

TÜRKİYEDE'Kİ KURU İNCİR SEKTÖRÜNDE İNOVASYONA YÖNELİK UYGULAMALAR

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Özet

Anadolu topraklarının birçok iklimi bir arada barındırması nedeniyle dünyada var olan 138 meyve türünden 80'e yakını ülkemizde yetiştirilebilmektedir. Genel olarak insanlarda sağlık için meyve tüketilmesi algısı hakim olmakta ve buna paralel olarak meyvelerin her mevsimde sağlıklı olarak tüketilebilmesinin en iyi yolu da kurutulmuş meyveler olarak karşımıza çıkmaktadır. Sağlıklı atıştırılabilir olmaları nedeniyle dünya genelinde her sene kuru meyvelere olan ilgi ve talepte ciddi bir artış gözlenmektedir.

Türkiye'nin gıda sektöründeki gelişmelere paralel olarak, kuru incir üretim teknolojilerinde de inovatif yaklaşımlar ortaya çıkmaktadır. Araştırma-geliştirme faaliyetlerine dayanan katma değeri yüksek ürünler geliştirmek inovasyon için çok önemlidir. İnternet ve iletişim şartlarının artması insanların inovatif ürünlere daha kolay ulaşmasını hızlandırmıştır. Yeni nesil için incirden drajeler, küp lokumlar, mikrokapsüller ve enerji barları gibi inovatif ürünler ortaya çıkmaktadır. Böylelikle yeni neslin tüketim alışkanlıklarına ve ilgi alanına bizim inovatif ürünlerimizi kazandırmayı olanaklı kılmıştır.

Bu çalışmada, kuru incir sektörü kapsamında üretim ve kurutma yöntemleri'nin (mikrokapsüller) kullanılmasının inovasyona katkısı, inovatif uygulamalarının uluslararası ticarete etkileri, uluslararası kuruluşların rolleri, AB'ne uyum çerçevesinde ülkemizdeki uygulamaları, çiftçilerin yapması gerekenler gibi konular hakkında bilgiler yer almaktadır. Bunun yanında detaylı bir literatür taraması yardımıyla, kuru incir sektörüne yönelik üretim verileri üzerinden Türkiye'de ki durum hakkında bilgi verilecektir.

Anahtar kelimeler: Kuru incir değerlendirme, İnovasyon, Dünya ve Türkiye'de kuru incir.

INOVATIVE PRACTICES TO THE SECTOR OF DRIED FIG IN TURKEY

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ABSTRACT

One of the Turkey's European Union accession process main policy areas in need of harmonization is seen in the agriculture. The problems experienced in the trade, it may be able to offer solutions for the elimination of deficiencies in infrastructure and on the other obstacles. One of the steps to be taken in this regard is the ability to get the GLOBALGAP certification cooperating with the ITU for the producers oriented manufacturing overseas markets, especially in our country. In this study, the biotechnical fighting method within the scope of good agricultural practices (pheromone bars) contributions on innovation, the contribution of the use of international trade effects of good agricultural practices, the role of good agricultural practices of international organizations, the application of our country in compliance with the EU, the adaptation stage for good agricultural practices of the new member states and provides information on topics such as farmers need to do. Besides, with the help of a detailed review of the literature, it will be given information about the situation in Turkey for better understanding on using good agricultural production datas.

Key words: Good agriculture, GLOBALGAP certification system, Good agriculture systems on the World and in Turkey, Biotechnological fight on Good agriculture system

In parallel with the increase in the education, awareness and income levels of consumers, the demand of consumers for healthy foods is increasing day by day. The increasing obesity especially in children and young people increases the importance of healthy snacks for children. The market size of “healthy snack foods” including dried fruits and nuts is worth \$ 21.1 billion in 2016 and is expected to grow by 5.1% according to the 2025 forecast. In parallel with the developments in the food industry, innovative approaches are emerging in production technologies. The Fig, which is an important food fruit in health and commercial terms, can be consumed in fresh and dry form. The fig, which contains phosphorus, calcium, iron, magnesium, vitamins B1 and B2 and high levels of sugar; It is a fruit that is very rich in nutritional value and has positive contributions to human health.

The fig, which is one of the important export products of our country, deteriorates very quickly due to its sensitive structure and is therefore mostly regarded as dried. Since the countries that are fig producer are limited, their export is also made by these countries. At the beginning of these countries; Turkey, Iran, USA, Greece, Egypt, Algeria and Morocco comes. Turkey, which ranks first in the world fig production. The world fig production varies according to the amount of years together in Table 1 and Figure1. According to the FAO's 2019 world fig production quantities data we examine, Turkey's shows usually taken first place every year. According to the data from FAO, the number of countries / regions producing figs worldwide is 56. While the number of countries / regions whose production is over 10 thousand tons is 16; The number of countries whose production amount is below 10 thousand tons per year is 40 and the number of the least figs producing countries is 3. When the world fig production between the years 2009-2017 fig production in Turkey compared overall ups and downs were taking place in other countries, Turkey is also closed while the production period always increases.

The fig production in Turkey has increased by approximately 25% in the nine-year period and has continued to maintain first place in the production of each period. The top five countries that the most figs producer countries after the Turkey are; Egypt, Algeria, Morocco, Iran and Syria. While there is no fig production in Germany, England, Switzerland and Holland, it is seen that they are important countries in fig trade (FAO, 2019 (a)). The fig production in Turkey is approximately more than half of the world production. The most favorable areas for the cultivation of figs in Turkey are large and Küçük Menderes basin. Especially Aydın and İzmir are among the most important regions in terms of fig fruit production. These regions, 80% of the production of the dried figs produced in Turkey are to meet alone. Figs, although a subtropical fruit can be grown in almost all of Turkey's coastal belt.

In the Marmara, Black Sea, Mediterranean and Southeastern Anatolia regions, table fig cultivation is more common. 30-35,000 families in the region are dealing with fig cultivation, and their livelihoods are fully covered by the income from this product. Since it requires intensive workforce during processing, a large mass of people, along with workers working in their enterprises, make a living from fig products. In our country, fig producers can benefit from state supports. In this context, 10TL / Da diesel support and 4TL / Da fertilizer support

is given to the producers. In the sector, the efforts to ensure the continuity and protection of the export markets, to gain new markets, to ensure the stability of prices, to obtain clean and hygienic products that can meet the increasing standards and decreasing tolerances in foreign markets and to ensure the promotion of the product should be handled in many dimensions.

In our country, 30% of the figs produced are generally consumed freshly in the domestic market and 70% in domestic and foreign markets as dried figs. The purchase and marketing of the dried product is carried out through the Tarış Fig Union and traders. Union of Agricultural Sales Cooperatives operating in a single purchase and marketing of dried figs and figs in Turkey Taris Union. Although its share in the sector has declined compared to previous years, the Union is in operation and receives and evaluates all the products that its partners undertake. It has approximately 5,000 registered partners and operates with 14 affiliated cooperatives.

Table 1. The Top 16 Fig Producing Countries between 2009-2017 (Tons)

Countries	2009	2010	2011	2012	2013	2014	2015	2016	2017
Turkey	244351	254838	260508	274535	298914	300282	300600	305450	305689
Egypt	286682	184972	165483	171062	176595	176105	172474	183794	177135
Algeria	83801	123763	120187	110058	117100	128620	139137	120348	128684
Morocco	109200	109735	114770	102694	112537	126554	150111	59881	137934
Iranian	58836	52366	59228	67434	80256	83787	71426	69914	70730
Syria	53724	40966	42944	41224	46443	35301	41725	43091	43084
Spain	29120	30351	28993	23285	30400	28896	26479	45718	36380
Usa	39689	37113	35072	31751	29937	30300	28760	29660	28300
Tunisia	28000	26000	26000	25000	23500	27000	30000	22500	22529
Brazil	24146	25727	262333	28010	28253	28053	29071	26910	25883
Albania	19517	18387	19600	20570	19940	19350	20929	20902	20077
China	10000	11051	12605	11497	12211	12924	13638	14352	15065
Japan	14957	14763	14500	14568	14442	14357	14405	14338	14271
Italy	12106	12022	12171	10054	12378	10788	13112	11297	11363
Libya	10250	10291	10231	10842	11099	11355	11612	11889	12192

Greece	20838	19479	20505	20769	20467	20023	20936	14200	13700
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(Reference: FAO, 2019(a)).

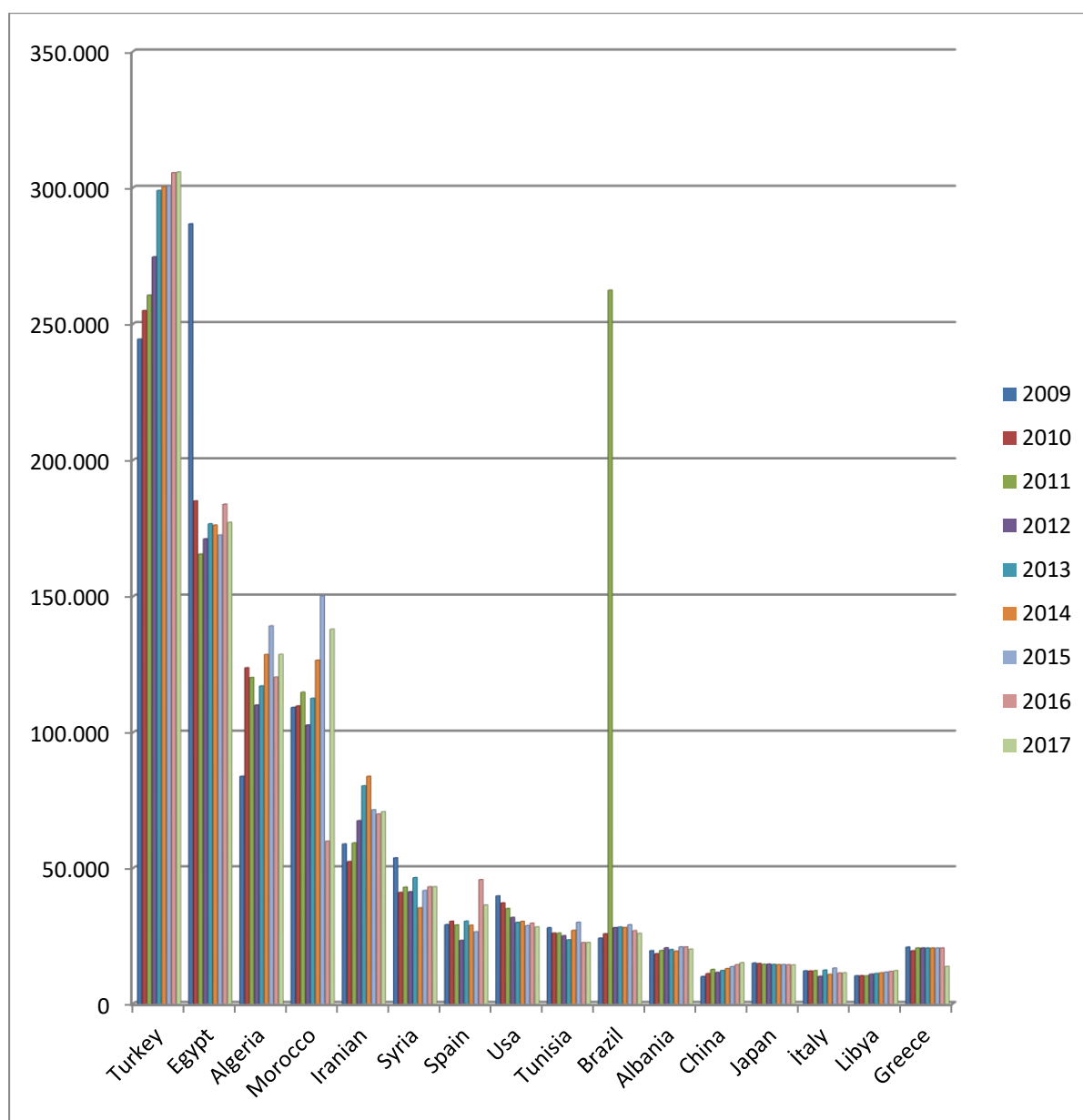


Figure 1. The Top 16 Fig Producing Countries between 2009-2017 (Tons), (Reference: FAO, 2019(a)).

Turkey's exports dried figs, edible dried figs, fig paste, is made in four different ways as scrap and cutting. In parallel with the developments in the food industry, innovative approaches are emerging in production technologies. Opportunities for innovative applications in the food sector are created with microcapsules (Figure-2).

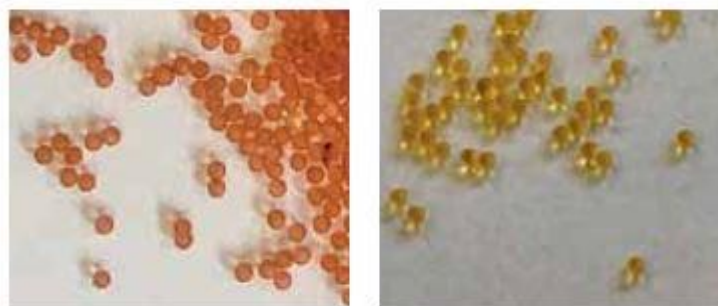


Figure 2. The microcapsules

Microcapsules, which is a New Technology Product, performs successfully in products such as gum, chocolate and marshmallows. Microcapsules can be made colored to increase the visibility and appeal. While doing this, natural colorants are used. Advanced aging techniques such as spray drying and extrusion have been used for a long time in aroma production. However, double-nozzle technology has recently been tried in microcapsule application. This technology enables the production of microcapsules equipped with controlled release feature. The structure of the microcapsules produced by this technique is in the form of a liquid aroma in the center and a protective shell on the outside. With this method, it is possible to fill all kinds of flavors in liquid form in microcapsules (Figure-3).

The controlled release mechanism of microcapsules is based on mechanical triggering; that is, during the chewing, the aroma of the microcapsule is released in the mouth as a sudden and pleasant surprise. In other words, the liquid aroma is meticulously preserved in the shell until the consumer chews the food product. As a result of the shell structure, microcapsules are heat resistant and maintain their integrity in heat treatment. By adjusting the shell composition and adjusting the process conditions, the microcapsules can change their fracture strength according to the production conditions of the food to which they are added.

The difference that Figs, Nuts or orange or mint flavored microcapsules will make, for example, in chocolate is far beyond innovation. With this method, it is possible to develop extraordinary products with high added value and which will delight people.



Figure 3. Some products where microcapsules are applied

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