, papers and specialized publications both online and offline. As a main result of this paper we can mention the identification of some changes at the level of demographic indicators but also the identification of some notable results in terms of share of renewable energy in gross final energy consumption and recycling rate, important factors for the analysis of the green economy at national level.

Key words: green economy, recycling rate, sustainable tools, investments.

URBAN AND RURAL AREAS: THE SEARCH FOR GREATER HARMONY

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Abstract

The paper aimed to present some aspects of the evolution the development of spatial model of the national concept. Bulgaria has a convincing historical experience in centralized creation and management of spatial models for development at three levels - municipal, regional and national. With the abolition of centralism, Bulgaria moved to the other pole - complete deregulation of spatial development. Urban and rural areas are two main concepts affecting the balanced spatial development of the country. The choice of a model for spatial development is influenced by a number of factors - social, geopolitical, economic, climatic and others. As a conclusion, the National Concept Programme of Development (NCPD) adopts the approach to rural and cross-border areas of the Territorial Program of the European Union (TA 2020), which to the polycentric spatial and integrated urban development adds concern for the preservation of the vitality of small settlements. The comparative method with its concepts and categories is the main research method in the present work. The spatial model for the development of the national territory is multi-layered and synthesizes different layers with information, functions, processes and priority elements of different hierarchical ranks. In Bulgaria there are visible/intensive processes of spatial polarization and movement towards monocentric models of development.

Key words: urban, rural, city, spatial models, Bulgaria

ECONOMIC MANAGEMENT OF RURAL AREAS: ON THE WAY FROM LINEAR TO CIRCULAR ECONOMY

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Abstract

Waste management in the fruit and vegetable industry is becoming an increasingly important issue, as a significant part of the raw material ends up in the waste. Improper waste management can lead to environmental pollution and therefore must be disposed of in an acceptable way, but also to exploit the commercial potential of processing residues. In Požega-Slavonia County and Pannonian Croatia, very little attention has been paid to this issue, both by the scientific and professional public, and by those who have remnants of processing. This is a potential that has not been recognized, and consequently not used, and there is a lot to do in this area. The paper presents a research that defines products that can be produced from the remnants of fruit and vegetable processing and analyzes which raw materials can be processed and in which products given the level and capacity of production in Požega-Slavonia County and surrounding counties. A market analysis was performed for the identified products and the need to establish a plant was defined. The work is also a good basis for further research and development and production of products with higher added value, as a part of shift from the existing linear economy to a circular economy.

Key words: circular economy, by-product, rural development, waste processing, environment

**SUBSECTION
DIGITAL ECONOMY
AND INNOVATION
IN MODERN AGRICULTURE
AND FOOD CHAIN**

AGRICULTURE 4.0 - CONCEPTS, TECHNOLOGIES AND PROSPECTS

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Abstract

Agriculture 4.0 is seen as a new possibility in overcoming the global challenges related to the scarcity of resources, climate change and food security. In this context, the aim of the paper is to outline the main definitions, concepts, technologies and trends in Agriculture 4.0 development and discuss the challenges, as well as opportunities and prospects. Based on the literature overview, it can be concluded that Agriculture 4.0 will play a crucial role in transforming the agri-food sector and shaping future agricultural production models. On the other hand, the new concepts should be linked to the Green Deal and sustainable development goals to ensure a fair and resilient agricultural system. Along with the benefits of Agriculture 4.0, there are challenges associated with farmers' perceptions and ability to change, the development of infrastructure, especially in rural areas and the lack of standards for implementing the new technologies. The government and policymakers' role is essential and should be directed in supporting the implementation of the concept Agriculture, 4.0.

Key words: digitalization, innovation, sustainable development

**METHODOLOGICAL APPROACHES
TO THE DEVELOPMENT OF MECHANISMS FOR
THE SYSTEM INTEGRATION OF AGRICULTURAL,
PROCESSING AND MARKETING ENTERPRISES**

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Abstract

System integration can be an economically advantageous tool for increasing the competitiveness of the regional agro-industrial complex. The article substantiates a methodological approach to the development of mechanisms for the system integration of agricultural, processing and marketing enterprises, reflecting the views of international and national standards of the Russian Federation. This is a three-stage structured algorithm for constructing elements of functional, informational, organizational and resource subsystems and the relationships between them. At the first stage, the system integration of internal functions and processes of the enterprise is carried out. At the second stage, elements are allocated for the formation of subsystems in the process of combining objects. At the third stage, mechanisms for the functioning of subsystems are built on the basis of mutual interest in the development of integrated objects. The mechanisms form and provide both internal and external inter-economic interaction, movement and synchronization of the flows of the totality of information and resources of the organizations under study. A comprehensive methodology for evaluating system integration performance indicators is presented, including quantitative and qualitative characteristics of five hierarchical levels.

Key words: integration in agribusiness, levels, mechanism, efficiency, system

MAIN ASPECTS OF BUILDING A DIGITAL BUSINESS MODEL OF A RUSSIAN AGRICULTURAL ENTERPRISE

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Abstract

The article discusses the work of researchers devoted to various aspects of digitalization, design and creation of digital business models. The analysis of actual data demonstrated Russia's position in the world community in terms of the level of development of digital technologies. An assessment of the depth of digitalization in the sectors of the Russian economy is given and the backlog of agriculture is revealed, inducing the relevance and possibility of rapid and large-scale implementation of IT in this area. A conceptual digital business model of the activity of an agricultural enterprise has been developed, reflecting its business processes and allowing to identify development directions. The practical application of the business model will increase the efficiency of communications and labor productivity through the use of electronic digital communication channels, reduce the transaction costs of the enterprise, which will affect the competitiveness of Russian food products.

Key words: agribusiness, digital business model, Russia

PUBLIC FOOD PROCUREMENT - A TOOL FOR A SUSTAINABLE ECONOMY DEVELOPMENT IN RURAL AREAS

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Abstract

Annually, the state allocates significant amounts of money for the carrying out of public procurement contracts concerned with the supply of food products. Rural areas, due to their natural potential, but also to their existing human resource, can further develop through the implementation of projects concerned with circular economy and a sustainable food chain. The implementation of Green Deal policies, the integration of appropriate sustainable development strategies will allow the economic growth of rural areas. In the making of this article, information published in the Electronic Public Procurement System (EPPS), during the 2018-2021 period was collected, concerning contracts for the supply of various food products. The novelty of this article consists in the analysis carried out on food related public procurement, by product categories and institutions. Based on the results of this research, there are suggestions for opportunities of development in rural areas, issues related to the sustainability of the food chain which should be integrated in sustainable public procurement procedures.

Key words: public procurement, food, enterprise, sustainability, rural

THE MECHANISM OF DIGITAL TRANSFORMATION OF AGRIBUSINESS IN RUSSIA

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Abstract

The analysis of publications of Russian and world scientists on the issues of digitalization of various sectors of the economy demonstrated a wide range of author's approaches to the sequence, speed and scale of the introduction of IT technologies, and also spectacularly showed the backlog of agriculture and the agroindustrial complex in the direction of introducing innovations. The purpose of the paper is to develop measures to accelerate and improve the efficiency of digital transformations in agriculture, the formation of the digital agricultural sector of the Russian economy. Research methods: monographic, logical, abstract-logical, computational-constructive, statistical-economic and comparative analysis. The main results of the study: the organizational and economic mechanism of digital transformation of an agricultural organization is proposed. The mechanism is a three-stage modernization process (starting, transit, terminal stages), implemented through organizational (management, administration, legal and regulatory support) and economic (costs, calculations, budget financing, subsidies) elements. Final conclusions: the development of the agroindustrial complex on the basis of the proposed mechanism will increase the efficiency and competitiveness of the products of Russian enterprises in the international market.

Key words: agribusiness, digital transformation, mechanism, Russia

THE ROLE OF INFORMATION TECHNOLOGIES FOR THE DEVELOPMENT OF SMEs IN THE AGRI-FOOD SECTOR OF THE REPUBLIC OF MOLDOVA

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Abstract

The economic efficiency, the yield of the agricultural activities of the enterprise were the basis of some in-depth studies and researches, constituting the preoccupation of several scientists and specialists in the field. Currently, there are a multitude of scientific works on agricultural management, but there is very little research on the management of agricultural activities in terms of computerization, given that the process is relatively new, is being implemented and has not yet been completed, accumulated enough data to conduct scientific research. Despite the lack of data in agriculture, the computerization process has proven its importance in industry, services, etc. In this regard, it becomes useful to study the aspects of agricultural management in the context of economic computerization. The main purpose of this research is to identify opportunities for sustainable development of the agricultural enterprise by managing agricultural activities through the implementation of information technologies on the farm, taking into account the fact that many routine processes can be easily automated. General scientific research methods were used within the framework of comparative statistical analysis, as well as an analysis of the structure and dynamics, graphical interpretation of data on the informatization of agricultural enterprises at the international and national levels. In this research is noted the value of open, cooperative, publicly funded and locally funded data systems and technologies as first steps in supporting solutions that contribute to data justice for farmers. Greater economic barriers in agriculture certainly limit the extent to which digitalization can support the interests of marginalized farmers and food producers. Then is needed to work much more learned and pragmatically if we are to better understand what data justice means to the agri-food community and how it can be done sooner.

Key words: agricultural development, information technologies, economic computerization, management

NDMI USE IN RECOGNITION OF WATER STRESS ISSUES, RELATED TO WINTER WHEAT YIELDS IN SOUTHERN ROMANIA

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Abstract

In the south part of Romania, during 2016-2021, research was conducted on the water stress of wheat crop, represented by 7 varieties of premium genetics wheat, i.e. high in protein and gluten. The analysis of NDMI (Normalized Difference Moisture Index) showed that, during the research period, the plants benefited from an average index of 0.21 units, placing the area in the category of those that offer a moderate size of vegetation and a medium stress for water. Under these conditions, the average wheat yield was 4,413 kg/ha, i.e. less than 50% of the varieties potential. The annual wheat variation of NDMI (170 days, spring-summer) ranged from -0.015 units in 2020, when yield was below 2,000 kg/ha, to 0.356 units in 2021, when due to phytosanitary stress, the average yield was of 5,512 kg/ha. Rest of the years had intermediate values, in each of them the water stress being present either in spring or in summer. The correlation between the water stress and the obtained yields was represented as a polynomial function, statistically assured. Average yields of 50% of the variety potential can be obtained at stresses of not less than 0.1-0.2 NDMI units. In this regard, it is necessary to rethink technologies, especially on recalculating the level of some inputs, which in conditions of pronounced water stress are only partially used by plants.

Key words: NDMI, wheat, water stress, yield

IMPLEMENTATION OF DIGITAL DECISION SUPPORT SYSTEMS IN AGRICULTURAL FARMS - LIMITATIONS AND DETERMINING FACTORS

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Abstract

The aim of the research is to identify the factors that determine the adoption of Decision Support Systems (DSS) on Romanian crop farms. Qualitative research shows that the majority of farmers interviewed believe that the decision to implement DSS is based on: acquisition-use costs; time consumption; complexity; overall usefulness; intuitive interface; technical and economic support; solution provision. The relative importance of DSS application features recorded a minimum 2.8 pct. (on a scale of 1-7) for technical features and a maximum of 6.1 pct. for time consumption. The relevance of the applications was rated by farmers at 1.8 points, minimum 1.1 points - general relevance and maximum 2.1 points - cost. The Pearson correlation analysis between age and overall relevance rating was -0.59. Farmers with above average age consider too complex (-0.42). Education completed makes DSS applications seem less complex (0.56) and their economic functions more interesting (0.47). The economic dimension is related to acquisition cost (0.33); time consumption (-0.38) and economic functions (0.84). Relevance to farmers' interests with farm size relates moderately to strongly (0.72). Certified digital skills and quality of internet connection do not influence application quality dimensions probably due to the developed mobile network system in Romania.

Key words: agrarian economy, farm management information systems, smart farming, enterprise resource planning

**SUBSECTION
MISCELLANEOUS**

STANDARDS AND INDICATORS USED TO INCREASE EFFECTIVENESS AND EFFICIENCY IN MANAGEMENT OF CRISIS (COVID-19) AND ITS IMPACT ON AGRICULTURAL FARM/INDUSTRY MANAGEMENT AND MARKETING

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Abstract

Animal health and diseases have a major impact on human health and behaviour (i.e. zoonosis, schools, communication etc), food production (African Swine Fever), economy (direct and indirect costs) and trade (export, import, intercommunity trade). Even almost all countries have implemented all kind of management measures, humanity still face up today huge problems, for example the most recent experience, being COVID-19, which ceased almost all human activities in the world and changed people behaviour for several years (2019 up today). For this reason, the paper represents a systemic review of recent information on different management indicators developed - epidemiological/economic etc in order to assist managers (politically, authorities, farmers, all the people involved) to prevent, survey and control such diseases, to develop best practices for benchmarking their country health systems/farm management system etc, and finally to led to an effective and efficient management of infectious disease in livestock during crisis. In this regard, the retrospective method was used and the information reviewed was collected from the latest information published between 2019-2022, available on WHO, Economic Impact, CDC websites, where through a tremendous and collaborative effort across different public health organisations, scientists in the world, dashboards and standard indicators publicly available have been developed. The results of this study demonstrate that the managers of livestock during crisis, the competent authorities, the governments have to consider, undertake and include these kind of tools/indicators in their management in order to assist them to develop their emergency preparedness capacity and to manage in an effective way the infectious diseases during crisis respectively prevention, early detection, rapid response, identifying their vulnerabilities etc.

Key words: animal health, crisis management, economy, trade, zoonosis

MAPPING SUSTAINABILITY ASSESSMENT METHODS IN AGRI-FOOD SUPPLY CHAINS: A CIRCULAR ECONOMY PERSPECTIVE

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Abstract

The agri-food sector is critical for humanity because it has mutual links to all pillars of sustainable development. Circular economy is an emerging paradigm that aims to change human and organizational behaviour and practice patterns by taking a different approach to production and consumption. A shift to a circular model tries to put a stop to the imprudent use of natural resources and replace it with a philosophy of reusing, repurposing and regenerating. The supply chains of the agri-food system constitute a significant area of intervention in the transition of the sector towards sustainability. In this vein, one may find a growing literature on existing tools, techniques and methods (such as material flow analysis, water footprint, social life cycle analysis, etc.) which can be used for the sustainability assessment of (existing and planned) agri-food networks. This paper adopts a circular economy perspective and discusses the afore-mentioned methods with respect to their potential to depict the transformation of the current inefficient, wasteful, and linear production and consumption model.

Key words: circular economy, agri-food supply chain, quantitative methods, sustainability

RISK MANAGEMENT MECHANISMS AT THE LEVEL OF SMALL AND MEDIUM SIZE ENTERPRISES IN ROMANIA

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Abstract

As small and medium enterprises are the backbone of the European economy and the business-to-business sector depends on the products and services they produce and provide, it is crucial to identify the factors that ensure their resilience. Risk management at the SME level is a topic that deserves further attention because at present SMEs don't put enough effort to identify, assess and monitor risks. Agriculture is one of the most vulnerable sector because it depends a lot on climatic conditions that can be very changing. The European Commission has given significant importance to this issue by managing to identify the most common types of risk and their management measures. It can be said that the risks in the field of agriculture are increasingly diverse. The aim of the paper is to identify the main categories of risks at the level of small and medium enterprises from rural areas in the EU and in the world and to identify if small and medium-sized enterprises have introduced in the management process a risk exposure management plan and the methods they use. It also identifies the main important risk mechanisms to support the resilience of SMEs. The information was collected through systematic review research and the application of a questionnaire. The research material is represented by the scientific publications published in the scientific databases as Science Direct or Scopus after 1990. The paper uses secondary and primary statistic data about SMEs from the north-western Romanian development region NUTS2 to evaluate their resilience. The types of risks identified at the level of SMEs are: business, financial, hazard, strategic, operational, supply chain, IT, development, human resources and management, environmental, and reputational risks. The most significant categories of risk in agriculture are price, production and income risk. Risk management should start at farm level, where farmers should have different strategies to stabilize their incomes. At present, risk management in SMEs due to inadequate human and financial resources is unconventional, quite intuitive, fragmented, pragmatic and often implemented in a reactive manner because SMEs owners or managers are ignorant about the risks facing their enterprise.

Key words: rural SMEs, risk management

USING MACHINE LEARNING METHODS FOR PREDICTION OF DURABLE ECONOMIC DEVELOPMENT: ROMANIA CASE STUDY

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Abstract

Emerging economies tend to be impacted most by fluctuations in the global economy, due to their relatively low degree of economic stability. The actors from within these economies must consider various parameters of the economy and tackle many different aspects regarding inputs, methodologies and economic strategies. Thus, besides the obvious target of economic development, these economies must consider the alignment with the external factors, the social movements regarding workforce and social welfare, as well as the efficient usage of resources for production branches of the economy. The economy can be characterized by both quantitative and qualitative indicators, linked to Gross Domestic Product (GDP), but also to enterprise health status, thus related to the turnover, profitability and number of enterprises. The sustainability of a healthy economy is also shown by the concern related to the employment status, human development index (HDI) and the general consumption of the population at a national level. Last, but not least, the economy is durable related to resources issues, the impact of the economic branches on the environment (air, water, soil and biodiversity) being one of the major concerns in the context of a turbulent climate debate. In this paper, we will present the correlations between the economic development, the social climate and the economic environment impact in Romania. After using traditional statistic methods for presenting these correlations, we will create trend predictions using Machine Learning (ML) methods using the traditional ML methodology. The results will be then compared to the usual methods used for prediction in statistics.

Key words: economic development, sustainability, machine learning, society

**RESEARCH ON THE BEHAVIOR OF CORN
CULTIVATED ON A CHERNOZEM TYPE SOIL
FROM BOURENI-BAILESTI AREA - DOLJ COUNTY,
ROMANIA, DEPENDING ON AGROFUND**

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Abstract

Many factors influence the performance of the agricultural activity within a farm. From this multitude of factors, one of the most important and taken into consideration are the climatic condition and the fertilization plan projected and implemented by the managerial team of the farm. In this matter, this paper presents the experimental results of these factors on the performance of the agricultural output on a specific geographic area in Boureni-Bailesti area in Southern Romania. The experiment has researched the influence of the climatic condition and the fertilizers on the level and the quality of the yields. In this manner, the grain yields have ranged between 8,040 and 10,260 kg/ha, the grain output for 1 kg of fertilizer being between 10.7 and 16.8 kg and the protein content in function of the fertilization was 12.4-12.7%.

Key words: corn, fertilizer, hybrid, protein

AUTHENTIC ROMANIAN AND RURAL TOURISM IN THE SUB-CARPATHIAN MUNTENIA AREA. ORIGINAL CASE STUDY "SATUL BANULUI GUEST HOUSE"

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Abstract

In contradiction with globalization, we meet the increasingly current of conservation of the traditional regional specificity of each area in Romania, the trend also found in other European countries. The study aims to promote the authentic traditional in a guest house representative for the sub - Carpathian Muntenia area. In this sense, we observe the development of rural tourism in the Sub Carpathian Muntenia area, presenting a case study based on a private tourism initiative. The guest house from "Satul Banului", Măgureni, Prahova, consists of a set of buildings organized in a specific smallholder property, which offers tourist services: accommodation, local gastronomy and tourist-cultural routes, all in the spirit of a peaceful, specific life. We argue for the traditional authentic value of each element, through a careful documentation that we will present punctually, using bibliographic references from the ethnographic and monographic literature as well as original local sources. Promoting the authentic Romanian, through a private initiative in tourism, proves to be a successful way, which draws attention to the traditional local specificity, helps to preserve the characteristic ethnographic elements.

Key words: *authentic, traditional, Muntenian household, rural tourism*



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