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Prospects of Agriculture and Rural Areas Development in the context of Global Climate Change

C O N T E N T S

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THE GREEN FOREST WORKS PROGRAM - A CHANCE TO RECOVER THE FORESTS OF THE APPALACHIAN REGION IN THE EASTERN UNITED STATES

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Key words: *Green Forest Works Program, Appalachian Region, recover, reforestation, mined lands*

Abstract

The goal of this paper is to present The Green Forest Works for Appalachia Program established by The Appalachian Regional Reforestation Initiative (ARRI), created in 2004 in order to reforest mined lands in the Eastern United States. Established under ARRI's guidance and with government, patron, or corporate funding, the Program would have the aim to combine in the best way all the economic, social, environmental and ecological aspects which contribute to the development of the region. Its benefits will have a deep economic, social, ecological and environmental impact. More than 2,000 local residents from the rural coalfield communities could be involved in the re-establishment of over 175,000 acres of formerly mined lands by planting more than 125 million trees by 2014 with a deep influence upon unemployment rate, land productivity, forest fragmentation, carbon sequestration and environment quality.

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CONSUMATION AND COST ANALYSIS FOR SUGAR BEET PRODUCTION IN S.R.L. „DESETINCOM", R. DROCHIA

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Key words: *consumption, sugar, finance, technical,R. Drochia*

Abstract

Inputs are the values of resources used to manufacture products or supply services to gain income. As mentioned above, consumption is raw materials, materials that form the essence of the product made, pay workers employed directly in production, and take various inputs related to maintenance of equipment, the rooms department, management and maintenance of the production process, which are called indirect inputs of production. All these inputs are embedded section of bază. Totodată consumption is consumption of ancillary departments that contribute to the basic production process. These inputs consist of material consumption, the labor remuneration and indirect inputs of production. Inputs to be attributed to the finished product and services form their cost. Being a very important indicator, reflecting the cost of resource efficiency, level of specialization, quality raw material and labor consumption.

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EFFECT OF DIFFERENT PLANTING METHODS OF SHORT ROTATION COPPICE WILLOW (*SALIX*) ON THE SPROUTING AND GROWTH IN THE FIRST YEAR AFTER PLANTATION IN DRY CONDITIONS OF SOUTH SLOVAKIA

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Key words: *biomass, short rotation coppice, willow, planting methods, cuttings establishment*

Abstract

Short rotation woody crops present, in the conditions of climate change, an alternative which reduces the amount of greenhouse gases emitted into atmosphere. Growing of short rotation coppice trees like Salix also helps to increase employment and rural development. The plantation of short rotation coppice willows in Kolíňany (Nitra district, Slovakia) was established in the spring of 2009 to verify an impact of planting methods on the crop establishment and further growth in dry conditions of South Slovakia. The willow cuttings were planted on two sites in three repetitions. Two different willow varieties (Sweden variety Inger and Hungarian variety Expressz) were planted in three different ways. The cuttings establishment of variety Inger varied from 97.92 to 98.96% and the variety Expreszz varied from 93.75 to 100%. The results indicate no significant differences according to chosen method of planting. The planting method has a significant impact on the number of the shoots per plant depending on the variety. There were some differences among the stem diameters and stem heights in compared planting methods.

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DAMAGES TO CROPS IN BURNAS PLAIN MADE BY FIELD MOUSE CASE STUDY – RAPE

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Key words *: field mouse, rape, biomass, damage index*

Abstract

Field mouse (microtus arvalis) became extremely aggressive the latest two years in Burnas Plain, and especially between Alexandria – Zimnicea – Turnu Măgurele, on the well-known plateau on the right side of Vedea river. The field mouse attacks especially during autumn, and preferably rape crop. But it is also very aggressive to barley and wheat crops. Our studies revealed that microtus arvalis population grew during the autumn of the analyzed years up to 2100 individuals/ha, of which at least 1,4 – 1,6 individuals/m^2 newly born reprezentation, much more sensitive than the adults towards both agricultural cultivation works and natural pests within the agroecosystem.
Field mouse attacks in hearths and has its habitat in soil, predominantly at depths of 20 – 50 cm. At bigger depths he is making his food reserves and the den where females give birth to their cubs. Reproduction rate is very big: 7 – 8 generations per year. Up to 2726 holes/ha were counted on the average in the studied area of Agrovet Farm company, and the autumn rape crop was 26,6% destroyed, which led to yield decrease on the average with 686 kg/ha, but with intervals on the attacked area from 240 to 1010 kg/ha. Losses in 2008 at the farm level were 400 tons x 275 Euro = 110.000 Euro/year. In calculating the prejudice index we noticed there was a direct correlation between this and the yield losses, and a very significant correlation between the number of individuals, the damaged surface and the yield losses. In our opinion these big attacks in this area are due to the imbalances caused by the Hunters' Association which destroyed the natural enemies of mice (sparrow-hawks, crows, foxes, etc.) There are not efficient control methods.

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RESEARCHES REGARDING YIELD MODELLING WITHIN SUSTAINABLE AGRICULTURAL SYSTEM DEPENDING ON CROP ROTATION, ECOLOGICAL INDEX AND PRECIPITATIONS IN THE SOUTHERN PART OF ROMANIA

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Key words : *crop rotation, models, agricultural crop, humus*

***Abstract*:**

Reintensification of agricultural production starting from natural models requires long and diverse crop rotations and a high index of soil ecological condition (I_E). Using common crops in the Southern part of Romania, well acclimatized, the level of yield proved to be dependent on the soil ecological index and the level of rain-falls during the year. The authors established the ecological index by evaluation from 1 (inapt for agriculture) to 5 (excelent for agriculture) and it was got in the field by special methods of soil work associated with large crop rotations where ameliorating plants (pea) occupy at least 20%. Crop rotation directly contributed to I_E increasing. A direct correlation existed both technically and economically between the three parameters (Production: P, Ecological index: I_E and Precipitations: Prec.) In the Southern part of Romania the yield is economical from I_E 3,5 and Prec. > 450 mm in sustainable crop rotations.

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APPLE GROWING AND FRUCTIFICATION DEPENDING ON GARDEN SOIL MULCHING

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Key words**:** *apple-trees, soil mulch, vegetation residues, polyethylene film, Republic of Moldova.*

Abstract

Article presents data on trunk thickness and fructification of apple-trees of Idared, Spartan and Golden Delicious varieties grafted on MM-106 depending on six options of garden soil mulching. Garden soil mulching by covering with polyethylene film removed from one position to another (once per 12-16 days) ensures high fructification of apple-trees.

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PROGRESS OF AGRICULTURE IN NATIONAL ECONOMY

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Keywords: economic system, structural balance, stopping the decline of agriculture, recovery, development.

Abstract

Agriculture is a subsystem of the national economic system in which are applied the same economic laws as the system overall. Agriculture, an important branch of economic gear, condition the structural balance, dynamic, but only in a state of normality. The fundamental objective of agriculture, as an important branch of national economy under the new conditions caused by integration into European structures is to halt the decline, gradual recovery and assuring the conditions for farming recovery, in line with natural potential, economic and human available to Romania, to ensure food security and population development of export availabilities. Development opportunities must overcome the impediments of current global crisis.

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QUALITATIVE PECULIARITIES OF THE FLAVOURED WINES AND OF THE VERMOUTH TYPE WINES, OBTAINED FROM THE WHITE FETEASCA VARIETY

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Key words : *White Feteasca, hidroalcoholic macerates from plants, nutraceutical potential, quality parameters*

Abstract

In order to establish the dynamics of the physico-chemical parameters of flavoured wines and vermouth type wines, obtained by the addition of hidroalcoholic macerates from plants to the White Feteasca wine variety, we analyzed certain physical and chemical characteristics (D^{20}_{20}, Alcool %, Total Dry Extract mg/l, Free Sugar g/l, Unreducing Extract g /l, Total Acidity g/L $C_4H_6O_6$, Free SO_2 mg/l Total SO_2 mg/l) for 9 samples. Compared with the main wine parameters, the determined parameters had the following evolution: Alcoholic Strength, Free Sugar and Density increased significantly in vermouth type wines, Total Acidity decreased slightly in flavoured wines and more in vermouth type wines, Total Dry Extract increased very significantly in vermouth type wines, Unreducing Extract decreased significantly in vermouth type wines, the amount of Free SO_2 was higher in flavoured wines, and Total SO_2 had lower values, both for flavoured wines and vermouth type wines. Plant macerates added to the wine varieties, influence most of the physical-chemical parameters.

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NOTE ON THE STRATEGY OF ROMANIAN AGRICULTURE AND RURAL SUSTAINABLE DEVELOPMENT (SARD)

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Key words : *sustainable farm modernisation, rural development, cultural heritage, biodiversity and agrobiodiversity*

Abstract

The old rural civilization, which have assured the long and miraculous surviving of the Romanian people is at the critical moment of its breaking up. Production and rural living standard have become uncompetitive items , traditions and customs are abandoned and people is running to cities. Rural development is economically unefficient, a non lasting etnico-socially problem. Under the pressure of this situation but also due to the international and European concerns (UN 1972, FAO-SARD, UE), Romanian scientists and authorities are more and more focused on sustainable agricultural and rural development(NSSDt 2013/2020-2030, NPRSD 2007-2013). This study points out the necessity to pass from a finding status to a strategic action and noticig the complexity of problems, anailye just some aspects of The SARD and RDP implication for Romania of (1)farm modernisation as an economic and strategic imperative, and mention some aspects of (2) sustainable rural development including. the local and national cultural heritage, and (3) biodiversity and agrobiodiversity conservation.

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NEW STATISTICAL ALGORITHMS FOR DATA ANALYSIS

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Key words : *milk production, evolution, NW Region , Romania*

Abstract

New statistical algorithms based on the absolute deviation have been implemented for computing the covariance and the correlation coefficient. The values obtained using this new relations are slightly different from that calculated with the classic relationship. In the case of the normal distributed random variables the numerical results obtained with the new absolute correlation coefficient are identical with those computed with the Pearson's correlation coefficient. The main advantage of these new algorithms is tats are less sensitive to outliers. The presence of outliers can be detected comparing the values obtained with the new algorithms and with the classical ones.

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EFFECT OF HEAT TREATMENT ON THE PHYSICAL PROPERTIES FOR SOME OIL SEED

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Key words: *physical properties, different heat treatments, Canola, Linseed, Nigella and Roselle seeds milk production, evolution, NW Region , Romania*

Abstract

This work was carried out to investigate the characterization of Canola, Linseed, Nigella and Roselle seeds under using different heat treatments (dry heat at 85 °C for 10 and 20 min, seaming for 10 and 20 min) . The study was revealed to the following main points:
-The dimension including length, width, thickness and the weight of 1000 seeds of studied seeds was slightly decreased by dry heat treatment while the steam treatment was increased the dimension of studied seeds.
-The results revealed that, some physical properties of the canola seeds, linseeds, nigella seeds and roselle seeds were considered such as the weight of 1000 seeds (seed index) was 5, 8, 4 and 35g and bulk density was 1.57, 1.48, 1.58 and 1.16g/cm^3, respectively. The seeds dimensions including length, width and thickness were (1.95, 1.85 and 1.71 mm), (4.40, 2.38 and 0.10 mm), (3.01, 1.51 and 1.09 mm) and (5.19, 4.21 and 2.64 mm), respectively.

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THE ROLE AND PROSPECTS OF BIOFUELS PRODUCTION IN THE EUROPEAN UNION

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Key words : *biodiesel, supply and demand, self-sufficiency, biofuels deployment, sustainability criteria*

Abstract

Agreed as part of the EU's climate change and energy package in December last year, the new Renewable Energy Directive requires each member state to satisfy 10% of its transport fuel needs from renewable sources, by 2020. Most of the 10% goal will be met through biofuels, creating a market coveted by EU farming nations, which produce about 10 billion litres a year. Our paper examines some of the latest trends on the important market of biofuels, (biodiesel mainly) in the European Union. We included some drivers of the demand and supply of biodiesel and the broader actual context in which it has arisen, as well as the latest concerns regarding the potential harmful impact of increased biofuel production.

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PRICES INTERDEPENDENCE IN THE DAIRY PRODUCTS SUPPLY CHAIN

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Key words: *elasticity coefficient, prices interdependence, milk supply chain, agrifood market*

Abstract

The paper approaches the issue of the interactions among prices within the dairy products supply chain, by means of analysing the elasticity coefficients. The interpretations were based on the results of the investigations within the dairy supply chain through the price-production, production-price and price-consumption correlation forms. The level and intensity of the cause-effect dependences emphasises the need to increase competitiveness within dairy supply chain through the two-dimensional insight into the product/price interdependence.

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THE DETERMINATION OF SOIL PARTICLES THROWING IN THE GUTTER FORMATION PROCESS, IN CONDITIONS OF SOWING DURING MAJOR WORKING SPEED.

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Key-words: *furrow –opener, gutter, sowing, technologic parameter.*

Abstract:

This article explains the experimental research data that had as goal the parameter determination of the experimental furrow-opener cereals sowing, at major working speed. In basis of obtained data the experimental furrow-opener demonstrated a lateral diminish moving of soil with approximately 39% comparative with researched models, at 3,4 m/s working speed.

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THE FORMATION PROCESS PECULIARITIES OF THE GUTTER, IN CONDITIONS OF CEREALS SOWING AT MAJOR WORKING SPEED.

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Key-words: *furrow –opener, gutter, technological parameter***.**

Abstract

In this article are shown the experimental tests data that had as aim the parameter determination of the experimental furrow-opener structure for cereals drill at major sowing working speed. The tests were done according to the methodology of experimental research. After tests the experimental furrow- opener showed a parameter reduction of gutter, that approximately remains 33% , by the breadth, and 40 % by depth ,towards the examined models at major working speed.

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NEW TYPE OF PLANTING MATERIAL PRODUCTION FOR MOLDOVIAN APPLE ORCHARDS

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Key words: *apple tree, new type of planting material, variety, rootstock, fruit nursery.*

Abstract

The researches made had on base a new technology of plant material production at the fruit nursery called "Fruit Nurseries" Ltd. during the period 2004-2007. There were taken into the study the varieties: Golden Reinders, Jonagored (long-term varieties) and Idared (homologated variety) that were grafted on the rootstock M 9. Bench-grafts were made at the beginning of March and it was used the method of perfected copulation with detached branch. The distance of plantation of the grafted plants is 90x35 cm. In results were registered best indicators of the production of apple trees with the crown formed according to the "knip-baum" type in the second field of the fruit nursery at the first category of quality according to the current European standards is attributed to all the investigated varieties as for graft's height (153,7-189,0 cm), trunk diameter (15,2-17,1 mm), number of anticipated branches (6,4-12,7 pieces/tree) so as for their average length, and respectively the apple trees can be planted in the superintensive system of cultures.

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DEVELOPING THE TRANSMISSION SYSTEM OF THE COMBINE CUTTING DEVICE FOR HARVESTING RICE CROP

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Key wards: *developing, combine, cutting device, harvesting, Egypt*

Abstract

The transmission system of the combine cutting device was developed and manufactured from local material to be suitable for the harvesting operation under Egyptian conditions. Performance evaluation of the combine before and after development during the harvesting operation of rice crop was carried out in terms of grain losses, field capacity , field efficiency, fuel consumption, required power, energy, wearing rate, wearing resistance and cost requirements. The combine performance was studied as a function of change in combine forward speed and grain moisture content and operating time. The results were obtained to gave maximum field capacity, field efficiency, wearing resistance and minimum energy, power, fuel consumption wearing rate, and cost requirements for the two systems of the combine cutting device before and after development as following: It is recommended to used the developed combine, at a forward speed of 3.5 km/h and a grain moisture content of 23%.

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ENVIRONMENTAL PROTECTION THE CONTEXT SUSTAINABLE DEVELOPMENT

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Key words: *environmental protection, recovering, strategy*

Abstract

Environmental protection is a general concern on the one hand, it is an issue related to the development of the society, and on the other hand, it is a matter of recovering, preserving and protecting the environment. In order to solve this problem as efficiently as possible, some strategies in the field have been elaborated, as well as action plans on local, regional, national, European and international levels. Astrategy regarding environmental protection must define general guidelines, principles, directions, objectives and criteria to identify actions that may lead to a social, economic and sustainable development envisaging environmentally related issues.The action plan must comprise the objectives and tasks embodied and quantified in time, space and costs.Without environmental protection, no sustainable development can be carried out.Sustainable development includes environmental protection, while environmental protection conditions sustainable development in its turn.

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SUSTAINABLE DEVELOPMENT REQUIREMENTS INTEGRATION IN AGRICULTURE

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Key words: *sustainability, features, measure ,increasing*

Abstract

Recent developments in agriculture have been significant, but also led to an increasing environmental impact. One of the most important topics nowadays is to provide a sustainable development, in order to secure food security and environmental protection. The need to identify real measures that will bring us closer to the generous objectives of sustainability transferred the focus on analyzing the requirements in different sectors. Therefore, in agriculture, the environmental component, but also the social component triggered particularities will be found at the levels of principles and general aims formulation, and also at the more pragmatic level of measures that have to be implemented in order to rich the sustainability targets have particular features

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THE IMPACT OF BREEDING PROGRAMMES UPON THE EVOLUTION OF SOME QUANTITATIVE CHARACTERS AT BOMBYX MORI L. SILK WORMS

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Key words : ***Bombyx mori L., breed, shell weight, silk , fiber length***

Abstract

The silkworm rearing was practiced long ago in Romania and the first silkworm breeds were imported from France, Italy and Japan.Simultaneous with silkworm races importation, the local populations were constituted under action of natural selection. These populations had a short silk fibre (625-800 m) and a low silk shell (29.6-31.8%).Beginning with the 1950 year the breeding works were initiated (Alb Orsova , Galben Centurat Baneasa, Alb Cislau, Alb Baneasa). The first silkworm indigenous races represented the first step in improvement of the quantitative parameters: silk shell 17-22 %, filament length 900-1100 m, cocoon yield 2.8-3.2 kg/g eggs.The improvement of the quantitative characters carried on being based on the genetical parameters, selection and crossing as the main methods of selection. The highest value of the raw cocoon weight (2.2-2.3 g), shell weight (0.520-0.570 g) and filament length (1200-1400 m) were achieved. An incontestable genetical gain was obtained as a result of the silkworm hybrids rearing, their performances being based on the heterosis.

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DETECTION AND EVALUATION OF CHROMOSOMAL ANEUPLOIDY AS A MODEL FOR IN VITRO FERTILIZATION PROCESSES VALUATION (OOCYTE MATURATION, SPERM CAPACITATION AND IVF) IN ANDALUSIAN AUTOCHTHONOUS ENDANGERED CATTLE BREEDS

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Key words: ***chromosomal aneuploidy, evaluation, in vitro fertilization , cattle breeds , Andalusia Spain***

Abstract

The main objective of the project is to detect, analyze and identify through different molecular-cytogenetic methodologies the chromosomal alterations relating to changes in the chromosome number or aneuploidy, produced in our autochthonous Andalusian cattle breeds endangered during the process In Vitro Fertilization (IVF) in both sperm and in the oocytes and the embryo itself. The aims is to answer a series of questions with which every day many researchers who study them, as the reason for the low fertility of our autochthonous endangered cattle breeds or what happens in their germ cells to make this happen. A review of the published studies carried out in many other breeds, with no particularities of our breeds, showed very few information to give us satisfactory answers, finding in them a great diversity and disparity that we think there are not applied to our breeds because of their own characteristics. We try in this project to combine all existing techniques in the fields of production, reproduction and genetics, and develop and put in place other that we can really know what happens and at the same time allowing to help to farmers in their efforts to maintain and breeding the autochthonous breeds that, we can not forget, have a fundamental value which is to enable the sustainable development in the production areas.

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AGRICULTURE DEVELOPMENT BY ITS INTEGRATION WITH OTHER BRANCHES

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Key words: *agriculture, integration, rural, development*

Abstract

Agriculture integration with industrial branches – producers of the production means for the agrarian sector, and also industrial enterprises of agrarian raw materials processing, with trade, catering, acquisitions, transport, other branches and/or segment of industry of infrastructure does not constitute a new problem for national economics.

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ENERGY EFFICIENCY IN ARABLE FARMS – A COMPETITIVE ANALYSIS

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Key words : energy efficiency, arable farms, soil tillage systems, fuel consumption

Abstract

Five arable farms in the semiarid region of Austria were analysed in regards to their energy input (direct: fuel; indirect: fertilizer, pesticide and seed) and energy output (heat value of the harvested crops). The main energy inputs considered in this case were fertilizer and fuel respectively and the total energy input of these factors ranges between 8.5 and 12.2 GJ/ha. The total energy input determines, other than the site specific factors (soil and climate) in the area, the productivity of the cropping system itself.
The energetic output of the analysed farms varied between 86.0 and 119.1 GJ/ha which also represents the photosynthetic storage of solar energy. The net energy balance expressed as Energy Output (EO) – Energy Input (EI) is between 76.1 and 121.0 GJ/ha.
The direct energy input via fuel for arable farms is a significant expense factor. The shift from soil tillage systems with plough application to conservation tillage systems causes a significant decrease in the fuel consumption and the total work time required in this sector. In addition to the economic benefits (fuel and work time saving) gained from this trend, a better soil structure with higher soil water storage capacity could be observed in conservation tillage systems in semi-arid regions.

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NATURAL RISKS ALEVIATION IN AGRICULTURE OF THE REPUBLIC OF MOLDOVA

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Key words : *natural risks, climate change, vulnerability, adaptation, Republic of Moldova.*

Abstract

The agriculture of the Republic of Moldova is particularly prone to natural and market risks due to a specific combination of geographical position, inadequate practices of soil cultivation and climate change, as well as conjuncture on the external markets. In order to integrate and synchronize the efforts on fighting the negative effects of the natural phenomena, in 2008, with the financial support of the World Bank, has been worked up the draft of the National Strategy of Natural Hazards Mitigation (NSNHM). The team of experts has facilitated the participatory process of working up the Strategy in cooperation with specialists from line ministries, Academy of Science of Moldova, local public authorities and non-governmental organizations. The Strategy offers risks alleviation policies through adaptation measures, risks transfer, infrastructure development and strengthening of the institutional framework.

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THE FISCAL RELATIONSHIP BETWEEN THE STATE AND RATEPAYERS AS THE OBJECT OF FISCAL PUBLIC AND MANAGEMENT

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Key words: *taxpayer, department, entity, financial, public, fiscal.*

Abstract

The purpose of the article consists in the guide use of the methods of the improvement of fiscal management and the development of fiscal services. It identifies the fiscal services and the relationship between money supply, fiscal budget deficit and their tools.We have used many methods: the method of the deficit and monetary rate growth, the real interest method, object of taxation method, monetary analysis method. The use of these methods resulted in the enrichment of the public and private management, the functioning and relationship of the employees, the role of the fiscal relations regarding tax formation and payment. These results contributed to the continuous perfection of the evaluation of fiscal services in agricultural units.

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THE METHODS OF RATIONAL CONSUMPTIONS OF MATERIALS, RAU MATERIAL AND FINISHED PRODUCTS RESOURCES

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Key words: *consummation resources, materials, value, use.*

Abstract

The paper's purpose consists in the implementation of new methods of supply and consumption of materials, raw material, tehnical land tehnological resources in the Moldova's agricultural entreprises. To reach this purpose various kinds of methods of rational resources and materials consumption were used: direct evaluation method, natural indicators method, the calculation method on the analogy basis in establishing necessary raw material,fuel, tools, etc., the method of global consumption indices, the method of dynamic differential. These mutual concessions contribute to successive materialization of materials, raw materials consumption state, which were used in about 20 entreprises. In conclusion, we mention sufficient savings in rational use of the consumption system of raw material, materials, energy, fuels, technical and tehnological resources.

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THE INDICATORS OF THE ECONOMICAL EFFICIENCY OF THE VEGETABLE PRODUCTION AND THEIR MODE OF EVALUATION

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Key words: *unitary cost, productivity rate, profit rate, productivity per hectare.*

Abstract

The purpose of the work consists in the study of the indicators system of economical efficiency of vegetable production and the mode of their determination. The utilized criteria are: the maximalization of the work productivity; the maximalization of the work productivity degree of extensive and intensive utilization of the ale production capacities; the maximalization of the capitalization degree of the natural resources etc. The practical and scientific interest concerning the economical efficiency essence, the production means of the vegetable crops has an exclusive great importance in the development of the vegetable growing in Republic of Moldova.

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THE EFFECT OF NITROGEN FERTILIZATION ON THE ORGANIC MATTER IN THE MOLD VERMOUTH FROM MĂRCULEŞTI

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Key words: *black earth vermouth, humus substances, total carbon, humus carbon, fulvic carbon.*

Abstract

The mineralization of the soil organic matter, therefore of the humic substances is favourably influenced by the mineral fertilization. The paper presents the effect of long run field treatments with ammonium nitrate on the mold vermouth from Mărculeşti. The paper studies the effect of different doses of fertilizers on the humus from the soil (C_t), of the humic organic matter(C_e),of the contents of humus and fulvic carbon (C_{ah} şi C_{af}). The results of the tests have been processed statistically by analysis of variance.

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AGRICULTURAL POLLUTION SOURCES IN CĂLĂRAŞI COUNTY

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Key words: *fertilizers, pesticides, eutrophication, bioremediation, phitoremediation*.

Abstract

The paper analyses the pressures made by some sources of agricultural pollution on the water and soil in Călăraşi county.The agriculture is a polluting factor of soil, surface water and underground water by excessive, uncontrolled use of chemic and natural fertilizers, of pesticides, of irrigation water (inadequate from quantitative and qualitative point of view).The polluting agents are: compounds of nitrogen and phosphor (nitrates, phosphates), pesticides, heavy metals, pathogen germs. The risk of pollution with nitrates of the underground water is high, due to their high solubility in soil water. The Eutrophication is a phenomenon that appears as a result of collection of organic nutrients in aquatic area.The polluted waters can be cleaned, and the polluted soils can be recovered by bioremediation processes (that use micro organisms) and phitoremediation (that use plants on this purpose).

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AGRICULTURAL INNOVATION FOR ENVIRONMENTAL PROTECTION

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***Keywords*:** *organic agriculture, environmental protection, evolution.*

Abstract

This paper is a set of procedures and measures taken to try to prevent environmental degradation due to practice farming intensive methods. We. chosen examples that, adapting techniques to the climate of each region studied, can lead to sustainable agriculture and not to injure the environment. I analyzed all regions in different parts of the world: South and Central America, South Africa, Asia, Australia, just in order to diversify the processes by which agriculture has developed primarily to support the environment and human health.

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ROMANIA'S POTENTIAL IN CERTAIN CROPS FOR THE PRODUCTION OF BIOFUELS AS COMPARED TO CERTAIN EU COUNTRIES

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Key words: *objectives, biofuels, wheat, maize, sunflower, rapeseed*

Abstract

For the production of biofuels, Romania's general strategic objective is to increase their ratio of the transport fuel. It is also aimed at increasing energy security, improving the energy effectiveness of biofuel production technologies and usage, the use of the agricultural potential in rural areas at full capacity.Romania's farmers, benefiting from the pedoclimatic conditions in Romania, can provide the biomass resources necessary in the biofuels production. In the research performed on the basis of comparing the yields of the energy crops obtained in Romania with those obtained in EU countries, it was aimed to find resources in order to increase the biomass production.

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THE MANAGEMENT OF HUMAN RESOURCES IN AGRICULTURE

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Keywords: *human resources, protection factory, methodological instrumentation ,agriculture*

Abstract

The concept of human resources, characterized through the medium of management and the three types of human resources strategies (investments, undertaken set of values and resources), presents a serial of particularities and implications in agriculture sector. The purpose of this project is to present a synthesis of classification criteria of resources and factors of production from agriculture, with management insertion as enhancer factor of human resources .Thus, being emphasized the concepts, proceedings and definitions which stand for the statistic of working time utilization in agriculture, as well as the methodological – analytic instrumentation of measuring the efficiency of human resources in agriculture.

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ANALYTICAL MODEL OF THE OPTIMAL CAPACITY OF AN IRRIGATION SYSTEM

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Key words: *irrigation system, queuing theory problem, analytical model, optimal capacity of irrigation system*

Abstract

The size and stability of yield per hectare of agricultural crops are greatly affected by climatic conditions, temperature, solar radiation, but especially the quantity and quality of rainfall, which for most agricultural crops is insufficient. Building large-scale irrigation systems is difficult in terms of investment, as well as operating costs. Claimed agricultural yields often do not emanate from a set of certain claims for each of the crops, but are only an estimate based upon empirical experience. Precise determination of these data is very difficult and without the use of exact mathematical methods and information technology would be virtually impossible. This work is dedicated to the creation of an analytical model, which would allow the determination of the optimal capacity of the irrigation system in response to microclimate and soil conditions with respect to the crops and irrigation facilities.

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RENEWABLE ENERGY SOURCES FOR LANDSCAPE DEVELOPMENT – PROJECT RESNET

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Key words: *lifelong learning, on-line courses, renewable energy sources, landscape development*

Abstract

Climate change and shrinking supplies of fossil energy resources mean that lately more and more attention is given to issues of environmental technologies and renewable energy sources (RES) not only at the level of national governments of EU countries but also worldwide organizations such as OECD and the UN. Using RES significantly reduces the emissions of greenhouse gases into the atmosphere, especially CO_2, which is also one of the objectives of the UN Framework Convention on Climate Change. Farmers are not only food producers but also those who can efficiently produce electricity and heat through renewable sources, but can also produce renewable energy themselves. This article deals with the RESNET project within the framework of Leonardo da Vinci - Transfer of Innovation. The project is focused on the important area - utilization of renewable energy sources, with emphasis on landscape development. The main aim of the project is to prepare an online course consisting of five modules focused on the use of renewable energy sources for landscape development.

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INCREASING AGRICULTURAL PRODUCTIVITY OF THE REPUBLIC OF MOLDOVA, BY MANAGING NATURAL VULNERABILITY

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Key words: *agriculture, rural area, productivity, vulnerability, global climate changes.*

Abstract

The main objective of the research is to analyze and highlight the negative effects of the natural vulnerabilities on the agricultural productivity and to offer tangible proposal for diminishing their effect. For this purpose the key natural hazards and their impact on the agricultural productivity have been considered. As result of this research had been established that Republic of Moldova is vulnerable to a range of natural trends and hazards including erosion, landslides, drought, rain storms, hail, frost, flooding that impact on agricultural producer's revenue. Moldova's annual hazard damage averages 5-15% of national GDP. In this context, the negative effects of the climatic changes, particularly in the last years, have to be taken in consideration by the State agricultural policy for risks diminishing and productivity increasing in agriculture.

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EFFICIENCY OF FOUNDATION AND EXPLOITATION OF THE SUPERINTENSIVE APPLE TREE ORCHARD

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Key words: *varieties, recovery, capital investment, economic efficiency, provisional branches.*

Abstract

Efficiency of foundation and exploitation in apple superintensive orchards is greatly determined by the productivity of cultivated varieties and trees growing system. The investigations were made during the period 2003-2006 in the orchard „Codru-ST" Ltd. founded in 2000 with bench-graftings on rootstock M 9 of the varieties Gala Must, Golden Reinders and Idared. The distance between rows is 4,0 m and that in the row is 1,0 m. There were studied 4 variants of crown formation. The highest cumulated yield in the years 2003-2004 at the varieties under the study was registered at the variant V_2 - 50,04-58,44 t/ha. Respectively, in variant mentioned the capital investments at foundation, keeping up the plantation and value of production were very high. Capital investments recovery took place at all the variants under the study, but the greatest value was registered at pruning's minimalization of crown formation and designing of 2 provisional branches 123-142%. The highest economic efficiency at the varieties under the study during the years 2005-2006 was registered in variant V_2, where due to the high yield of the 41,9-46,2 t/ha t/h, production profitableness were registered 280.2-291.2%.

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INDUSTRIAL POLLUTION AND ITS EFFECT ON GLOBAL TEMPERATURES INCREASE IN THE EARTH

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Key words: *Industrial pollution, global temperatures, effects*

Abstract

This paper aims to present some key issues about industrial pollution and its direct effects on growth in global temperatures in the Earth. Working methods used to achieve this material were: analysis of statistical data, consultation with specialised bibliography and documentation of many sources on the Internet.Research results on the degree of industrial pollution in the all countries of the world have highlighted permanently exceeding the maximum admissible concentrations of substances harmful to many plants, animals and humans. Direct effects of this pollution is visible in all regions of the Earth through climate change.Increasing global temperatures in the 21st century include: rising sea levels by 10 – 25 cm, shrinking glaciers in the mountains, reducing coating of snow in the northern hemisphere and increasing Earth temperature.

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CONDITION OF CROP FARMING AND VEGETABLE PRODUCTION IN REPUBLIC OF SERBIA AND IMPACTS OF GLOBAL CLIMATE CHANGES ON ITS FUTURE DEVELOPMENT

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Key words**:** *crop farming, vegetable production, Republic of Serbia, climate changes*

Abstract

Main goal of paper work is to present existing trends in crop farming and vegetable production in Republic of Serbia and to estimate influence of climate changes on it in near future. Analyses included production of crop farming and vegetable products from the aspects of used surfaces size, total yields and yields per surface unit. Results of crop farming and vegetable production in Republic of Serbia, achieved in period 2004-2008., indicate a direct impact of climate changes and these results tend to vary depending of drought level characterized for each observed years.
Authors point out the importance of irrigation, as agro-technical measure, which represents a way to mitigate some negative influences of global climate changes, which reflect through insufficient and uneven rainfalls, and as well a way to reach optimal quantum and continuity of over all production.

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STUDY ON QUALITY OF RAW MILK BETWEEN 2007 2009 IN CONSTANTA COUNTY

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Key words: *raw milk, total number of germ, total number of somatic cells***.**

Abstract

Milk is a complex food with high nutriţional value and also an excellent nutrient medium for the development of microorganisms that can contaminate milk the whole pathway. Considering the problems we face in this area, the current study focused on quality control of raw milk. Presentation follows the work situation for processing milk and milk quality evolution during 2007-2009 in Constanta, Romania.

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THE SIGNIFICANCE OF ALTERNATIVE FUELS IN AGRICULTURE IN TERMS OF GLOBAL CLIMATIC CHANGES

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Key words: *Climatic changes, agriculture, environment, alternative fuels*

Abstract

Mitigation of climatic changes implies some activities designed in a way to slow down and reduce total effect of climatic changes. In series of these activities, very important role have cleaner productions, so called „green economies", through which is realized reduced participation of anthropogenic factor in ecosystem health disturbance and provide further economic development of a man, which is not in conflict with the environment. Therefore is important that each gesture toward the production of alternative fuels aims to support positive development of agriculture, while it reduces or eliminates, in the same time, existing pressure on bio-diversity, water and soil. The goal of the paper is to point out that, except obvious energetic effects, the alternative fuels got and used in agricultural production have a significant role in the environment preservation. In this paper were used reviewing methods of domestic and foreign literature, arrangement and analysis of collected data

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CLIMATE CHANGE, RIVER FLOWS AND THEIR IMMINENT IMPACT ON PAKISTAN'S ECONOMY

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Key words : *Climate Change, river flows, water availability, glacial retreat, economy*

Abstract

21st century is the century of water and most perilous risk associated with the management of water resources is the Climate Change. Climate change is a burning issue of global concern and so are its impacts. Water is a lifeline for an agrarian economy like Pakistan. Since last few decades, climate change has seriously hampered the natural resource management and country-wide water conservation in the country. Major rivers are mainly fed by melt water of mountain glaciers which serve as water banks for fulfilling the water demands of growing population. Water resources of the country are under great stress due to climate variability. Alarming glacial retreat under the abruptly changing climate is resulting into reduction in river flows leading to decline in per capita water availability. This paper confers the recent variation in river flow pattern induced by climate change and its associated socioeconomic impacts. It will also assess the imminent socio-economic impacts of climate change.

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CLIMATE CHANGE: AN OBSTACLE TO ACHIEVE MILLENNIUM DEVELOPMENT GOAL OF PAKISTAN

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Key words : *Climate Change, MDGs, Pakistan*

Abstract

Being a party to the United Nations Frame Work Convention (UNFCC), Kyoto Protocol and UN Millennium summit, Pakistan has to fulfill all the obligations of these multilateral environmental agreements (MEAs). Today climate change is the center of the environmental talk due to the severe environmental impacts and increasing concerns of the developed world. Pakistan is also a victim of the negative impacts of the climate change in spite of its negligible contribution to the green house gas (GHG) emissions. Pakistan is an agricultural country that would be supporting 350 million people up to 2050. 67.48% of its population is living is rural space and majority of them earn their livelihoods directly or indirectly from agriculture. Climate change has resulted in water scarcity, changes in land use patterns, increased frequency of drought and floods, changed precipitation patterns, etc. that ultimately affect the agricultural production and hence economy of the country. Regional climatic models showed that the production of major cereal crops has reduced by 15-20% while crop rotation and cropping patterns have undergone severe disturbance. Livestock production is decreasing 20-30% and range lands are over stressed by the scarcity of water and drought like conditions. Forest cover is reducing while Pakistan is already among forest/ tree resource-poor countries. As seven millennium development goals are associated either directly or indirectly with economic growth and up gradation of poor rural masses, the decreasing agricultural condition has put a question mark to achieve these goals.

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ROLE OF EDUCATION IN REDUCTION OF CLIMATE CHANGE NEGATIVE IMPACT ON AGRICULTURE AND RURAL LANDSCAPE

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Key words : *education, agriculture, rural development, climate change, Slovak Republic*

Abstract

Objective of this presentation is to introduce (in a context of approved governmental and resort measures and in a context of training needs research) a system of education and training in connection with problem of agricultural production adaptation to climatic change. Training system focuses on following topics: timing of activities in agriculture, selection of crops and species, control of pests and diseases, effective water management, land management, agricultural activities diversification including renewable energy sources.

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STUDY OF GOOSEBERRY VARIETIES PRODUCTIVITY ON NEW CULTIVATE CONDITIONS

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Key words: *gooseberry, variety, yield, cultivate conditions, Republic of Moldova*

Abstract

This article presents the results of our investigations during the 2002-2006 about the gooseberry varieties introduced in the Republic of Moldova, their studies the productivity on new cultivation conditions. According to research conducted established that, as productivity, species can be classified into four categories: low, medium, high, very high. Low productivity was established in variety Grushenca - 1.2 t / ha. Varieties with medium production 3.5 - 2.0 t / ha are: Zenit, Someş, Orlionok, Finik. Productive varieties with high fruit production limit of 5.5 up to 4.2 t/ha are Şcedrîi(5,5), Smena(5,2), Ruski(5,0). Highly productive varieties, with an output of more than 6 t / ha are Severnîi captain, which exceeded the approved varieties (blank) - Donetski krupnoplodnâi(6,8), Donetski pervenets(6,6) and other varieties that : Puşkinski(6,8), Kolobok(6,7), Resistent de Cluj(6,3).

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THE CONTROL OF THE MILK DISTRIBUTED IN SOME SCHOOLS FROM HUNEDOARA CITY BY„MILK AND HORN-SHAPED ROLL"PROGRAM.

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Key words : *milk, quality, sensorial, physic-chemical, pupil*

Abstract

The purpose of this work was monitoring the milk from guvernamental program „Milk and horn-shaped roll" in 01.10.2008 - 01.12.2008 period in three schools from Hunedoara city (School 1, School 2 and School 3). We studied the sensorial and physical-chemical properties of these samples. According to this study, the milk is generally respecting the quality standards.

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PROSPECTS OF DEVELOPMENT OF AGRICULTURE AND RURAL AREAS IN THE CONTEXT OF GLOBAL CLIMATE CHANGES. SUSTAINABLE DEVELOPMENT IN EUROPE - EUROPEAN STRATEGY FOR 2010-2013 IN SUSTAINABLE AGRICULTURE TAKING ACCOUNT OF CLIMATE CHANGE

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***Key words**: sustainable development, rural development, climate changes, farmers*

Abstract

The paper aimed to accentuate the importance of the rural development and the impact of the climate changes on rural development and agriculture. Rural development is one of the most complex issues nowadays focused on achieving a balance between the preservation of rural conditions and the trend of modernization. Sustainable agriculture refers to a long term action which seeks to overcome problems and limitations faced by agriculture and society in general. In this paper we talk about methods and instruments released for the farmers by the European Union for the agriculture and rural development. Achieving the challenge for a sustainable rural and agriculture development can be achieved in terms of adapting to the major current global challenges: global climate changes, drastic restriction of biodiversity species of organisms, processes of degradation, erosion and soil pollution, diminishing water resources.

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THE MOST IMPORTANT ENVIRONMENTAL IMPACT OF THE PRODUCTION OF AGRICULTURAL PRODUCTS

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Key words : *environmental impacts, materials, energy, ISO 14001*

Abstract

Industrial agriculture is heavily dependent on energy, large amounts of water and other scarce natural resources. Reductions in the use of energy, water and other raw materials along with waste minimisation and elimination, whenever and wherever possible, should be highest priority. The most important environmental impact of the production of agricultural products is the use of chemical pesticides and herbicides. This may unintentionally lead to the pollution of soil, water and air, and has negative effects on flora and fauna. As well as the pure environmental issues, safety and health aspects play an important role. For many, the answer is an Environmental Management System (EMS) - a framework for managing environmental impacts.

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INVESTIGATIONS ON THE USE OF COLOR IN THE MARKETING OF MILLING PRODUCTS

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Key words: *wheat flour marketing, package, colour, RGB additive model, marketing communication, ImageJ,*

Abstract

44 representative packages for the range of flours available on the Romanian market, and 31 formal presentations (advertisements in written press, as well as the first page of the presentation site) have been scanned, and the images have been processed by means of a specialized computer software (ImageJ), in order to analyze how color is used in the structure of certain elements of packaging aesthetic and design, but also in the communication strategies of companies.Our results showed that as regards the colors used in making packaging, the most common colors are based on red. The color red has been used mostly in the forms of communication based on printing or online (posters, advertisements, home site). In case of packaging, the use of colors has been achieved following models that include clear pairs: red - green or green - blue, while in formal presentations the amount of red increases with the amount of blue and green, the amount of blue increases with red and green, and the amount of green increases with red and blue. There has also been evidenced another significant trend, namely the shades of blue decreasing with turnover increasing. Otherwise, companies with higher turnovers used smaller amount of colors based on blue in the color composition of packaging, and even smaller quantities of green. The colors which have been least affected by the turnover value were those based on red.

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PRODUCTIVITY OF FACTORS IN AGRICULTURE OF ROMANIA AND THE EUROPEAN UNION - A RETROSPECTIVE COMPARATIVE

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***Key words*:** *labour productivity, agriculture, production factor, economic indicators*

Abstract

This paper focuses on examining the position of agricultural sector in Romania from the viewpoint of the productivity of used production factors in EU – 27 countries comparison. International comparison, during the period 2000 -2009, shows that Romania is considerably lagging behind the EU -27 countries in the productivity of labour, but is rather competitive in productivity of the fixed and variable capital.
This is based on the past data on relevant indicators related to the EU – 27 countries. The results will be a milestone in the knowledge of how the labor productivity has evolved over the farming. Knowing the real level of labor productivity of Romanian agriculture and especially the causes of this level the benchmark for economic policy.

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LIGHT REGIME IN APPLE PLANTATIONS IN FUNCTION OF FOLIAR FERTILIZATION

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Key words*: Apple, solar radiation, foliar fertilizer*

Abstract

Light regime was studied in the variety Golden Delicious grafted on M 26, led after slink spill located within the meaning N-S. 4x2 m planting distance measurements were made clear during the 7 to 17 o'clock to 2 o'clock on each height of 0.7 m, 1.5 m and 2.5 m of the ground surface.The intensive apple orchards with row orientation purposes N-S, during the day, the eastern row of trees receiving 51.5%, 28.2% crown center and the west 45% of the total radiation. Shade covers a larger area in the morning and evening hours, but is worse at 13 when the sun is in zenith. Light regime in the orchard was determined by the intensity of solar radiation incident on the volume and internal structure of the canopy. Planting apple trees driven by time thin, lying between growth and fructification, allows interception of 20.4% of the total light intensity of radiation.