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An Investigation of Extensional – Educational Effective Factors on Transgenic Plants Usage: The Perception of Research Institutes Experts in Tehran Province

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Abstract

The overall purpose in this study was to investigate extensional- educational factors that influencing on transgenic plants usage. The research design of the study was a survey utilizing descriptive-correlation technique. The target population consisted of 85 biotechnology experts at research institutes of Tehran province which were studied by a census study (N=85). Finally 63 experts were answered the questionnaire. A questionnaire was designed as a data gathering instrument. The instrument content validity was achieved by a panel of agricultural extension and education and biotechnology experts. A reliability analysis of questionnaire was conducted by a pilot test and a Cronbach's alpha values were obtained ranging 0.83-0.92 for various parts of the questionnaire. Descriptive findings indicated that using of mass media (radio & TV) were very important and using of sample garden or fields were less important about transgenic plants usage. The results of compare means tests showed that executive position and education course been effective on transgenic plants usage at .01 and .05 respectively. The results of bivariate correlation test showed that statistical there was a positive and significant correlation between relations with extension experts (p=.0l), mass media (radio & TV) (p=.0l), scientific grade (p=.05) and transgenic plants usage. The result of the multivariate linear regression indicated that 53.2% (R^2=0.532) of the variance in transgenic plants usage could be explained by the relations with extension experts, mass media and scientific grade.

Keywords: Extensional- educational factors, Transgenic Plants Usage, Biotechnology Experts

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Loss of Social Welfare Due to Overexploitation of Groundwater in Firozabad Plain

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Abstract

Level of groundwater is decreased which is mainly because, withdrawal of groundwater is increased, because of lack of right management. Economics of rural based farming and farming is dependent of water so decreasing of groundwater effects social welfare. In this study decrease of welfare measure by reason of reduction of groundwater level considered. This study investigated the impact of withdrawal on a measure of social welfare with using econometric model. Production function and social model was estimated. Data were obtained for semi-deep and deep well, so 130 farmers were chosen at 2007-2008 in Firoozabad plain with a random sampling method. Results show that value of marginal product is more than cost of withdrawal of water. Social welfare decrease 924110 and 431210 tomans by decreasing of one meter in level of groundwater for semi-deep and deep well, respectively. The result indicated that loss of social welfare is estimated to be 8.1 and 3.8 tomans per cubic metric reduction in groundwater for semi-deep and deep well, respectively.

Keywords: Welfare, Production function, Groundwater, Cost of exploitation

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جلد ۲۵، شماره ۱، بهار ۱۳۹۰، ص. ۳

Studying the Willingness to Pay of Wheat Farmers to Control Weeds in Different Growth Stages (Case Study of Khorasan Razavi)

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Abstract

In this study, willingness to pay of 180 wheat farmers in Khorasan Razavi province to remove weeds in different options and different growth stages in 2008 through logarithmic regression was investigated. The results indicated that farmer's total annual income, being perennial of weeds and dummy variables percent of removing weeds in growth different stages, had positive and significant effect on farmers' willingness to pay. The most important variable, with a positive effect on farmers' willingness to pay to manage weeds in all three growth stages, is their annual income. The average farmer's willingness to pay to remove weeds in each of the existing status from germination to the generation growth stages trend had increased. According to the results, suggested taking into account the farmers' economical behavior for managing weeds in different growth steps in order to receive necessary management messages toward producing higher effective herbicides especially applicable in reproductive stage, willingness to pay for herbicides with different efficiencies in controlling weeds, specific look toward management of perennial weeds and combined controlling methods assuring above 70% controls.

Keywords: Wheat, Willingness to pay, Khorasan Razavi, Weeds

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جلد ۲۵، شماره ۱، بهار ۱۳۹۰، ص. ۴

The Investigation of Comparative Advantage and Supporting Policies of Raisin, Qazvin, Iran

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Abstract

Comparative advantage is an economic term which is used to compare potential and actual production capacity of a country in a given commodity with the rest of the world. Therefore, researches in this field could have a dual approach. In one hand it could demonstrate country's production capacity in the production of commodities that are not produced yet and in the other hand it can illustrate the de facto production of a commodity in a given country. This study used Policy Analyses Matrix (PAM) and Domestic Resource Cost (DRC) for calculating the comparative advantage. For investigation support policies PAM indices were used. Amount of DRC index for raisin is 0.78 that demonstrates comparative advantage for this product. Nominal Protection Coefficient (NPC) index is 0.59 that indicates domestic policies reduced farmer's income to the level which is less than international prices. Furthermore, these policies are against production of this commodity and government received implicit tax from producers. Nominal Protection Coefficient of Input (NPCI) index shows the effect of government policies on input prices. This index is 0.72 for Qazvin rasin that shows government pay input subsidy to farmers. Effective Protection Coefficient (EPC) index is an index which shows the outcome of government policies regarding both input used by the farmers and farmers' income. This index is 0.57 for raisin that indicates government does not support this product as far as input used by the farmers and their income is concerned.

JEL: F_{14}, Q_{18}, Q_{17}
Keywords: Comparative Advantage, Effective Protection Coefficient, Domestic Resource Cost, Raisin, Qazvin

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جلد ۲۵، شماره ۱، بهار ۱۳۹۰، ص. ۵

Economic Study of Cross-Sectional of Agriculture and Husbandry in Fars Province

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Abstract

In this research by using a synchronous equivalents system, the functions of supply and demand of any kind of meat and corn in Fars province, Iran are considered. The purpose of this study is to predict the functions of supply and the price of meat and corn, recognition and analysis of effective issued on supply and price of this sections, considering the effect of shocks and the cross sectional relationships using the impulse response function. To study and analysis of effect of shocks, the VAR model is used by analysis of impulse response function. To predict all the intra-relations of endogenous variables all the equations are solved synchronously. Ultimately, the static coefficients show the effect of shocks of the market on market of meat and corn. The results show that the two sections of agriculture and husbandry dramatically affect the agriculture. So that, the shocks in market of meat affects supply and price of corn more than the shocks in market of corn and price of meat.

Keywords: Shocks, VAR model, Simultaneous equation model (3SLS), Impulse response function

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An Investigation of Demand For The Major Food Groups In Urban Areas Of Iran

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Abstract

In this article, we examine the major food groups demand in urban areas of Iran for the period 1361 to 1386 by almost ideal demand system, Laspyres Price Index and using Seemingly Unrelated Regression(SUR). In this study, was included mean population of family, with commodities price index and real expenditure(income) of families, as independent variable, in equations system. The resultes showed that the mean population of family, in the most of equations, had significant effect on family demand. Also, homogeneity and symmetry restrictions has been tested. Results show that all of groups have negative own-price elasticities and the exception of meat, dried fruit, oils and fats and sugar and its products, the other groups are inelastic and among of them, grain is most inelastic and dried fruits is most elastic. Therefore, the government can use pricing policies in long time, in demand good management and correction of consumption model for given groups that them consumption have high elasticity then them price changes. Cereal and its products, bread, egg are necessary groups in food basket of urban families, too and sudden cut of subsidy of the groups isn't nice and is offered scaledown of it. Meat, fresh fruits and vegetables are luxury and grain is inferior.

Keywords: Linear Approximation Almost Ideal Demand System(LA/AIDS), Laspyres Linear Approximation Price Index, Population mean of family, Income(Expenditure) and Price Elasticity, Urban Areas

JEL: C32, C51, D12, E21,Q1

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Investigating Relationships between the Energy of Consumed Inputs and Yields of Tomato, Cucumber and Melon under Plastic Cover Cultivation in Firoozabad of Fars province

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Abstract

Intensive and inefficient use of energy leads to degradation of natural resources and environmental problems. This study evaluated the relationship between the energy of consumed inputs and yield of tomato, cucumber and melon using the Cobb–Douglas production function. The data were collected from 90 farmers in Firoozabad using a questionnaire. The farmers were chosen by simple random sampling method. Econometric estimation results showed that energy inputs of human forces, machinery and irrigation water have significant and positive effects on yields of tomato and cucumber. While energy inputs of working force, chemical substances and irrigation water contributed significantly and positively to the yield of melon, the effect of fertilizer on the yield of this crop was negative. The impact of human labour energy was found the highest among the other energy inputs in tomato and melon production, but in cucumber production the highest share was related to the irrigation water. The results also indicated that the impact of indirect energy was higher than the impact of direct energy and the contribution of non-renewable energy was higher than renewable energy on yield of the studied crops.

Keywords: Consumed inputs energy, Direct energy, Indirect energy, Renewable energy, Non- renewable energy, Tomato, Cucumber, Melon

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Investigating the Impacts of Operation and Maintenance Management Transferring of Irrigation and Drainage Networks to Private Associations (Case Study of Sistan Plain)

M. Tabaraei[1] – **S. Soltani** [2*]– **H. Khaksar** [3] – **A. Zamanzadeh** [4]

Received: 2-10-2010
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Abstract

Among different water usage in Iran, agricultural sector with 94 percent is the largest water user. Considering the share of agriculture in water usage, farmers are the main factor in water resources management. Therefore, optimal utilization of irrigation and drainage networks would depend on farmers' effective role. Due to the limited water resources in different country regions, including Sistan plain, that seems necessary to protect it. This study investigates Positive and negative impacts, activities that would be privatized and problems that arose during implementation of transferring in Sistan plain. Studied sample included 150 users and experts in 1388. Results showed that transferring would result in reducing water resources extraction and improvement in agricultural sector in studied area. Eventually some recommendations were proposed to improve the transferring program.

KeyWords: Management, Irrigation and Drainage Networks, Private Association, Sistan Plain

JEL Classification: M11, Q15, L33

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جلد ۲۵، شماره ۱، بهار ۱۳۹۰، ص. ۹

Bottleneck Ranking Facing in Mashhad Agricultural Production Cooperatives with Emphasis on Marketing System (The Application of Entropy Criteria)

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Abstract

In this study, the degree of importance facing the bottlenecks of production cooperatives was investigated applying entropy criteria on data of 107 members of agricultural production cooperatives (APCs) in Mashhad, Iran. Results show that lack of comprehensive long-term planning by the managers and members of cooperatives in marketing efforts during and after production process (with weight 0.1), intervening middleman and brokers on selling products by the cooperatives (with weight 0.0727) and not having employed specialized labors by cooperatives to deal with sale and purchase of products (with the weight 0.0690) are respectively as the most important and high effective bottlenecks in inefficient marketing system in agricultural producing cooperatives. According to the findings, training classes for managers and members of cooperatives with marketing principles and procedures, implementing short-term and long-term supporting policies and strategies to by the government in reducing brokers activities from product distribution and finally those abolishing, providing relevant atmosphere for exchanging experiences and specialization of successful agricultural production cooperatives in the process of marketing to other production cooperatives, and employing trained and educated workers in cooperatives, as factors affecting the power to strengthening agricultural production cooperatives marketing system are recommended.

Keywords: Agricultural Production Cooperatives (APCs), Mashhad, Marketing Complication, Entropy Criteria, Likert

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جلد ۲۵، شماره ۱، بهار ۱۳۹۰، ص. ۱۰

Evaluating Break Point of Paddy Farms through Cost Function Approach (Case Study: Guilan Province)

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Abstract

Present study used Translog cost function for determining break point of paddy farms. Requested data set include inputs' prices and quantities, and production amounts had been acquired from 500 rice farmers of Guilan province at 2009. Model used in this study is seemingly unrelated regressions (SUR). The results showed that labor and pesticides had the highest and lowest share of production costs, respectively. Accordingly, increasing labor wages puts the greatest effect on rice prices. Estimated returns to scale measure (ES) showed that there are increasing returns to scale in investigated paddy farms. Accordingly, splitting paddy farm will increase the cost of rice production and by increasing price of rice competitiveness of farmers reduced in compare with foreign competitors. Present study showed that the break point of paddy farms was one hectare so farms less than one hectare will increase average production costs, significantly. A policy recommendation is that paddy farms less than one hectare should be integrated.

Keywords: Cost Function Translog, Inputs Shares, Seemingly Unrelated Regressions, Returns to Scale, Rice, Guilan

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Determination of Structural Change in Iranian Consumers Preferences' for Rice Commodity Basket: WARP and K-W tests

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Abstract

Successful presence of Indian and Pakistani rice in Iran's market due to having similar quality with the domestic rice, extensive advertisement, and good packaging has faced rice production in Iran with a big challenge. Assuming that the attractions of Iranian consumers toward these imported rice varieties are a signal of changes in the preferences of the domestic consumers in favor of the imported rice and a kind of loyalty establishment towards these products, then the continuity of production of rice in Iran might be under serious question. The present study investigates this issue. It tries to test the structural break in preferences of rice consumption in Iran. To this end, the nonparametric WARP approach together with K-W statistical test are applied to time series data over 1990-2007. Results of WARP formation show a sort of structural changes in consumer preference in 1999. However, results of K-W test revealed that this change in the preferences is not a permanent structural change but is a temporary change due to a kind of nonlinear transitory shocks in the rice market in Iran. The stability of Iranian preferences towards domestic rice leads to the conclusion that the Iranian producers can use this opportunity and reestablish the position of the Iranian rice in the market by improving their competitiveness through improving the quality, advancing productivity and reducing the cost of production.

Keywords: Consumer preference, Revealed preference test, Transitory nonlinear shocks, Rice, Iran

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Comparison of ARIMA, Fuzzy Regression and Fuzzy Auto Regressive Integrated Moving Average Methods in Price Forecasting (Case Study: lamb prices)

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Abstract

Nowadays, due to the environmental uncertainty and rapid development of new technologies, economic variables are often predicted by using less data and short-term timeframes. Therefore, prediction methods which require fewer amounts of data are needed. Auto Regressive Integrated Moving Average (ARIMA) model and Artificial Neural Networks (ANNs) need large amounts of data to achieve accurate results, however Fuzzy Regression (FR) models, compared with other models, are more suitable for conditions with less attainable data. In order to solve the above mentioned problem and to achieve more accurate results, in the present paper three methods have been evaluated: Auto Regressive Integrated Moving Average (ARIMA), Fuzzy Regression (FR), and Fuzzy Auto Regressive Integrated Moving Average (FARIMA) which is resulted by combining ARIMA and Fuzzy methods. Comparing the accuracy of predictions, based on two criteria RMSE and R2, indicated that Fuzzy Auto Regressive Integrated Moving Average (FARIMA) had the best results in forecasting the price index.

Keywords: Price prediction, ARIMA, Fuzzy regression, FARIMA

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جلد ۲۵، شماره ۱، بهار ۱۳۹۰، ص. ۱۳

Strategic Importance of Water in Iranian Overall Economy: A CGE Modeling Approach

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Abstract

Water is a vital resource for every biological and human phenomena. Nowadays, water management and conservation has a great importance not only in developing countries, but also in developed countries. In traditional economics, water is not taken into consideration as a factor of production in the national accounts. Nevertheless in reality, water is the primary input of many goods and services directly and indirectly. Water quality and quantity issues are one of the main challenges facing Iranian development process. In Iran the structure of related organizations in water management is based on the separated policy responsibilities and functions. This study tries to analysis the role of water in Iranian economy by using computable general equilibrium modeling. Results show that the share of water sector in the economy has been undervalued, because of the problems in water national accounting and no market price for water. Given the importance of water resources in economic and social development, it is necessary to change the sectoral management to integrated water resources management (IWRM). Thus, integration of hydrological and economic information and providing the water satellite account system is the first step of IWRM.

Keywords: Importance of water, Computable general equilibrium modeling, Social accounting matrix, National accounting

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جلد ۲۵، شماره ۱، بهار ۱۳۹۰، ص. ۱۴

Iran's Comparative Advantage in Production of Saffron

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Abstract

Saffron as Iran's red gold is the most valuable agricultural products and the most expensive spice in the world, and plays an important role in country's export and after pistachio, is the most important nonoil export product. In this paper, we investigate protection indexes, comparative advantages in production and competitiveness of Iran's saffron in the world's markets applying PAM method on 2008 data.The counting of DRC and UC_S shows that Iran has a high comparative advantage in saffron production. results imply that subsidy excise on the production factors, tax impose on the product and in general, excise a indirect tax on the saffron production value added. Also counting UC_d and UC_x indexes show that saffron has competitiveness in 2008.

JEL classification: F40

Keywords: Comparative Advantage, Protection policy, Competitiveness, Saffron, Policy Analyses Matrix

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