



ФОНД
НАУЧНИ
ИЗСЛЕДВАНИЯ

МИНИСТЕРСТВО НА ОБРАЗОВАНИЕТО И НАУКАТА

25 години

ВИСШЕ УЧИЛИЩЕ ПО АГРОБИЗНЕС И РАЗВИТИЕ НА РЕГИОНИТЕ
Юбилейна международна научна конференция БЪЛГАРИЯ НА РЕГИОНИТЕ

Перспективи за устойчиво регионално развитие

27-28 октомври 2017 г., Пловдив, България



25 years

UNIVERSITY OF AGRIBUSINESS AND RURAL DEVELOPMENT
Jubilee International Scientific Conference BULGARIA OF REGIONS

Sustainable Regional Development Perspectives

27-28 October 2017, Plovdiv, Bulgaria

<http://regions.uard.bg>

The Applied Agricultural Policies for Canola in Thrace Region

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Abstract: Canola, compared to other oilseeds such as sunflower, peanut, and soybean, takes place on the third place among the most planted oilseeds throughout the world.

Canola, due to containing 38-50% oil, 16-24% protein, being rich in oleic and linoleic acid amount, and its boiling point being high, is an essential oil crop plant. It is used for biodiesel production as well. In addition, its yellow flowers are important for beekeeping. Canola is the major plant to be planted for the development of livestock and beekeeping industry as well as to close the oil deficit in our country.

Canola, due to its wide temperature range and also because of having winter and summer forms, is an oil crop plant with a potential to be planted in wide areas in our country. In recent years, canola production, plantation and yield have increased gradually in Turkey. Canola (rapeseed) was produced in 2016 in an area of 354.530 decares as 125.000 tonnes. Canola yield per decare was 353 kg.

In Turkey, 67% of canola production is made in Thrace region. Canola planting in the region in 2016 was carried out in 256.255 decare field with a production of

84.075 tonnes. Canola yield was determined to be above average in Turkey with 356 kg/da.

Canola is an oil crop plant; however, in terms of vegetable oils, our country is in the position of being an explicit importer. Oil crop plant production meets only 40% of consumption. In this respect, every year billions of dollars are spent for importation. As of 2015, 3.5 billions of dollars were spent on oilseeds. However, this deficit can be closed through canola production. In this regard, in Thrace region where production of this plant is widespread, a special importance should be given to the production of canola, which is an alternative plant for the closure of oil deficit. It is necessary to reduce vegetable oil importation by increasing subsidies given for canola production in the region within the budget of basin-oriented subsidy. Thus, contribution will be provided to agriculture and economy of the both the region and the country. Therefore, it is necessary that canola be supported in our country and region, and agricultural policies be determined considering these matters.

In this research, the current situation and policies for canola production were evaluated, problems were analyzed, and solutions were offered regarding these problems.

Keywords: Canola Production, Vegetable Oil, Agricultural Policies, Thrace Region

Canola production, plantation and yield in Turkey

Although canola production has a recent past in Turkey, it is among the oldest oil crop plants in the world. Canola production was carried out in Turkey in Thrace and Marmara regions until 1980. However, due to varieties known as rapeseed used at that time containing erucic acid (unsaturated fatty acid in rapeseed oil), plantation areas and production decreased gradually as for 1980. Later, with breeding practices led by Canada, varieties of canola containing no erucic acid were introduced, and canola plant was reproduced. In recent years, there has been an upsurge in canola production fields and also production in Turkey.

Changes in canola production in Turkey and the changes in production in 5-year periods for the last 26 years, covering the period of 1990-2016 are given in Table 1.1. Canola yield in Turkey was found out to be above the world average.

Table 1.1. Canola Production, Seed Area and Yield in Turkey

Years	Production (thousand tonnes)	Area (decare)	Yield (kg/da)
1990	2.1	20.170	104
1995	-	70	129
2000	0.2	820	228
2005	2.0	7.000	171
2006	106.5	53.898	234
2010	110.0	312.496	341
2015	120.0	350.817	342
2016	125.0	354.530	353

Resource: Anonymous, 2017

Vegetable oil production in turkey and foreign trade

In Turkey, when oilseed is mentioned, the first to come to mind are sunflower and cottonseed. These two products account for the 83.2% of seed production in Turkey. There has been significant increase in the production of soybean, rapeseed and safflower. The land provided for oilseed production in Turkey accounts for only 4% of total arable lands. Therefore, the amount of oilseeds yielded from local production not meeting the needs of the country, every year thousands of tonnes of oilseeds and raw oil are imported every year (Arioğlu, 2016).

According to the data of 2014, vegetable raw oil production and its distribution according to their types in Turkey are given in Table 2.1.

Table 2.1 Vegetable Raw Oil Production in Turkey (million tonnes) and their Distribution by Types of Product (%)

Product Types	(with native seeds) Production (1000 tonnes)	Proportional Value (%)	(Import) (Seed+Oil) Production (1000 tonnes)	Proportional Value (%)	Total Raw Oil Production (1000 tonnes)
Soybean	27	13.30	176	86.70	203
Rapeseed	41	18.72	178	81.26	219
Sunflower	492	31.46	1,072	68.54	1,564
Cottonseed	156	100	-	-	156
Olives	180	100	-	-	180
Cornoil	30	34.09	58	65.91	88
Safflower	25	67.57	12	32.43	37
Flax/Camelina	-	-	47	100	47
Palm	-	-	719	100	719
Total	951	29.6	2,262	70.4	3,213

Resource: Uğur, 2015

In 2014, vegetable oil production in Turkey amounted to 3,213 thousand tonnes. The 951 tonnes (29.6%) was provided through local production, and the 2,262 thousand tonnes (70.4%) was provided through imported seeds (700 thousand tonnes) as well as through raw oil import (1,562 thousand tonnes).

Due to the insufficient production of oilseeds, the need of oil is met mainly through oilseed and raw oil import. In 2016, the amount only paid in foreign currency for oilseeds (USD 1,401 thousand) and for raw oil (USD 1,590 thousand) was USD 2,991 in total.

When oilseed importation of Turkey was analysed, it was seen that 2 million 175 thousand tonnes of soybean seeds, 382 thousand tonnes of sunflower seeds and 293 thousand tonnes of rapeseed are imported as of 2016. Importation data for oilseeds according to years are given in Table 2.2.

Table 2.2 Importation of Oilseeds in Turkey (1000 tonnes)

OILSEED IMPORT IN TURKEY (1000 TONNES)										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Soybean	1,230	1,239	974	1,756	1,298	1,195	1,074	2,008	2,255	2,175
Rapeseed	245	216	158	307	122	150	137	437	249	239
Sunflower Seed	613	474	586	662	911	754	711	557	340	382
Cotton Seed	7	20	5	20	0	0	20	2	0	0
TOTAL	2,095	1,949	1,723	2,735	2,331	2,099	1,942	3,004	2,844	2,796

Resource: Anonymous, 2017

When raw oil importation in Turkey was analysed, it was found out that 702 thousand tonnes of sunflower oil, 695 thousand tonnes of palm oil, and 44 thousand tonnes of corn oil have been imported as of 2016. Data of raw oil importation according to years are given in Table 2.3.

Table 2.3 Importation of Raw Oil in Turkey (thousand tonnes)

RAW OIL IMPORT IN TURKEY (1000 TONNES)										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Sunflower Raw Oil	163	412	324	225	470	743	626	812	777	702
Corn Raw Oil	113	83	83	54	41	31	33	25	28	44
Soybean Raw Oil	51	20	10	10	2	1	6	6	1	0
Pal Raw Oil	456	535	497	510	530	436	592	604	685	695
TOTAL	783	1,050	914	799	1,043	1,211	1,257	1,447	1,491	1,441

Resource: Anonymous, 2017

Import values of raw oil are high in Turkey. These results reveal that required subsidy is not given to the oil sector, and the necessary importance to the plantation of oil crop plants is not given in Turkey, known as a country for its agricultural production. Canola is a significant alternative plant for the closure of our oil deficit.

Agricultural policies in canola production in Turkey

There is a supply deficit in oilseeds, therefore necessary importance is given to oilseed subsidy. On the other hand, there is a constant change in subsidy policies and an unstable structure has been emerging. It is an unfavourable situation for Turkey, to be in the position of explicit importer in terms of current account deficit. The country loses thereby its foreign exchanges, and this leads to the economy as well as the agricultural sector and farmers of the country suffer. Domestic production has to be increased through medium- and long-term policies in order to change this situation.

In the resolutions related to agricultural subsidies in 2016, field based diesel and fertilizer subsidies were determined not according to the product categories anymore, but as a uniform price to be 11 TL. Moreover, while certified seed production subsidy was given mainly to canola (1.20 TL / Kg) in 2016, certified seed use subsidy was given least to canola (4 TL / da). (Anonymous, 2016).

The payment of subsidies for the support of canola product started in 2000. Payment of subsidies is implemented as the difference between the price to be paid to the producer and the price in the same period in international stock market (Anonymous, 2006). Similar to other products, the amount of subsidy paid for canola has not changed in some years. The subsidy paid to the producers for canola between 2011 and 2015 was fixed, and was determined as 50 kurus/kg (Table 3.1)

Table 3.1 Subsidies According to Years (kurus/kg)

	2001	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Cotton	7	26	29	29	27	42	42	42	46	50	55	65	75
Sunflower	7.5	17.5	20	20	18.9	21	23	23	24	24	30	30	40
Soybean	9	20	22	22	20.7	27.5	35	50	50	50	50	50	60
Canola	7	20	22	22	20.7	23	27.5	40	40	40	40	40	50
Safflower	-	-	22	22	20.7	25	30	40	40	45	45	45	55
G.Corn	-	5	4	2	3.6	4	4	4	4	4	4	4	2

Resource: Anonymous, 2017

Subsidies given for oilseeds, in which there is a deficit in foreign trade, should be given increasingly every year and in a timely manner. Thus, importation should be decreased by incentivizing production and exportation. It is essential that the objectives are achieved in order to avail the desired purpose. Otherwise, if the subsidies paid to the producers for those products begin to be inadequate, the producers may start to shift towards alternative products and the subsidy system may deviate from its original purpose. However, the aim of subsidy policies is to support the producer, to direct the production of agricultural products, and to maintain the balance within the country.

Production, plantation and yield of canola in Thrace region

Canola production is carried out in all regions except Southeast, Northeast, Middle East Anatolia and Eastern Black Sea regions. According to the TSI data of 2016, West Marmara region takes the first place with its 297,485 da of production field and with a production of 104,699 tonnes among the areas carrying out canola production. Within the region, Tekirdağ, Kırklareli and Edirne have a particular importance with a total production area of 236,255 and 87,075 tonnes of production (Anonymous, 2017). Canola production started first in Tekirdağ in 1997, followed by Kırklareli in 2002, and Edirne in 2007.

Canola seed area, production and yield amounts of Thrace region (Tekirdağ, Edirne, Kırklareli) are given by years in Table 4.1.

According to the data of 2016, canola was planted in an area of 240,000 da, was produced as 84,075 tonnes, and yield per decare was about 356 kg in Thrace region.

Table 4.1 Canola Seed Area (da), Production (tonnes) and Yield (kd/da) in Thrace Region

Years	TEKİRDAĞ			EDİRNE			KIRKLARELİ			TOTAL		
	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
2000	700	162	231	-	-	-	-	-	-	700	162	231
2005	3,050	927	304	-	-	-	250	70	280	3,300	499	292
2010	137,750	53,080	385	43,701	13,890	318	33,550	11,113	331	215,001	78,083	363
2011	133,500	49,290	369	34,755	11,209	323	17,701	6,241	353	185,856	66,740	348
2012	185,630	71,888	387	21,593	7,262	336	17,400	6,405	368	224,623	85,555	381
2013	184,527	62,095	337	20,920	7,221	345	24,426	8,241	340	229,873	77,557	338
2014	192,969	69,378	360	20,246	6,422	317	22,749	7,320	322	235,964	83,120	352
2015	220,520	73,891	338	17,058	5,760	338	22,848	8,303	363	260,426	87,954	341
2016	189,216	67,536	357	22,124	7,459	337	24,915	9,080	364	236,255	84,075	356

Resource: Anonymous, 2017

Canola yield per decare in Thrace region is above the average of Turkey (353 kg). Because Tekirdağ province has a wide plantation area and production in canola, it has a great share in planting area, production and yield in the region. Tekirdağ constitutes approximately 65% of the region's production. Rapid increases in production have also occurred due to large increases in yield and increase in the amount of subsidy compared to the past.

Input and premium support given in Thrace region

In 2015, the decision of the Council of Ministers concerning the Agricultural Supports was made to pay field based subsidies for fuel oil, fertilizer and soil analysis to the farmers who are registered in the Farmer Registration System (FRS). In 2015, the government provided fertilizer, diesel and soil analysis support as well as premium support to farmers. The amount of subsidy announced by the Council of Ministers for the year 2015 crops is given in Table 5.1.

Table 5.1. Agricultural Input and Premium Support

	Wheat	Sunflower	Canola	Paddy Rice
Premium Support (Krs/Kg)	5	30	40	10
Fertilizer Subsidy (TL/da)	6,6	8,25	8,25	6,6
Diesel Subsidy (TL/da)	4,6	7,9	7,9	4,6
Soil Analysis Subsidy (TL/Da)	2,5	2,5	2,5	2,5

Resource: Anonymous, 2016

For the producers within FRS in 2014, a subsidy of 2.5 TL per decare was paid for soil analysis, diesel and fertilizer. In 2015, the amount of subsidy paid for canola per decare was 7.9 TL for diesel, and 8.25 TL for fertilizers (Table 5.1)

In the Resolution Related to the Determination of Agricultural Basins in Turkey, it was determined to give deficiency payments for the produced and sold products at the end of season production in 30 agricultural basins for the year 2015. Accordingly, deficiency payment per kilogramme was determined to be 40 kuruş for canola (Table 5.1).

The characteristics of the basins and needs of plants were compared, and the most appropriate plants to be grown in the basins were determined. The basins of Tekirdağ, Kırklareli and Edirne provinces were defined as Meriç basin. In Meriç basin, 10 products including canola were included into the deficiency payment, and subsidy has been paid to the producers for this basin. The premium support paid for canola is more than the amount paid for wheat, sunflower and paddy which are intensively planted in the region. This situation increased the demand for canola, and thus increased its planting and production.

Canola should be supported in the country and in the region because of being an alternative product to decrease the vegetable oil deficiency, its use as animal feed and its importance as raw material in biodiesel production. The region is one of the regions with a significant amount of yield, and also it is possible to consider canola as an alternative plant to wheat, or sunflower that are intensively planted in this region.

Conclusion and recommendations

Canola is an oil plant with the potential to be planted in large areas in our country due to the climate requirements being within a wide range and also due to the presence of its summer-winter forms.

In Turkey, canola is mostly grown in Western Marmara Region. The most production in provinces is carried out in Tekirdağ. In Turkey, canola is above the world average with an amount of 353 kg / da. This is a pleasing situation because these high yields obtained from oilseeds are not only compatible with the cultivation of our country's soils and climate, but also through the cultivation of conscious agriculture and highly skilled certified seeds by our farmers.

Production of oilseed plants in Turkey is unable to meet our oil needs and we import 4.3 billion tonnes of raw oil and oilseeds every year. In order to meet the increasing oil requirement due to population growth, it is also necessary to increase the oil production. Canola may play a significant role in the closure of this deficit.

Canola, along with its use as vegetable oil, is also utilized as animal feed as well as biofuel. Oilseed crop plants constitute the major source for biodiesel industry, which has gained growing popularity in recent years. Canola oil is a significant raw material for biodiesel production. The European Union (EU), the world's leading biodiesel producer, also commonly uses rapeseed and other oilseed crop plants as raw material.

Canola plant is subsidised by the government in Turkey. However, the amount of subsidy is not increased enough. The subsidy that will be provided in sufficient amount will increase both the production and the income of the producers. As a result, the oil deficit in our country will decrease accordingly. For this reason, in order to meet the needs of vegetable oil in our country through local production, it is necessary to extend the planting fields of oilseed crop plants in areas that have available conditions in climate and soil conditions. In addition, in order to increase the yield and quality of widely planted sunflower and canola plants, it is essential to implement the appropriate growing techniques.

The climate and soil conditions of Thrace region are suitable for canola growth; therefore, has a great advantage for both the region and Turkey. While the average canola yield in Turkey is 330-350 kg/da, it varies around 360-380 kg/da in Thrace region. If canola is produced in places where high yields can be achieved, it will be possible to increase the production of oil seeds in the country. Since the

region meets most of the needs of Turkey, subsidies given to this region will improve the national and regional agriculture and economy.

Canola production started in 1998 in Tekirdağ province with Leader Farmer Project (LFP). Canola, which was produced in 1998 in an area of 287 decares, revealed a rapid development and reached 189,216 decares today. Directors and working staff of Leader Farmer Project have made a great effort to increase canola production, to encourage canola plantation, and to increase the subsidies given to farmers who carry out contract production in order to close oil deficit.

Wheat/sunflower or wheat/wheat rotation is mainly applied in Thrace region. This leads to the decrease in the levels of organic matter, soil exhaustion, and increase in plant diseases and pests in agricultural lands. Therefore, the number of alternative products to be entered into crop rotation with wheat should be identified and increased by finding alternatives to wheat. In particular, in addition to wheat and sunflower, the increase in plantation of other products (oilseed crop plants, forage crops, sugar beet, paddy rice, etc.) would provide benefits to the region in terms of product patterns.

The agricultural policies implemented in Turkey are effective for Thrace region as well. In order to solve the problem of vegetable oil deficit that has been going on for many years, a price policy promoting production in oilseed plants should be followed and a purchase guarantee for the producer should be given. The subsidies should be determined according to its objectives, and the amount of premium supports should be declared before planting and paid immediately after harvest. Therefore, it is necessary to support canola both in our country and the region, and the policies to be implemented to be long-term, consistent and sustainable.

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