Volume 12, Issue 1/2012 **PRINT ISSN 2284-7995**
e - ISSN 2285-3952

SCIENTIFIC PAPERS

SERIES "MANAGEMENT, ECONOMIC ENGINEERING IN AGRICULTURE AND RURAL DEVELOPMENT"

Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development"
PRINT ISSN 2284-7995 e - ISSN 2285-3952

Volume 12, Issue 1/2012

To be cited: Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development", Volume 12, Issue 1/2012

Publishers :
University of Agricultural Sciences and Veterinary Medicine of Bucharest, Romania. Address: 59 Marasti, District 1, 011464 Bucharest, Romania, Phone: + 40213182564, Fax: +40213182888**,** www.managusamv.ro
S.C. Editura Ceres S.A., Address:1 Piata Presei Libere, District 1, Bucharest, 013701, Phone/Fax: +40213179023, Email: edituraceres@yahoo.com

This volume includes the scientific papers of the 12th International Symposium
"Prospects of Agriculture and Rural Areas in the context of Durable Development",
Session "Agriculture and Rural Areas in the context of Durable Development",
May 17-18, 2012, Bucharest
University of Agricultural Sciences and Veterinary Medicine, Bucharest, Romania

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

C O N T E N T S

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

THE RESEARCHES REGARDING THE BIODIVERSITY OF THE ENTOMOLOGIC FAUNA OF THE CORN CULTURES IN THE SIBIU COUNTY

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Abstract

As Romania joined the European Community there can be noticed a greater interest for the biodiversity of the entomologic fauna in the soil mainly regarding the management of the plants protection against the pests as well as the protection by different methods of the useful biodiversity of the fauna. The first step in fulfilling this aim is the identification of the pest in the corn culture in the Sibiu County, considering rightly that the upper the soil entomologic fauna can't be regarded as being isolated from the entomologic fauna in the soil, but on the contrary there are connections with reciprocal influences. The collected material during 3 years comes from four localities: Poplaca, Ocna Sibiului, Axente Sever and Copşa Mică. The used methods were as follows: the direct gathering with the hand, the gathering together with different parts of the plants, the use of the entomologic jar, pheromones traps. In the corn culture there were identified the following pest species: Tanymescus dilaticollis, Agriotes spp. and so on. These species can produce great losses in the production and sometimes even to compromise the entire culture. Beginning with 1996 there was confirmed the presence of the Diabrotica virgifera virgifera Le Conté. As a result of the identification of the pest entomologic fauna we can draw the following conclusions: the changes in the biodiversity of the entomologic fauna can give important indicators of the deterioration or rehabilitation of the soil; knowing the laws that rule the researched agro ecosystem allow us to choose the optimum method in order to keep the equilibrium between the species of the system and applying an integrated management which to affect less the system in its assembly and in the same time to obtain greater productions and a healthy, quality soil.

Keywords: *biodiversity, agricultural entomologic fauna*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

PROBLEMS REGARDING THE MANAGEMENT OF SOIL BIOLOGY FOR AURADUR DURUM WHEAT IN 2011 AND THE ANALYSIS OF THE ELEMENTS INVOLVED IN THE PRODUCTION FORMATION

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Abstract

Auradur durum wheat variety was introduced in production, in Romania, for the first time in 2006, after a preliminary verification of its behaviour in our experimental fields. Its production increased continuously. The highest yields were obtained în 2011 (4-7 tons/ha). However, there were controverses, especially among some farmers, but also distributors, concerning the excellent characteristics of this variety. In a multifactor experience made at Alexandria and Modelu - Călăraşi, has been equally studied the effect of some tehnological links on the production and quality of the variety. In this study are presented the detailed analysis of the variety behaviour compared with the pedoclimatic conditions, studying its biology from emergence to adulthood, as well as the main production indicators, such as: the ear weight, the number of grains in the ear and the production of grain in the ear. Correlations were established between the components of production and a pattern of production forming. In the final part, it is also presented a map of the pedoclimatic conditions which are the most appropriate for the variety Auradur, in order to obtain the best productions.

Keywords**:** *Durum, Auradur, production components, patterns, production*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

TOBACCO IN THE ECONOMY OF THE REPUBLIC OF MOLDOVA

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Abstract

The problems discussed in this article are the efficiency of tobacco growing in Moldova and the evaluation of the importance of tobacco culture for its economy. The research method was an experiment that involved two farms that grew150 ha of tobacco applying the technology developed and recommended by the Institute. The obtained results demonstrated that the increase of the tobacco economic efficiency can be conditioned by an increased productivity of tobacco plants, improved use of means of production, labor productivity and quantity of high quality tobacco, thus production is intensified the higher the final revenue is. According to the development indexes the growth of tobacco decreased substantially. Thus, the area under tobacco decreased in 2011 compared to 2005 by 60.5% (absolute value of 2.086 thousand hectares) whereas the yield per hectare remained stable - 1.53 t / ha in both years. The same scenario was observer on the farms where tobacco cultivation was conducted according to technical sheet. On the Festelita farm in 2011 tobacco was grown on a 100 ha. In 2009-2011 the average yield was 2.25 - 2.3 t / ha. The quality of the raw material constituted 89% on average being sold for 21000i lei per ton. The producers obtained 40 000 lei per hectare in revenue. Only by observing: crop rotation, planting periods of local varieties (Burley 320, Jubilee M, Moldavschii 456, Virginia 263, Virginia 401, etc..), fertilization, application of optimal doses of pesticides, introduction of mechanization in the harvesting process, application of the curing method, labor rules it will be possible to increase the profits from tobacco and what is more strengthen and modernize agriculture.

Key words: *tobacco, technology, yield, economy, profitability.*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

SETTING PLANNING CONDITIONS FOR LANDSCAPE AND IRRIGATION OF GREEN SPACES IN BÂLDANA VILLAGE, DÂMBOVIŢA

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Abstract

This study was conducted in the enunciation of an optimal landscape planning solution with irrigation of green spaces in Bâldana, village which is located in the Divagation Plain Titu-Potlogi. The works are necessary to increase the environmental quality of the related area. The site that has been the subject of research is a land area of 5.000 sq.m , located in built-up area of the village. Research has resulted in obtaining the data necessary in developing balance sheets of water in the soil, watering programs in developing areas served by irrigation facilities and a statement of optimal solutions on the design and operation of these arrangements under pedological and climatic conditions of the area.

Keywords **:** *green spaces, irrigation, landscape, planning, climatic conditions*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
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PRINT ISSN 2284-7995 e-ISSN 2285-3952

THE TECHNOLOGY OF WORM CULTURE – THE IMPORTANNT FACTOR IN DEVELOPMENT OF DURABLE AGRICULTURE

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Abstract.

Worm culture is a biological method of converting the organic wastes with the help of worms (worm growing), which use organic wastes as food and vital environment. Beforehand, organic wastes must be held to fermentation, in order to regulate the level of active acidity and of the content of azoth-ammoniac. The investigation performed bellow has the goal of showing how in development of durable agriculture can de improved through worm culture, meaning the bioconversion of organic offal. This can be achieved by obtaining valuable organic fertilizers and ecological agricultural production by worm culture. Technology of worm culture included: the preparation of nutritional substratum, the production of worm's compost and worm culture, the utilization of worm's compost. The object of technology included: the complete bioconversion of wastes, obtaining organic fertilizers with long-time action, the reanimation of damaged soils, the growth of the agricultural production, obtaining ecological production, the protection of the environment. In order to improve the ecological, sanitary-veterinary, epidemiological and epizootic situation, the bioconversion of organic wastes through worm culture method is strongly recommended. As a result of bioconversion of organic wastes through worm culture, we can obtain a quantity of 600 kg of organic enrichments (the worm's compost) form 1 tone of organic wastes, which grows the agricultural production.

Keywords: *Worm culture, organic wastes, bioconversion, organic fertilizer*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

FOR THE RURAL ACTIVITIES IN OLT COUNTY THE CREDIT PROBLEM REPRESENTS A FORM AND A CONDITION FOR RURAL DEVELOPMENT.

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Abstract

The implications of bank credit in forms of support allocated to agriculture in Olt county. The agricultural sector in Olt county confronted with hard credit terms to which added high interest rates and asking for guarantees made difficult to be realized, due to lowered land value. Severe floods produced damages not only to cultivated land but also to livestock sector where were registered loss of animals and loss of feed stores. In these conditions the support of the State for Olt county was materialized into a set of regulations. Forms of intervention credits, systems financing programs FEGA and FEADR have been a possibility of access to finance farm but also a possibility of knowledge of the responsiveness of the potential beneficiary of rural. Also FEGA and FEADR are financial instruments created by UE for implementation of a Common Agricultural Policy, the amounts allocated, through these programmers were rounded with amplification of the State budget.

Key words**:** *rural, credit*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

A NEW TECHNIQUE TO ENHANCE THE PERFORMANCE OF NOZZLE BOOM MACHINES

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Abstract

Laboratory and field experiments were conducted during summer season of 2009 in Germany to evaluate and develop the performance of nozzle boom machines (NBM) vs. boom machine with drag hoses (BDH). Laboratory tests were carried out to investigate the performance of the drag hoses at four different levels of pressure. From these laboratory tests it was possible to choose the suitable hose size. Field experiments were conducted to evaluate the performance of boom sprinkler machines before and after modification. Using the boom machine with drag hoses mounted on the boom system at a medium or low pressure instead of the sprinklers can be an alternative to the use of boom systems in some crops and topographical conditions. The water loss can be minimized with this system. The results indicated that, the hose with orifice plate diameter of 4 mm was chosen at operating pressure ranged from 0.2 to 0.3 bar. Using boom with drag hoses after modification showed that the average water depth was about 13 mm and the highest value was measured directly under the hoses. The boom with drag hoses has very important advantages in comparison to nozzle boom or sprinkler machines. As a conclusion, the boom machine with drag hoses is suitable for using to improve the water relations and energy saving.

Keywords: *boom, sprinkler irrigation, water distribution, pressure and uniformity*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

INCREASING WATER AVAILABILITY AND WATER USE EFFICIENCY IN SANDY SOILS THROUGH A GEOTEXTILE MATERIAL UNDER SPRINKLER IRRIGATION

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Abstract

This experiment was undertaken in a newly reclaimed area at Badr district, Egypt to study the influence of a geotextile material under sprinkler irrigation on the availability of soil moisture content and salinity in the top 40 cm of the soil profile. The farm was planted by Navel orange from about ten years. To achieve the objectives of this research, the field experiment was carried out in order to measure soil moisture content, water distribution and different water relations (water application efficiency, water use efficiency and water stored efficiency) under sprinkler irrigation. The results indicated that the maximum fruit yield was obtained with mats placed at 20 cm depth whilst the minimum fruit yield was recorded with the control treatment. Mats at 20 cm depth increased the availability of soil moisture content in the root zone. The results further showed increases in water use efficiency and water application efficiency as a result of using the geotextile material. In addition, soil salinity in the root zone decreased as a result of increasing soil moisture content. As a conclusion, a geotextile mat is good and suitable for using under newly reclaimed areas to enhance the soil ability for catching of water.

Keywords: *geotextile, sprinkler irrigation, moisture content, mulching*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

ESTIMATION OF DROUGHT TOLERANCE OF LOCAL AND PIONEER TOP COMERCIAL CORN HYBRIDS TESTED IN DIFFERENT PEDO-CLIMATIC AREAS FROM SOUTH OF ROMANIA

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Abstract

The purpose of the study was the estimation of the behavior of top commercial corn hybrids tested in 5 different pedo-climatic areas from drought tolerance perspective. The study was carried out in 2009, 2010 and 2011 in 5locations: Valu lui Traian,Constanta county; Sarichioi, Tulcea county; Fundulea, Calaraşi county; Cazasu, Brăila county and Caracal Olt county. These locations were selected as being representative for corn crop. Eight corn hybrids (F475M, Olt, Paltin, F376 from Fundulea Institute and PR35F38, PR37Y12 , PR36V74, PR37F73 from Pioneer) were tested using two level of water regime: irrigated with 800 ^{3}/ha and non-irrigated. The study showed that the 2009 was less favorable for corn crop in all testing areas, comparing with 2010 and 2011 which were favorable for corn crop. In the case of non-irrigated corn trials the yield was influenced by the climatic conditions of the year, while in the case of irrigated corn trials, the yield was much higher and stable. The hybrid PR36V74 had the highest yield in all irrigated and non irrigated testing areas. Average yield of the hybrids over three years were between 93.8 q/ha (F475M) and 130,3 q/ha (PR36V74)in non-irrigated condition, while in irrigated conditions average yield increased significantly by applying of 800 m^{3}/ha: between 101.2 q/ha (F475M) and 155,9 q/ha (PR36V74).

Keywords**:** *corn yield, cropping areas, drought tolerance, irrigation, Zea mays L.*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

EVOLUTION OF ROMANIAN AGRICULTURE IN THE PERIOD 2007-2010

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Abstract

This paper aims to predict the evolution of post-accession Romanian agriculture based on statistics provided by the National Institute of Statistics for 2007 and 2010. The evaluation performed allowed us to established the following key areas: increasing the efficiency of agriculture, increasing labor productivity by 21.4%, number of farms decreased by 1.9%; decrease in the area cultivated with cereals, vineyards and orchards and a grow in the area cultivated with industrial plants and vegetables; increase of crop production (excluding potatoes and grapes); decrease of livestock and animal agricultural production obtained (except goats and bee families). In conclusion, Romania's agriculture after joining the European Union has evolved generally positive compared to 2007, due to improved climatic conditions in 2010 and less to the influence of the political and economic environment of the analyzed period.

Keywords**:** *agriculture efficiency, agricultural production, cultivated area, labour productivity*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

TRENDS IN AGRICULTURAL DEVELOPMENT IN BUZAU COUNTY

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Abstract

The most general formulation of a problem approximations requires, based on a function f (t) defined on a particular area, to determine another function F (t), with a more simple form, to approximate as better the function f (t) over the whole definition. Interpolation can be made by approximation using the method of the smallest squares. The method of approximation by interpolation causes approximate function F (t) imposing the condition to coincide with the approximate function f (t) in all nodes of interpolation. Thus, the curve associated function F (t) is forced to follow a path interpolation required by the nodes position. This criterion is however less efficient for a large number of interpolation nodes, because determining the coefficients of the polynomial approximation requires a large amount of calculation and there is risk of oscillations between nodes. Thus, a method is required, quadratic regression, to determine the "best" function to minimize the mean square deviations between f (t) and F (t) at all points in the original function value is known. Approximation of least squares criterion determines a function F (t) which passes through points of definition, but among them, so that the sum of squares of deviations between the functions F (t) and f (t) in these points is minimized. To formalize this criterion, consider the function in a table with n measurements (y1, y2, y3, yn) affected by the errors inherent aimed at inducing an approximation function F (t), defined such that the sum of quadratic deviations in the points definition is minimized: $\sum(yi\text{-}Yi)^2$ *= Minimum.*

Keywords: *quadratic regression, square standard deviation, agricultural production, agricultural services*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

EFFECT OF PHENOMENON XENIA ON TRAIT SEED OF MAIZE SUB-SPECIES CROSSES

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Abstract

To investigate the effect of phenomenon xenia in maize seeds, five genotypes were intercrossed. One genotype of each of (Zea mays L.) sub-species (Everta, Indurata, saccharata, Indentata and the white endosperm Denprofeski were crossbred. F1 and F2 seeds were investigated .The results showed that hybrid vigor or dominance were controlling seed trait. The gene (Y) of yellow kernel was dominant over white (y) with possibility of modifying gene sharing action on this trait. Reciprocal gave 1:3 ratios. That was a clear cut of dominance and not xenia. However, other traits of seed were controlled by female nuclei indicating the effect of two nuclei of female genes on one nucleus of male pollen. Seed weight showed hybrid vigour in F1 kernels (64%), and that seed weight could be increased in F1 seed and again in F2 seeds (on F1 plant) via hybrid vigour. Shape of dent was also controlled by female nuclei, and dent shape was dominant over flint when dent was female, and vice versa. Saccharata seeds gave dented shape when used as female while it gave flint shape or mid – parent when used as male. Seed shape was controlled by female nuclei, and saccharata seeds had triangular shape recessive to round shape. However, xenia per se was not exist, but it was dominance or hybrid vigour controlling on seed traits in maize.

Keywords **:** *Phenomenon Xenia, Zea mays L., Maize*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

IMPORTANCE OF MAIZE CROPPING

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Abstract

The Corn, wheat and rice together are the main crops. It is a plant that responds well to chemical and organic fertilization and the irrigation. But compliance is sensitive to optimum sowing time and integrated control of weeds, pests and diseases (2). The maize is the most important plant product, from the point of view commercially and is used primarily as fodder. The maize is an important source of vegetable oil and has many applications in industry, the manufacture of diverse items: cosmetics, explosives.

Keywords **:** *corn, maize ,production , important*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

UTILIZATINON OF SELF-PROPELLED HARVESTER AND SHREDDER MACHINES FOR REMOVING SOME FIELD CROP RESIDUES

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Abstract

Machines performance was evaluated in terms of field capacity and field efficiency, cutting height and cutting efficiency added cutting energy. The performance of some different machines(self-propelled harvester and shredder machine) used in clearing land from residues of some field crops (corn stalks and barley straw) was experimentally investigated as a function of change in machine forward speed. The experimental results reveal that the energy requirements was in the optimum range under the following conditions(a)The use of shredder machine in removing corn, and the self-propelled harvesting in removing barley straw;(b)Working at a forward speeds between 3 to 5 km/h, and 2 to 4km/h for removing barley straw and corn stalks respectively.

Keywords **:** *machine, residues, cutting, efficiency, energy and speed*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

MINMIZE ENERGY REQUIREMENT FOR HEATING BROILER HOSUING

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Abstract

Bird's age is a governor factor to determine the heating load for broiler housing especially in winter season. Forced air heating system should be put the broiler in thermal comfortable zone to obtain the higher production. Therefore, using perforated poly ethylene duct to improve this heating system may cause better thermal conditions inside broiler housing. So that the experiment was conducted out in private broiler house on winter 2011, (latitude and longitude angles are 30.67°N and 30.98°E, respectively) in Egypt. The obtained results showed that using perforated poly ethylene duct increase average house temperature throughout the bird's life, save gas consumption by 32.6%, reduce litter moisture content from 41.5 to 32.8 %, reduce supplementary heat from 45.72 to 32.4 kW and increase feed conversion efficiency from 60.4 to 62.2 at the end of birds life.

Keywords **:** *broiler, temperature, energy, burner and duct*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

RESPONSE OF POTATO TO NITROGEN AND WATER DEFICIT UNDER SPRINKLER IRRIGATION

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Abstract

Obtaining the maximum yield of different crops mainly depends on the proper agricultural practices especially irrigation and fertilization. This research aimed to investigate the response of potato crop (Sponta variety) to water and nitrogen deficiency. A field experiment was undertaken to investigate the effects of water and nitrogen deficiency on potato properties including tuber yield, chlorophyll concentration, and water use efficiency (WUE). The experimental design was set up as a split plot design with three replicates. The obtained results demonstrated that both water and nitrogen fertilizer significantly affected potato productivity. The amount of irrigation water and nitrogen had positive significant effects on yield and chlorophyll. The highest potato yield and chlorophyll of 11.56 Mg/ha and 48.9 respectively were recorded with the treatment received 1.25 ET_c seasonal water and 200 kg N whilst the lowest ones were observed with the treatments received 0.50 ET_c seasonal water and 0 kg N. The amount of irrigation water had a negative significant effect on water use efficiency. The highest level of irrigation produced the lowest water use efficiency. The greatest WUE obtained among all treatments was the one received the lowest amount of irrigation water. The results therefore showed that under sprinkler irrigation potato yield can be maximised by adding the optimum levels of both irrigation regime and nitrogen fertilization.

Keywords **:** potato, water, nitrogen deficiency, stress

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

RURAL DEVELOPMENT AND ECOTOURISM

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Abstract

Starting from the concept that "sustainable development of viable and ecologically sustainable is considered that development that meets present needs without compromising the ability of future generations to meet their own needs", tourism, and especially rural tourism, that economic activity is included in the scientific approach and should work with other industries and economic activities to ensure environmental quality, resource base and its survival. Especially, co-participation is necessary to this end, the central and local authorities, local communities, with tourism service providers and related services, environmental advocates and, last but not least, the tourists who enjoy touristic environmental quality and favorite tourist destination.

Keywords **:** *development, tourism, rural tourism, sustainable development*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

ASPECTS OF DEVELOPMENT OF SERBIAN AGRICULTURE IN THE CONTEXT OF THE GLOBAL ECONOMIC CRISIS

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Abstract

Since autumn 2008 has started deep world economic crisis, which does not pass by Republic of Serbia, so during the last few years, came first to the stagnation and then to fall of most of the economic activities. Statement that agriculture is an economic backbone of some nation especially is expressed in Serbia, where it is considered as one of the basic economy branches, important creator of GDP and user of scientific-technical progress. Its importance could be recognized also in fact that besides military industry it is only one economic sector which has constant foreign trade exchange surplus. Based on that we must agree that strengthening of national agriculture in synergy with the food industry in general is a great opportunity for Republic development, especially in the period when world food prices have an upward trend. Due to above mentioned, in paper is presented condition of selected elements of Serbian agriculture throughout period 2009-2011.

Keywords: *Serbia, agriculture, global economic crisis*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

NATURAL CHARACTERISTICS OF VEGETABLE PRODUCTION IN SOMBOR

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Abstract

The work shows climatic parameters analysis, pedological characteristics and water potential on the territory of Sombor municipality aiming to estimate their influence on the production of some vegetables. This production is mostly outdoors, while the production in a confined space is far less. The research show inadequate rural development in Sombor municipality. Concidering that agriculture has been the dominant economic activity in this municipality, slow development of truck farming and therefore of agriculture in general is the reason for slow rural development, which is confirmed by the fact that young generations of villages show tendency to migrate from villages to the city of Sombor, or to other municipalities, as well as to foreign countries.

Key words: *Sombor, climate, soil, water, production of vegetables, rural development.*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

AGRICULTURAL MARKET AND INVESTMENT IN THE ROMANIAN AGRICULTURE

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Abstract

In the current context of economic - financial crisis, climate change, the ever increasing world population and a growing food crisis provided many specialists, studying agricultural market and investment in agriculture is timely and useful. The importance of agricultural market lies in the very definition of agriculture as the work to "increase all types of commercial crops, including seed storage and the quantities required." Investments in Romanian agriculture have risen in recent years, despite the current economic crisis. Thus, in Romanian agriculture have invested millions of euros largest manufacturers of agricultural machinery, seeds and seedlings, chemical fertilizers, etc. These investors rely on both the growth and development of local farming and the export potential of Romania. Do not forget that Romania has one of the largest in Europe in terms of area. In addition, investors in our country believes that labor is cheaper and better prepared. Opinion of many investors, but also to many experts, is that Romania has the chance to be one of the most important agricultural countries in Europe, because the land is good, so rarely met in other European countries. Romanian agriculture is a key factor in the economy, which can really help the country out of economic crisis, financial and social.

Keywords: *agricultural market, investment in agriculture, agricultural potential, Romania.*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

ISSUES OF EFFICIENT USE OF AGRICULTURAL LAND AND SOIL QUALITY IN REPUBLIC OF MOLDOVA

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Abstract

It highlights the main issues that confronting the agriculture of the Republic of Moldova, the effectiveness of land use and quality of agricultural soils. Issues of sustainable use of agricultural land are: excessive parceling land; inappropriate usage; failure of protective measures; irresponsible human activity, which leading to changes in landscapes, ecosystems and environment. Inefficient usage of agricultural land led to soil degradation that has spread throughout the area. Misuse of land led to reduced productivity of landscape, lowering evaluation notes, increased the processes of erosion, dehumification, salinization, secondary soil compaction. The results of highlight problems concerning the efficient use of agricultural land and diminution of soil quality degradation factors were developed mitigation measures and protection of land in context of sustainable development

Keywords**:** *soil, fertility, degradation, protection, agriculture*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

EVOLUTION OF RESOURCES AND THEIR USE IN FISH PRODUCTION IN ROMANIA

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Abstract

In the study, it was taken into consideration gradually the problem of fish production at national level, from the points of view of both the quantity (the production thus realized) and quality (human consumption, gross value added). It was noted that, predominantly, the import resources are prevalent, together with a tendency of consumption from total use. The usable production was decreased, but in the same time there was noted an increase of imports and exports, and of internal consumption availability, including human consumption. These problems underline the existence, in fish science, of an increased evolution for both intermediary consumption and gross value added.

Keywords**:** *fish, fishing, aquaculture, Romania*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

THE ROLE AND PLACE OF THE AGRICULTURE IN RURAL DEVELOPMENT OF DOBROGEA PROVINCE

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Abstract

This material represents the partial results of the rural development study in Dobrogea region where farming still has a significant role in the employment structure. The profile of the study is economic, using specific analytical methods and techniques. According to OECD classification, Dobrogea's counties (Constanta and Tulcea) are significantly rural, but with different development levels. Agriculture still holds an important role in the economy of both counties. Employment is about 20% in Constanta and in Tulcea, over 30%. However, the share of agriculture in the county's economy is lower in Tulcea, primarily due to the unit areas efficiencies that are 30-35% lower in Tulcea than in Constanta. The economic structure of the two counties is different. While Constanta is dominated by industry, trade and tourism, Tulcea is predominantly agrarian. Consequently, Tulcea County is one of the poorest, while Constanta is one of the richest counties. In these circumstances, rural development strategies in the two counties shall be different.

Keywords: *rural development, agriculture, employed population.*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

ESTIMATION OF DROUGHT TOLERANCE OF TOP COMMERCIAL PIONEER CORN (*Zea mays L.)* HYBRIDS IN DRIP IRRIGATION EXPERIMENTS

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Abstract

Drought affects large corn areas in Romania, causing significant yield losess; developing hybrids with increased drought tolerance is a primary goal of the corn breeders for decades; testing breeding populations, parent lines and hybrids in environments that normally experience moderate to high levels of drought is essential in any corn breeding program aimed to improve drought tolerance. The study was conducted in 2008-2009, in a research field located in Afumati, Romania and consisted in 2 factors design with six top Pioneer commercial hybrids split in 4 water stress levels (A1- flowering stress, A2-grain filling stress, A3-flowering and grain filling stress, A4-non-stress), managed by drip irrigation, in three replications. Yield, lenght of the ear affected by drought, plant and ear height, 1000 kernel weight (TKW) were collected to estimate the drought tolerance of the 6 top commercial pioneer hybrids in Romania. Only data from 2008 were taken into consideration since 2009 was relativelly favorable for corn and water stress was too low to produce significant yield damage. FL and GF stress reduced averaged yield over hybrids with 12.1 and 17.2 %, repectivelly, while continuous drough from FL to GF affected yield with 27.2 %. Significant differences in hybrid reaction were detected in all drought types. Thus, yield data suggest that PR37M34 is the most tolerant at FL stress, followed by PR37Y12, while PR37F73 is the most tolerant at GF stress, followed by PR35F38. PR37F73 proved to be the most resistant to prolonged continuos drougt, followed by PR37Y12 and PR35F38. The most important associated traits were also affected globally by water stress but different specific reaction of the hybrids was observed.

Keywords: *breeding, corn, drought tolerance, hybrids, Zea mays* L.

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

THE STUDY ON THE EVOLUTION OF THE ROMANIAN RURAL ECONOMY

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Abstract

The paper analyzes the romanian rural economy evolution in the last century and emphasizes the changes in Romanian economy after the year of 1989, and as well the rural entrepreneurship development.The transition of Romania, after December 1989, from a totalitarian regime and a hyper-centralized economy to a democratic state and it is right that, with a market economy involves through its end, a double connotation: on the one hand, the national, aimed at developing free and competitive society, on the other hand, the global one, associated with integration, on the principles of performance partnership, met in the current European and international structures.

Keywords **:** *economy, evolution, rural, Romania*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

DISTRIBUTION OF FARMS AND UTILIZED AGRICULTURAL AREA OF ROMANIA BY THE SIZE CLASSES ACCORDING TO LEGAL PERSONALITIES

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Abstract

This paper aims at presenting the situation of agricultural holdings and agricultural area used by those in Romania according to legal status, based on statistical data from 2002-2010. In this paper we address the size of farms in terms of physical size, agricultural area (UAA) expressed by the number of hectares given the structure of agricultural holdings by size of utilized agricultural area.During the analyzed data suggest that the Romanian agricultural sector continues to represent individual main component of Romanian private farming, which consists of individual farms and family associations without legal personalities. In 2010 the sector comprised of 3.82 million farms with an average size of 1.9 ha. About 133 thousands of them were exclusively livestock units and did not cultivate land. Another important component of Romanian agriculture is represented by farms with legal personality, whose number in the year 2010 was 30669 units (0.8% of total holdings) that used 45% of agricultural land used and operated an average of 191 ha.

Keywords **:** *agricultural area (UAA), agricultural holding , Romania*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

SOME INDICATORS OF CONSULTATIVE SERVICES DEVELOPMENT IN SERBIA

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Abstract

Transition process and Serbia's entering into the European Union is possible to hasten by adequate and timely consultative services, before all during the programs and methodologies creation for conducting the enterprises' restructuring processes. In such conditions, the consultative organizations help the enterprises in accomplishing their goals, solving problems in business and management, identifying and using new possibilities, increasing their knowledge and applying suggested changes in the practice. Consulting is a result of manager need for integrated and complex business information. To obtain the transfer of consultant knowledge and manager skills development, a certain conditions must be fulfilled. First of all, business integrity and consultant competence are the most important. Business integrity, i.e. consultant ethics contributes image and reputation and is important competitiveness factor on consultant services market. Regarding actual consulting trends in countries within our region, as well as developmental level of consulting in EU countries, the market of consultative services in Serbia has not significantly changed in previous period (as we saw, the acknowledgement of it was got also by empirical research). The owners and managers of enterprises still do not feel a need for external services, in order to solve business problems. Having in mind a level and quality of demand, neither a supply of consultative services had not reached satisfactory level.

Key words: *consulting, management, investments, consultative organizations.*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

BIODIVERSITY, FORESTS AND POTENTIALS FOR PRODUCTION OF MEDICINAL HERBS ON THE TERRITORY OF CARPATHIAN SERBIA

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Abstract

The subject of analysis is valuable and varied biodiversity, forest and medicinal and aromatic fund of NP "Iron Gate" ("Djerdap") and its protective zones, which extend within the administrative area of the municipality: Golubac, Kucevo, Majdanpek, Kladovo and Negotin in the Carpathian area of Eastern Serbia. The work is subject to assessment of the situation and opportunities for sustainable use and protection of biodiversity, forest ecosystems and the rich stock of medicinal and aromatic plants, whose exploitation and processing, including plantation farming can contribute to the diversification of agriculture and the economic and social viability of rural farm population, affected by depopulation. This is in line with accepted international obligations in this area (Carpathian Convention and relevant protocols - the Convention protocol on Biological Diversity and the Convention protocol on forests, WWF-DCP Carpathian Opportunity Initiative, etc.).

Keywords*: biodiversity, forest, medicinal herbs, protected area, the Carpathian Convention*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

URBANIZATION CHALLENGES FOR THE SUSTAINABLE DEVELOPMENT OF THE AGRICULTURAL SECTOR FROM THE REPUBLIC OF MOLDOVA

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Abstract

The paper aims to present the state of sustainable development of agricultural sector from the Republic of Moldova in the context of the urbanization and migration processes challenges. The research method is to compare indicators of economic and social development in the urban and rural areas over the past decade. The study relies on statistical data received from the National Bureau of Statistics and Ministry of Agriculture and Food Industry of Moldova. There are two main dimensions of the sustainable development of the agricultural sector. The first there are the urbanization challenges and population migration from rural areas. The second concerns the inneficient use of natural resources and capital formed in the rural area. Evaluation of sustainability of agriculture in Moldova has a particular importance, since it will help to create preconditions for implementation of reforms in the country's economy. Further research should be focused on identifying patterns of sustainable development in rural areas.

Key-words: *urbanization, sustainable development, structural changes, migration*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

THE QUALITY AND MARKET COMPETITIVENESS OF THE AGROALIMENTARY PRODUCT

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Abstract

The scope of the presented paper was to get acquainted with the quality management system for each of the stages of the agro alimentary products' branch. Through a cause/effect two-dimensional knowledge system, the chains following the quality along the agro alimentary channel were highlighted, such as: structure concept (through the complexity and dynamics of the agro alimentary system); the value for money interaction; indicators and conformity regulators; the use of the quality collection signs (their use being conditioned by the independence degree and implications of the economical agents, the nature of the legal connection between owners and users); the quality and its implications in the direct selling of the products by the agricultural producers; the conformity denomination and the promotion of the ecological products and traditional brands; the character and necessity to implement the new standard series ISO 9000:2000 and GMP; the quality in the promotion system (referring to the correlation of the conformity quality and the promotion means for the agricultural products); the electronic means of promoting the quality of agro alimentary through web pages, on the Internet.

Keywords**:** *market quality, quality management, ISO.*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

HUMUS SUBSTANCES AND SOIL FERTILITY

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Abstract

The humus substances play an important role in obtaining high yields and stable over time. He is permanently double process: the humus improvement of organic material reaching the soil and the mineralization of components at different stages of humus improving, The results of this process is influenced by soil type, climate, irrigation, fertilization. The beneficial effect of humus substances on plant growth may be related to indirect effects (fertilization efficiency or reduce soil compaction) or direct (overall improvement in plant biomass). Factors influencing the humus improving are: climate, biological, pedological, that cultural and technological factors: plant debris, C/N of debris, application of organic and mineral fertilizers and herbicides absorption on humus substrates.Mineralization of soil organic matter, humus substances is thus favourably influenced by mineral fertilization. In this paper we studied the effect of fertilizers on soil humus (C_t), organic matter humus improved (C_e), the carbon content of humus acids (HFA). The interpretation of results was observed that the intensity of nitrification is influenced by humus substances existing total.

Keywords: *alluvium soil, softness, humus substances, total carbon, humus carbon, extractable carbon .*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

WASTEWATER TREATMENT IN CITY CALARASI

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Abstract

A good knowledge of the phenomena of wasterwater treatment, causes and consequences, constitute a permanent incentive to an active attitude to protect and maintain the best possible environment.Discharge of untreated or poorly treated wastewater into surface water will have serious consequences for self-cleaning natural phenomenon, the Danube and Borcea arm is now possible to limit the recovery of natural biogeochemical balance, for which necessary:rehabilitation and modernization of existing treatment, completing treatment plant with facilities for biological stage, the laboratory to carry out self-monitoring, these measures are strictly necessary for raising the tratment of industrial wastewater and municipal.Quality indicators of wasterwater discharged into the environment suspension, BOD_5, COD-Cr, ammonium, total phosphorus, does not fall within the limits imposed by curent standards.Calarasi treatment plant components are in an advanced state of decay. Currently takes place in the rehabilitation and extension of wastewater in the city of Calarasi.

Keywords: *wastewater treatment, treated wate , treatment plant, emissary, quality indicator.*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

THE ANALYSIS AGRI-ENVIRONMENTAL INDICATORS OF THE AREA BUCHAREST-ILFOV

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Abstract

Ilfov rural areas are crossing a period of profound transformation, with the progressive abandonment of agricultural activities and rapid urbanization of areas near Bucharest. This is due, in large part,to the land use change from agricultural land, into land with alternative uses (residential, business), because in Ilfov, land costs have increased significantly, especially under the pressure of a dynamic real estate markets, such that farmers are determined to sell properties.

Keywords*: agri-environment, crops, irrigations, fertilizers*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

THE ANALYSIS OF THE EVOLUTION OF AGRICULTURE IN THE SOUTH WEST REGION OF ROMANIA

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Abstract

In the South-West Oltenia agriculture is an important resource, with over 1 million hectares for the cultivation of cereals (especially corn and wheat), oil plants (especially sunflower), vegetables (soy, peas, beans, tomatoes, cabbage, leek, onion) and fruit (apples, watermelon, melon, grapes) and potatoes. However, the productivity is inferior the productivity sector registered in EU countries due to insufficient technical equipment, small scale agricultural enterprises, which represent obstacles to effective development. Also, irrigation systems are underdeveloped.

Keywords: *agriculture, crops , development,evolution*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

ELABORATION OF SOME MODELS TO REDUCE THE HYDRIC EROSION IN OLT COUNTY

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Abstract

This paper presents some problem related to soil erosion, which are today among the most discussed topics in the circles of specialists worldwide. Hydric soil erosion represents "a physical phenomenon" resulting from the destruction or disposal of soil and rock particles from the action of water, wind, ice and gravity forces. As it is known, one of the most important components of the biosphere is the soil which is the loose, soft and reliable layer, that is found on the surface of crust and together with the atmosphere constitute the living environment of the plants. Soil degradation by hydric soil erosion cause the destroy of fertile topsoil of the soil surface and the impossibility of its recovery. Man, through misuse of land has led to a reduction of water retention in the soil, it evaporates or drains very quickly to surface clogging rivers and causing flooding, because the vegetation cover is missing as to cushion the effects of strong rainfall, this erosion is due to pollution by pesticides and chemical fertilizers, acid rain, massive cutting of forests, poor soil work which degrade its structure over time. In this context it is necessary the realization of a work aimed to analyse hydric soil erosion, damages bring by this and to provide appropriate measures to control and combat these very serious erosion phenomena that develop within agriculture area of Olt County.

Keywords: *hydric erosion, soil, fertility ,degradation*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

ANALYSIS OF BANKRUPTCY RISK BASED ON THE BALANCE OF ASSETS

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Abstract

Assessing the solvency of economic agents and default risk of bankruptcy depends on many factors. It is wrong to say that an enterprise with economic or financial difficulties is bankrupt. Bankruptcy is the last step in a possible long process of degradation in economic and financial situation of the company, having, in essence, a legal component. The main criteria underlying the determination of insolvency and bankruptcy are no implicit solvency and indebtedness, which will be analyzed through a concrete example based on an agricultural enterprise.

Keywords*: risk, bankruptcy, solvency, working capital.*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

POPULATION AS A FACTOR OF SUSTAINABLE DEVELOPMENT: A COMPARATIVE STUDY OF UPPER DANUBE, CARPATHIAN AND METROPOLITAN AREA

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Abstract

A growing number of researchers throughout the world are recognizing the fact that there is a strong link between population, its number and structure and the plans of sustainable development. For that reason, intending to contribute to sustainable development, improving the quality of life and poverty reduction, development strategies must never overlook the importance of the population factor. Only a study that encompasses all population aspects such as population number, its structure by sex, age, education, economic and the structure of agricultural population as well as households may be of use when considering priorities in the process of defining a development strategy. The paper is based on the results of an comparative study which focuses on the regions of Upper Danube, Carpathian and Metropolitan area. Its main goal is to indicate any potential problem related to population; problems which should, in near future, be the subject of economic and other policies such as social or demographic policy.

Key words**:** *population, agriculture, education, rural development, sustainable development.*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

ANALYSIS OF THE EDUCATIONAL METHODS AND CURRICULUM REQUIREMENTS FOR RENEWABLE ENERGY SOURCES

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Abstract

Article is dedicated to the sources, analysis and output of the project ECEVE - Implementation of E-learning Content for Energy Saving Farm into Vocational Education. The project is solved in the period 2010 - 2012 within the program Leonardo da Vinci - Transfer of Innovation. Its coordinator is the Slovak Agricultural University in Nitra, and one of the strategic objectives is to analyze training needs in the area of vocational education and training in the field of renewable energy sources. The members of research group analyzed needs in the field of education, and have regard to evaluation, expansion and improvement of educational programs for the current labor market needs and modernizing didactic methods and resources for selected target groups - especially those members involved in vocational education and training.The paper also describes a new instructional design, course development and learning process management methodology based on new learning principles making e-learning more efficient by shifting from the "passive" book paradigm to a new "active" e-learning content structure and information workflow conveying the knowledge.

Key words**:** *needs analysis, e-learning, renewable energy resources, vocational education and training, project ECEVE*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

BASIC PRINCIPLES, IMPORTANCE AND DISTRIBUTION OF ORGANIC GRAINS GROWING GLOBALLY AND IN THE REPUBLIC OF SERBIA

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Abstract

Cereals cover about 32% of the world's arable land and represents the basis of direct and indirect food of most countries population, so the way and amount of these crops production is very important factor in the management of natural resources and the global population food security creation. As the organic farming itself is defined as a viable, productive, economic and socio acceptable system of food production, such as in the greatest volume could contribute to the protection of human health and the environment when it comes to corn growing. Surfaces covered with the grain grown by organic technology represent only 6% of world organic farmland, so there is significant potential for expansion of production. This paper presents the basic principles of wheat growing based on organic technology, shows the countries, currently the largest producers of organic grains and presents the situation in the Republic of Serbia.The aim is to show the presence of surfaces suitable for organic wheat growing globally and in the Republic of Serbia, but also to emphasize the importance of these crops organic production technologies spread in order to preserve natural resources and the sustainability of agricultural production

Keywords **:** *Organic agriculture, grain, surfaces*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

GLOBALIZATION AND ITS IMPACT ON PAKISTAN'S AGRICULTURE

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Abstract

Globalization is the term used for multidimensional set of transformative processes and outcomes that work together with spaces and people .It is indeed an issue of prime importance in today's world. Issues of food shortages have been with the mankind from a long time. Owing to a small number of technological advancements, the food requirements of rapid increasing populations were traditionally fulfilled through cultivating more area. The world is experiencing scarcity in fertile and irrigable lands at large, additional development will rely on fallow-based farming and bringing cheaper and lesser yielding land into cultivation (Smith, 1998). The job gave the impression of all the more overpowering as progress in medication and health escorted to longer life anticipation and superior fecundity rates.

Keywords: *sustainable development, agricultural productions, Pakistan*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

MIGRATION AND ITS ENVIROMENTAL EFFECTS

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Abstract

*Migration can be ongoing shifting of a particular person from one location to another. The reason of shifting depends on selected thought deficiency, shock, difficulties, hopes, enthusiasm. Case study ended up recognizing the extent to which in turn migration can be relying on the specifics especially natural environment. This particular document expects to research the actual linkages between the atmosphere as well as migration using secondary data. Lots of investigation may be completed with this area to date, and the research is supposed like an intensifying method of the actual evaluation from the environment sizing associated with migration***.**

Keywords: *Migration; Environment; Economy; Pakistan*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

STUDY ON BIODIVERSITY OF LIVESTOCK FOR FOOD RESOURCES

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Abstract

One of the major problems currently facing zootechnical production in Romania is the reduction of number of animals and breeds. Many animal farms have a small number of animals, and technological conditions of exploitatation are influenced by lack of financial resources of farmers. This study aimed to identify populations of animal species and breeds of economical interest as resources for diversification of food production. For romanian farmers the sheep and goat farming can be a chance to compete with EU farmers because the milk of sheep and goats is not subject to quotas, and in Romania are large areas suitable for this activity. The diversity of production, low power consumption and nature of feed they consume, provides to growth and exploitation of sheep and goats a character of future sustainable activities. Currently, animal biodiversity is ensured mainly by farmers with small and medium holdings, or pastoral environmental conditions that shape their animal populations based on interest and preferences. In contrast, growth-intensive industrial action against biodiversity, requiring specialized breeds with high productivity and high uniformity.

Keywords: agro-food production, biodiversity, animal populations.

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

CORELATIVE ASPECTS OF SUSTAINABLE DEVELOPMENT OF THE AGRICULTURE AND FOOD SECURITY

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Abstract

At the present time agrarian sector faces, more than ever, the challenge not only to food producing in a sustainable manner, but also to make them available. This involves increasing the degree of food safety that in contemporary society is not only a vital interest for much of the world population, but also a major requirement for the normal international life.

Keywords*: sustainable development, food security, integrated agriculture, consumption of food products*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

DEGRADATION AND RECOVERY OF BIOTA IN ERODED CHERNOZEMS OF THE REPUBLIC OF MOLDOVA

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Abstract

The biota's state of the ordinary chernozem located in the southern zone of the Republic of Moldova has been investigated. Arable chernozems with different degrees of erosion (slightly, moderately and severely eroded) have been compared to the chernozem with the normal profile and eroded soil which was under 58 year's old fallow. The biological degradation of soils occurred as a result of water erosion processes. The parameters of the biota very depending on the erosion degree and decrease in the following sequence: chernozem with the normal profile→ slightly eroded chernozem→ moderately eroded chernozem → severely eroded chernozem. Losses of microbial carbon amount to 107-248, 305-433 and 513-535 kg C ha^{-1} according to the erosion degree. The loss of species and families of invertebrates in moderately and severely eroded chernozems is of 63 - 100%. Diversity of the Bacillus family decreased from 14 species to 7 - 10 species. The decline of enzymes activities in moderately and severely eroded chernozems reaches 29.2-55.6% for dehydrogenase and 85.7-94.3% for urease. A scale of biological parameters has been proposed to assess the stability of biota of the ordinary chernozem and to develop the national soil quality standards. The recovery rate of the biota and fertility of eroded arable chernozems that moved to the category of fallow soils has been determined. In this context, the management of fallow land areas has been recommended aiming to regenerate the edaphic fauna and microorganisms and to restore the natural quality of eroded chernozems.

Keywords**:** *biota, eroded chernozems, degradation, fallow*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

EVOLUTIONS OF THE HOUSEHOLD THROUGH AGRICULTURAL COOPERATIVE AND COMMON AGRICULTURAL POLICY

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Abstract

The aim of the present paper is to seek to develop ways of developing the agricultural households into the stage of agricultural farms. Based on the agricultural households' peculiarities in relation to the implementation of the Common Agricultural Policy and its positioning to the market (the association for the production and sale of the products), sides that directly affect the transformation of agricultural households into farms have been highlighted: the structure of the concept of agricultural household (through its complexity and dynamics); the commercial evolution of the household-farm after the EU accession; the household-market and price-quality interaction; indicators that increase the holding; the association for the production and sale of agricultural products; the focus on obtaining traditional and ecological products; pesticide norms used in obtaining holdings in relation to obtaining traditional and organic products; the promotion and sale of traditional and ecological products at a community level through cooperatives; the conformity designation and obtaining traditional brands of household status; obtaining traditional and organic certification at cooperative level; the national subsidies for the production of traditional and ecological products; the character and the need to implement the Common Agricultural Policy in households; the direct payments for holdings within the Community Agricultural Policy; the implementation of the Community Agricultural Policy at household level; the absorption of CAP direct payments.

Key words: *agricultural household, commercial family farm, traditional/organic products, agricultural cooperative.*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

AGRICULTURE IN TERMS OF EUROPEAN UNION STRATEGY FOR DANUBE DELTA ADOPTION

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Abstract:

This paper shows how the adoption of the EU strategy for the Danube will affect agriculture in areas along the river and the main objectives of the strategy for agriculture. Among the Danube's states, Romania has the largest area in the Danube basin, Danube strategy aims a macro-regional development and is also an action plan for the river areas and neighbouring countries. The people from the Danube delta have a way of life unchanged for centuries and agriculture remains a vital sector for the Danube region. Farmers will need support for adopting and maintaining systems and agricultural practices that will contribute to achieving the strategy's objectives for the environment and climate changes.

Keywords **:** *Danube Strategy, agriculture, sustainable development, co-operation, objective*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

EVOLUTION OF THE AGRICULTURAL SYSTEMS IN THE REPUBLIC OF MOLDOVA

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Abstract

The paper aims to analyze the evolution of the agricultural systems in the Republic of Moldova and to assess the impact of the structural changes over the national economy. In order to achieve this, there were used the following research methods such as: analysis of the economic indicators, methods of comparative analysis, analysis of the public policies' impact on the agri-food sector and rural area. Moldovan agriculture is based on three agricultural systems: conventional, of subsistence and ecologic, which do not provide the performance of the sector and competitiveness of the agricultural products on the internal and international markets. In comparison with the neighboring countries which have recorded greater rates of agricultural production growth since 2001, Moldova has recorded more modest results, showing a stagnation in agriculture. This situation is associated with the major risks related to the structural changes that may affect the rural area and the economy as a whole, such as: the sharp decrease of rural population in some localities, aging, inefficient use and depreciation of assets in rural areas, decrease of the usage level of the bio-climatic potential. Currently , the agricultural systems that are based on farm products diversification, reducing dependence on imported resources, ecological agriculture and the trend towards the high value added products are under discussion and development.

Keywords**:** *agricultural systems, uncertainty, adaptation, bio-climatic potential*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

EXACT NAVIGATION OF SMALL AGRICULTURAL MOBILE ROBOTS WITH THE UTILIZATION OF LASER RAY

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Abstract

Nowadays in agriculture there is a raising application of mobile robots and this increases the demand on better punctuation of their work. The autonomous mobile appliances have to be capable of independent working in both outside and inside environments. When working inside the agricultural buildings, we usually do not have enough GPS signal. That is the reason of our GPS free solution. We cannot accomplish punctual navigation with the use of only one navigational method. In mobile systems, we properly use navigation based on a relative navigation. However, there is a disadvantage of the occurrence of an error which grows during the working time. This error needs our correction and we can therefore use the method of total navigation, as it is in our case. Our theme is focused on the laser correction of the odometrical navigation errors which is a part of relative navigational methods. The greatest advantage of this system is the exact establishment of the position in coordination network, thereby also the increase of the exactness of mobile robot devices.

Keywords **:** *mobile robotics, navigation, total navigation, laser navigation*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

THE EFFECT OF PESTS ATACK ON THE QUALITY PARAMETERS OF ROMANIAN WHEAT CROPS

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Abstract

There have been analyzed 292 samples of Romanian wheat, from the 2007 to 2011crops, in order to assess the influence of the pests attack, upon the main quality parameters of wheat. In this respect, there have been analyzed the following physical and chemical indices: Hectolitric mass (kg / hl), Humidity (%), Protein content (%), Wet gluten content (%), Falling number (sec), Deformation index (mm), Gluten Index parameters, Content of seeds damaged by various pests (%), and the content of seeds damaged by Eurygaster (%). The results showed a significant influence of seeds damages, caused by various pests, on all the quality parameters of wheat, excepting the Falling number.

Keywords **:** *wheat quality, crop pests*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

RESEARCHES CONCERNING THE EFFECT OF SOME IMPROVING FORMULAS IN MEDIUM QUALITY FLOURS

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Abstract

Two enzymatic preparates having mixed amylasic and hemicellulosic activity (Bel'ase PG 3098 and Alphamalt A 17098) and a preparate with L - cysteine were tested both separately, and in combination with citric acid, on a medium quality wheat flour. Our tests followed the change of the rheological properties of flour, using the alveografical method. Results showed that the enzymatic preparates had a significant decreasing effect on dough resistance and an increasing effect on dough extensibility. Also, we noticed that unlike L-cysteine, the effect of the enzymatic preparates on the energy absorbed by dough kneading (W) was insignificant. However, Alphamalt A 17 098 can be considered the most effective substitute for L-cysteine, in terms of decreasing the alveografic parameter P / L. The effect of citric acid addition on the flour quality has been the increase of dough resistance and decrease of dough extensibility. The citric acid cancelled the influence of the enzyme preparates on the rheological properties of dough, the effect being higher as the citric acid dose was higher.

Keywords **:** *amylase, hemicellulase , L – cysteine, citric acid, alveogram*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

DEVELOPING KNOWLEDGE ON USING AND PRODUCING STRUCTURED WATER

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Abstract

One of the most important goals of the good agricultural practices is to ensure protection of water, vital essential element of any form of life, whose quality and quantity ensure quality and quantity of agricultural production, but at the same time is very vulnerable to agricultural activities of any kind. The water can be structured, which means restoring its power of resistance and self-purification by transforming molecular clusters into a smaller group which may enter the cells and help oxygen become more available. Using structured water in agronomic ecosystem, for the first time in Romania on plants, harvests and environment, can increasing self-cleaning effect and micro-biological stability. Structured water can determine decreasing the incidences of specific diseases in protected or not protected agricultural crops. Important changes on agricultural products quality and quantity will be expected as results additional as physiological processes caused by slippery structured water, which glides faster, covers surfaces more completely and allows ingredients to dissolve more completely.

Keywords**:** *agricultural practices, water proprieties,*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

HIGHLIGHTS IN MATCHING LABOUR WITH LABOUR MARKET NEEDS IN THE REGION OF SOUTH-WEST OLTENIA

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Abstract

This paper emphasizes the importance of several items in linking labour with labour market needs in the region of South-West Oltenia. By reference to the proposed research objectives, research instrument was a sociological survey, representing two sets of questions for two distinct target groups: unemployed and representatives of companies in the region. These instruments allowed an assessment of labour market in South-West Oltenia region, the present study highlighting some aspects of skills that alleged employee should had, from two perspectives: the representatives of companies in the region and the perspective offered by unemployed from the same region. The conclusions are outlined also in two ways. From the perspective of employers, who, in the common sense, said that much of the unemployed had satisfactory professional competences and perspective of unemployed showing that the main reasons for accepting a job were economic: accordingly wage and salary increases.

Key words: *unemployed, employers, labour market, region of South-West Oltenia*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

INVESTMENTS, SUBSIDIES AND IMPLEMENTATION OF SCIENTIFIC AND TECHNOLOGICAL PROGRESS – A LEVER TO ENHACE PHYTOTECHNICAL BRANCH EFFICIENCY

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Abstract

For the economy of agricultural enterprises a great importance has investment activity, which directly influences the production potential. Investments for agricultural development have a pronounced innovative nature, material conditions are created to promote the technical progress and scientific research results in agriculture, which would provide the improvement of production means, technologies, forms of production organization and renewal with various types of products (Brassica). Capital investments play a critical role in ensuring economic development and restructuring of agriculture. One of the directions and priority sectors of agriculture which will be subject to subsidy policy is modernization of agricultural sector.
For it will be subsidized investment activities related to creation of agricultural production processing units, provision of technical and agricultural equipment, creation of infrastructure for collecting agricultural products, supply of agricultural inputs, perennial plantations, production of seeds, planting and reproductive material, development of service sector in agriculture, and also construction and restoration of irrigation and drainage systems.

Keywords*: investments, subsidies, efficiency, phytotechnics, technical progress.*

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

GENETIC GAIN OBTAINED BY INTRODUCTION OF PIONEER CORN HYBRIDS IN ROMANIA OVER FOUR DECADES

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Abstract

Corn PIONEER hybrids representing breeding introduction and cultivation in Romania in several eras (decades) were reproduced and tested during 2008 and 2009. Experiments design was a split-split-plot: four densities were split in two water stress (full irrigated and limited surviving irrigation) while hybrids representing different decades were splits into densities. Full input technology was applied to the trials field and supporting traits were collected and used to estimate the genetic gain. Genetic gain for grain yield expressed as the slope of the linear regression between yield and agronomic traits and years of hybrid registration in Romania was on the overall experimental factors 0,55 q/year at the hybrid maturity group FAO400-500 and 0,80 q/year at the maturity group FAO500-600. Stress level affected significantly the level of genetic gain for yield only in later hybrids (FAO500-600) but in both maturity groups in case of plant densities. Plant and ear height generally were not significantly modified or were slightly reduces while ASI (anthesis silking interval) highly correlated to drought tolerance, was reduced.

Key words: corn, genetic gain, hybrids, *Zea mays* L.

Scientific Papers Series Management , Economic Engineering in Agriculture and Rural Development
Vol.12, Issue 1, 2012
PRINT ISSN 2284-7995 e-ISSN 2285-3952

SUSTAINABLE ECONOMICS IN THE FRAMEWORK OF EUROPE 2020: INVESTMENTS IN BIODIVERSITY

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Abstract

In 2008 the European Commission presented a new plan for development of "sustainable industrial policy", which includes biodiversity in the meaning of new markets and opportunities to satisfy demand with particular behavioral characteristics. The economic justification of the business activities in the framework of biodiversity goes beyond the traditional analysis of market prices and expediters. Traditional approaches are easier to be applied in the manufacturing sector, considering the input and output quantitative indicators and price information. Considering the characteristics of the biodiversity and the role of the local governments, it is difficult to define and apply appropriate indicators that represent the level of the market prices, the quality of the services provided and the impact achieved. The present paper aims to develop a new approach in achieving two crucial goals: balance between the economic growth and environmental priorities; and development of a system for financial stimuli for those companies, which follow the criteria for sustainable development. Against this background the general relationship between the agriculture and the biodiversity or the concept of agro-biodiversity; and the multifunctionality in agriculture will be analyzed. The paper identifies the new business opportunities offered by the biodiversity and ecosystem services. It corroborates the necessity of a range of public policy measures at national, regional and local level which will enable a viable business initiatives, cooperation, tax incentives and strict performance standards.

Keywords: *biodiversity, agriculture, added value, government policy*