

Date Palm Research Center of Excellence King Faisal University

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Saudi Arabia

Research Program

Extension and Economics of Date Palm and Its Derivatives Program (EEDPD)

Duration: Five Years

Funded by: Ministry of Higher Education, and KFU

Starting date: 2017



Research Program

EXTENSION AND ECONOMICS OF DATE PALM AND ITS DERIVATIVES PROGRAM (EEDPD)

Overview



Saudi Arabia rates the third in the world in producing date palm, it produced about 1.066 million tons in 2012, but it exported about 11% of its produce in the same year.

Scope



The Extension and Economics of Date Palm and their Derivatives Program (EEDPD) generally examines all aspects of date palm economics in terms of production, processing, marketing, and consumption. This program conducts studies and applied economic research on dates, date palm residues, and date palm processing.



Vision

Leadership and excellence in economic studies and research for date palm products and dates processing, specially which are produced by using biotechnology, to be a reference for local, regional and upgraded to the world through a strategic partnership with the help of various communities' organizations.

Mission

Adopt, conduct and support research studies and employ them to maximize the economic return from production and marketing of dates and their by-products and palm trees residuals.

Research Strategy

The program research adopts economic evaluation strategy to enhance the Date Palm Sector Productivity.

Program objectives

- Enriching scientific and qualitative research and studies in various areas of economics of dates and their by-products.
- Developing a production, marketing, and processing strategy to achieve an economic value-added gain.
- Developing national capacity building programs for scientific research in date palm economics.
- Developing scientific and research partnerships with local and international universities and research centers.
- Developing partnerships with stakeholders to promote the Saudi dates in foreign markets.

Research Theme, Justifications, Objectives, and Activities:

a. Date Palm Marketing:

Justification:

Dates marketing system in the kingdom suffers from several constraints, such as weak marketing infrastructure, volatility and low prices and the lack of implementing standard and specifications, in addition to insufficient marketing information and failing to properly conduct post-harvest treatments.

Objectives

This initiative aims to improve and develop the marketing system to ensure that the workers in the date palm sector, especially farmers, gain suitable income from date palm farming, and minimize the loss and waste of the dates and the control the intermediaries.

Activities

- ✚ Developing a marketing plan for the dates in the Kingdom
- ✚ Providing information necessary to clarify the requirements of joining the global markets specially those related to domestic varieties, required - packaging and dates' specifications.
- ✚ Participating in increasing domestic date demand through national campaigns to raise awareness, especially between youth.
- ✚ Participating in implementing advertising and promotion campaigns for Saudi dates and their by-products.
- ✚ Suggesting for establishing new marketing channels for local consumption to reduce production costs.
- ✚ Assisting in the establishment of cooperative societies for date palm producers.
- ✚ Helping in establishing a marketing company for Saudi dates in the foreign markets and conduct the necessary studies for it.

b. Economics of Date Palm Processing:

Justification:

Date processing sector is considered primitive, since only about 7% of the total production of dates in the Kingdom is processed. The main activity of this sector is packaging, thus it cannot absorb the surplus, which leads to low prices. This sector is characterized with high cost and lack of producers' commitment to appropriate specifications for manufacturing processes.

Objectives:

This initiative aims to develop related date industries and their by-products, in particular those industries that rely on biotechnology, to produce non-traditional goods. These goods should be characterized by economic feasibility, global and large domestic demand. In addition, it aims to enhance the manufacturing of palm waste to ensure added-value for the sector.

Activities

- ✚ Helping in developing standards and specifications for the processed dates that are consistent with the domestic and global markets of dates and their by-products requirements.
- ✚ Creating an information database for the cultivation, production, processing, and marketing of dates and make it available to producers, exporters, processors, and other stakeholders.
- ✚ Developing the existing processing plants and the construction of new factories to absorb increased production.
- ✚ Encouraging using low-quality dates and their residues for dates' by-products.
- ✚ Helping in the application of total quality programs.
- ✚ Encouraging the establishment of small enterprises in the producing areas for processing palm dates to decrease losses and wastes. These enterprises should be allocated to newly graduated youth funded by soft loans from the Agricultural Development Fund.

c. Economics of Biotechnology in Dates

Justification:

Biotechnology is one of the best ways to exploit the surplus and low-quality dates as a raw material for the production of many products such as bread yeast, the single-cell protein (SCP), medical and industrial alcohol, citric acid, certain dairy products, and bio fertilizers. Many studies showed that dates or palm tree residues could be used as a medium for fermentation processes to produce the above-mentioned value-added products.

Objectives:

This initiative aims to evaluate the economics of biotechnology in areas needed by the date palm sector both, at the production and processing stages (Bio-economy).

Activities

- ✚ Conducting economic assessment for the production of industrial, medical and food products from dates resulted from implementing biotechnology.
- ✚ Conducting feasibility studies for the non-traditional products that can be produced from dates and palm residues.
- ✚ Attracting investors in the field of dates processing and palm trees residues using biotechnology.

d. Economic Evaluation of Palm Pests , Diseases, and Pesticide Residues

Justification:

Research agencies in the Kingdom put lot of efforts in the area of disease and pest resistance technologies. However, some pests such as the red palm weevil and other diseases, require additional efforts. The intensive use of pesticides leads to problems related to the marketing of dates locally and globally.

Objectives:

This initiative aims to cooperate with researchers on the fields of pests and diseases resistance, in the field of economic analysis

Activities

- ✚ Conducting economic analysis of research on pest resistance, also on the behavior of insects, bio-resistance, and pesticide residues.
- ✚ Assessing the economic and environmental impact of implemented plant and products protection programs.
- ✚ Assessing the impact of date palm trees by insects and diseases infection on the marketing capability of dates Arabian dates.
- ✚ Economic evaluation of insects traps

e. Agricultural Cultivation and Water Requirements for the Palm Trees

Justification:

The KSA is characterized by water scarcity for irrigation, poor fertilization practices, wide spread of non-commercial palm varieties, and inadequate agricultural extension.

Objectives:

This initiative aims to focus on the replacement of noneconomic yielding palm trees with high producing, high quality varieties. It also aims to increase the productivity of existing trees by improving irrigation and fertilization techniques in pursuit of minimizing production costs and maximizing the returns from date production.

Activities

- ✚ Helping in designing a long-term project for the replacement of noneconomic varieties, and solving the problem of high tree density farming and evaluate it economically.
- ✚ Focusing on reducing production costs through automation of agricultural practices and trimming the leaves, and conducting economic studies for these activities.
- ✚ Showing the importance of organic farming for the production of dates through their economic evaluation.
- ✚ Organizing training courses and workshops for farmers to minimize the cost of agricultural activities.
- ✚ Conducting comparative economic research on implementing modern irrigation methods
- ✚ Conducting economic assessment of the use of mechanical pollination in date palm trees.

f. Training & Extension

Justification:

There are needs to transfer and settle modern local and global techniques in the production and marketing sectors, and dates processing in the Kingdom in addition to educate farmers about methods of irrigation using salt water and treated wastewater to build capacity for preparing cadres in the dates sector

Objectives

This initiative aims to transfer modern techniques and knowledge to Saudi producers, processors, and marketers working in the date sector.

Activities

- ✚ Preparation, publication, and distribution of information and brochures in the field of economics of palm dates and their by-products.
- ✚ Provide advisory services relating to maximizing profit for large farms, dates factories and exporters, as well as the provision of data and marketing information, such as wholesale and retail prices and export prices for different varieties of dates and their by-products.

- ✚ Participation in various agricultural exhibitions related to date palm sector inside and outside the Kingdom.
- ✚ Preparation of media, including newsletters and network, linking dates' producers and manufacturers.
- ✚ Production of computer CDs (multimedia) and brochures that describe the best methods of cultivation, packaging, storage, processing and marketing of dates.
- ✚ Implement training plans at various levels in the areas of production, marketing, and data analysis.
- ✚ Database design for economic research and studies and the production of dates and their prices. In addition, design databases including the costs of production and yield of dates at districts level and for the various main varieties of dates in the Kingdom.
- ✚ Produce and distribute published research in scientific local and global journals, and participate in conferences, seminars and meetings related to the economics of date palm and by-products and invite speakers to the Center.

Program Organization and Management

The program comprises a set of research projects and activities based on the themes and of strategic significance. A multidisciplinary research is adopted and improvement and achievement of objectives is approached from a holistic perspective.

The Program Research Plan (2017-2021)

The activities of the program will be as follows

No	Activity	Year				
		1	2	3	4	5
1	Charcoal production from date palm trees residues and its usage in soil reclamation, water, and fertilizers conservation.	*				
2	Commodity Chain Analysis for dates in AlAhsa oasis in Saudi Arabia	*				
3	Design extension publication for date palm farm construction and services	*				
4	Conduct Economic Study for Insect traps using solar energy	*				
5	Conduct training courses in dates production, marketing and market information analysis		*	*	*	
6	Economic evaluation of using low grade dates in biotechnology processing	*	*	*		
7	Economic evaluation of mechanical pollination in date palm trees		*			
8	Show the importance of organic farming to date production through an economic assessment		*			
9	Develop a marketing plan for dates in the Kingdom			*		
10	The assessment of the performance and efficiency of dates factories in the Kingdom			*	*	

11	Economic and environmental assessment of alternatives to methyl bromide gas to fight stores insects for dates (using Furfural product produced from Palm trees residues)				*	*
12	Evaluating the efficiency of King Abdullah City for dates in Al-Ahsa				*	
13	An economic assessment of the use of mechanical pollination in date palm trees				*	
14	Design and prepare an information base for the cultivation, production, manufacturing, and marketing of dates and made available to producers and exporters, and processors.					*
15	Contribute to the development of a program for the establishment of cooperative societies to carry out the requirements of the post-harvest operations and the husbandry and marketing					*
16	Help in Designing for a promotion and advertising program for dates and by-products					*
17	Propose a total quality control (TQC) for the dates					*

Research Staff

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