Tobacco Cultivation in Türkiye

	္ <u>၂</u> (opaco	co c	uitiv	vatioi	n regions ii	n Turkiye														
	Cc	ontra	cted	and	non-c	ontracted to	bacco grow	vers, produc	tion area and	production que	ant	itie	es a	t re	gio	nal	leve	l, 20	21.		
						Cultivation type	Region	Number of producers	Cultivation area	Cultivation quantity											
VALUE ALI						Contracted	Marmara	808	10,999	1,035,500										Cul	ltivat type

Tobacco cultivation areas and production in Türkiye by years 300.000 250.000 200.000 150.000 Cultivation Area (Ha) Production (tonnes)

Source: Turkish Statistical Institute (TurkStat)

Provinces	201	18	2019	
& Years	Decare	Ton	Decare	Ton
Afyonkarahisar	100	3	43	4
Aydın	40.843	2.652	46.211	3.441
Balıkesir	17.936	1.338	17.037	1.395
o o Denizli	221.878	14.542	210.799	17.112
İzmir	25.242	1.964	26.135	2.033
Kütahya	747	92	854	93
Manisa	227.556	14.695	222.019	15.998
Muğla	14.892	939	12.963	1.215
Uşak	113.279	7.701	122.471	7.402
Total	666.473	43.926	658.522	48.693
Türkiye	935.034	75.276	882.362	68.224
		_		

Source: Turkish Statistical Institute (TUIK)

Tobacco Cultivation Calendar

Tobacco Cultivation in Aegean Region

- The successful cultivation of tobacco hinges significantly on the ability to cultivate robust, wellrooted, and adequately flavored seedlings in ample quantities, and within the right timeframe.
- The minuscule size of tobacco seeds necessitates meticulous care in providing suitable growing conditions.
- Optimal seed germination calls for a minimum temperature of 12-14°C, typically achieved in warm
- Given the extended growing season of tobacco plants, early spring transplanting is crucial to capitalize on the favorable summer temperatures and ensure leaf drying occurs during sunny, rain-free weather. This timing avoids exposure to autumn rains.
- The choice to begin cultivation as seedlings in a confined area offers distinct advantages, including cost-effective disease and pest management, efficient maintenance, and streamlined labor processes. This approach, conducted over a span of 45 to 60 days, is conducive to successful seedling cultivation.

Approximately 5 m² of seedling space suffices for cultivating tobacco for one decare of land.

3,046,072 MARMARA REGION **BLACKSEA REGION** 175,346 Cultivation area | Production Amount (Kg) **EASTERN ANATOLIA REGION AEGEAN REGION** Cultivation area | Production Amount (Kg) Cultivation area) | Production Amount (Kg) SOUTHEASTERN ANATOLIA REGION Source: TADB, 2021 MEDITERRANEAN REGION

Cultivation type	Region	Number of producers	Cultivation area	Cultivation quantity
Contracted	Aegean	26.033	537038	32,663,449

-	Cultivation type	Region	Number of producers	Cultivation area	Cultivation quantity
	Contracted	Maditarranaan	755	8,818	1,639,288
	Non-contracted	Mediterranean	1	1	360

1 Seedling Preparation

Seedling trays should be raised to a height of 15cm above the soil surface. This height facilitates efficient drainage, prevents water accumulation around the roots, ensures proper aeration and reduces the risk of root diseases such as root rot and black rot.

2 Seedling Cultivation Process

The seedbed surface must be maintained at a constant moisture level from sowing until germination is complete. Prior to germination and during the early stages of seedling growth, small amounts of water should be applied frequently. As the seedlings grow, watering should become less frequent but more abundant. n addition, as the seedlings increase in size, a top dressing of fertiliser should be applied and

watered to encourage strong root development.

3 Seedling Removal and Transplanting Process

The seedlings are carefully watered before removal. When it's time for transplanting, the mature seedlings are gently uprooted from the nurseries and transported to the planting site. During this process, the seedlings are gently handled by gripping their leaves and neatly stacked in moulds. Typically, the following day, these seedlings are planted in a well-prepared field using a specialised tobacco planting machine.

4 Hoeing and Irrigation



Hoeing is carried out with either a motorised or hand hoe to remove weeds and aerate the soil, followed by watering to maintain optimum soil moisture.

5 Cultivation

Gathering the tobacco leaves is a meticulous manual process, carried out step by step: first hand, main hand and last hand. The harvested leaves are then carefully dried in greenhouses.

Contracted

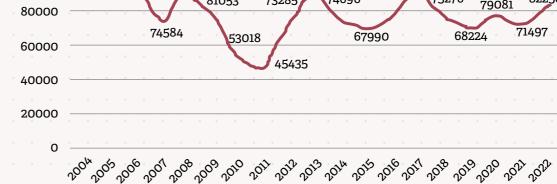
Non-contracted

140000 120000 100000 80000

15,945,954

9,803,929

Tobacco leaf production in Türkiye by years (tonnes)





Çankaya Mah. Üsküp Cad. No: 16/14 Çankaya - Ankara/Türkiye

In Anatolia, it was first cultivated in Bursa, Avunya (Agonya), Söke, Foça, and Akhisar.

1621

Tobacco production faced prohibition during Genç Osman's reign. The bans escalated into a severe crackdown during Murat IV's rule, resulting in the deaths of thousands of people linked to tobacco.

Bahai Efendi, himself a tobacco smoker, liberalised the use of tobacco with a fatwa when he became sheikhulislam in 1646.

The Ottoman Empire implemented its inaugural official taxation on tobacco in 1688. By 1690, the areas within the country where tobacco was cultivated were documented. Over time, Ottoman tobacco gained popularity in Europe, and in 1696, it was exported for the first time, proving to be a significant source of income.

The cigarette division of TEKEL, which suffered a decline

was incorporated into the privatization agenda and

the requests from the IMF and the World Bank.

in reputation within market conditions and public opinion,

program. This decision was made on 05/02/2001, numbered

2001/06, by the Privatization High Council, aligning with

The enactment of Law No. 4733, commonly referred to as

the 'Tobacco Law', resulted in the termination of support

and onward. Instead, the principle of written contracts was

"Following the implementation of contract farming in 2002,

the number of tobacco growers experienced a significant

reduction, decreasing from 478,000 to 405,000, reflecting

an approximate 16 percent drop within a single year. This

The "Framework Convention on Tobacco Control (FCTC)",

the world, which was developed against the increasing use

the first international agreement on tobacco control in

of tobacco, its threat to global health and the strategies

of tobacco companies to create markets in developing

May 2003.

countries, was adopted at the 56th World Health Assembly

of the World Health Organization (WHO) in Geneva on 21

The domestic tobacco usage rate by established cigarette

manufacturing companies in Türkiye was 42 percent

the subsequent abolition of the tobacco fund, this rate

significantly dropped to 11 percent by the year 2020.

In 2009, production increased to 10,029 tonnes, but

In 2016, 75,995,678 kg of tobacco production contracts

were made with 55,042 producers on 885,177 decares

contracts were made with 36,555 producers on 649,510

"In 2020, a new law was introduced with the aim of boosting

demand for domestic products. This law mandates that all

tobacco products produced in Türkiye, as well as imported

tobacco, must include a minimum percentage of tobacco

According to TUIK crop production statistics,

tobacco production increased by 15% and

in Türkiye and 53,389,316 kg of tobacco production

decreased by 2/3 to 3,208 tonnes in 2010.

decares in the Aegean Region.

produced within the country.

reached 82.3 thousand tonnes.

in 2003 and 35 percent in 2006. However, due to the privatization of TEKEL's cigarette unit in 2008 and

decline persisted, and by 2021, the number of tobacco

growers had further dwindled to a mere 44,258.

introduced for the purchase and sale of producer tobacco.

purchases for tobacco starting from the 2002 crop year

1862

With the Trade Treaty signed between the Ottoman Empire and France and England, tobacco imports were prohibited. Subsequently, in 1862, the state monopoly known as 'İnhisar' or 'TEKEL' was established for the first time, leading to the nationalization of the tobacco

18.yy **-**19.yy

Tobacco, which is particularly well adapted to Anatolian conditions, has become sought after in international markets under the name "Turkish Tobacco" or "Oriental/ Oriental tobacco" and has gained an important place in social life with its unique flavour.

1980

Tobacco, once a crucial export commodity for the Ottoman Empire, retained its significance as a major export product for the Republic of Turkey. Up until the 1980s, tobacco production consistently followed an upward trajectory.

1987

On 11 March 1987, the organization underwent a name change and was rebranded as the General Directorate of Tobacco, Tobacco Products, Salt, and Alcohol Enterprises (TEKEL).

1980-95

Between 1980 and 1995, the production course exhibited instability, and from 1995 to the present day, there has been a consistent and rapid decline. Additionally, in 1988, the ban on importing foreign tobacco was lifted.

"In 1989, 'Tekel 2000' cigarettes were introduced, containing 85 percent American tobacco and 15 percent Turkish tobacco. This marked the opening of doors to the use of American tobacco in cigarette production.

1990

In 1990, Philip Morris-Sabancı Holding received permission from the State Planning Organization and commenced the establishment of the Philsa Cigarette Factory in İzmir-

In 1991, the production of tobacco products was authorized without the involvement of TEKEL.

The public awareness of the negative effects on human health and the ban on the use of tobacco and tobacco products in certain areas in 1996 led to a decline in this agricultural activity year by year.



Country	Production (tonnes)	Production per capita	Surface Area	Yiel
Jamaika	1.581	0,579	718	2.200
Güney Kore	26.175	0,507	10.727	2.440
Lübnan	8.694	1,427	7.471	1.163
Sri Lanka	5.903	0,275	1.338	4.411
Kamerun	6.672	0,28	4.124	1.618
Azerbaycan	6.317	0,638	3.325	1.899
Kongo Demokratik Cumhuriyeti	3.765	0,046	7.638	492,
Zimbabve	132.200	8,903	100.809	1.311,
Moldova	692	0,195	366	1.890
Gine	2.421	0,204	1.852	1.307
Togo	1.931	0,263	4.401	438,
Sierra-Leone	47	0,006	93	501
Guyana	97	0,124	122	798,
Senegal	2	0	10	200
Libya	1.226	0,189	596	2.057
Birleşik Arap Emirlikleri	285	0,03	21	13.824
Ukrayna	1.290	0,031	500	2.580
Solomon Adaları	114	0,171	130	880,
Hindistan	749.907	0,561	417.754	1.795
İsveç	108	0,011	51	2.117,
Küba	30.000	2,674	18.750	1.600
Nijer	1.150	0,054	553	2.078
Türkiye	80.200	0,992	92.937	863

Forms of labour in tobacco cultivation

Unpaid Family Labor

It involves household members engaging in agricultural production within their own fields or gardens on family-owned or relative-owned lands. This practice is prevalent in tobacco cultivation, with children being the primary participants in this form of labor.

Seasonal Migrant Agricultural Worker

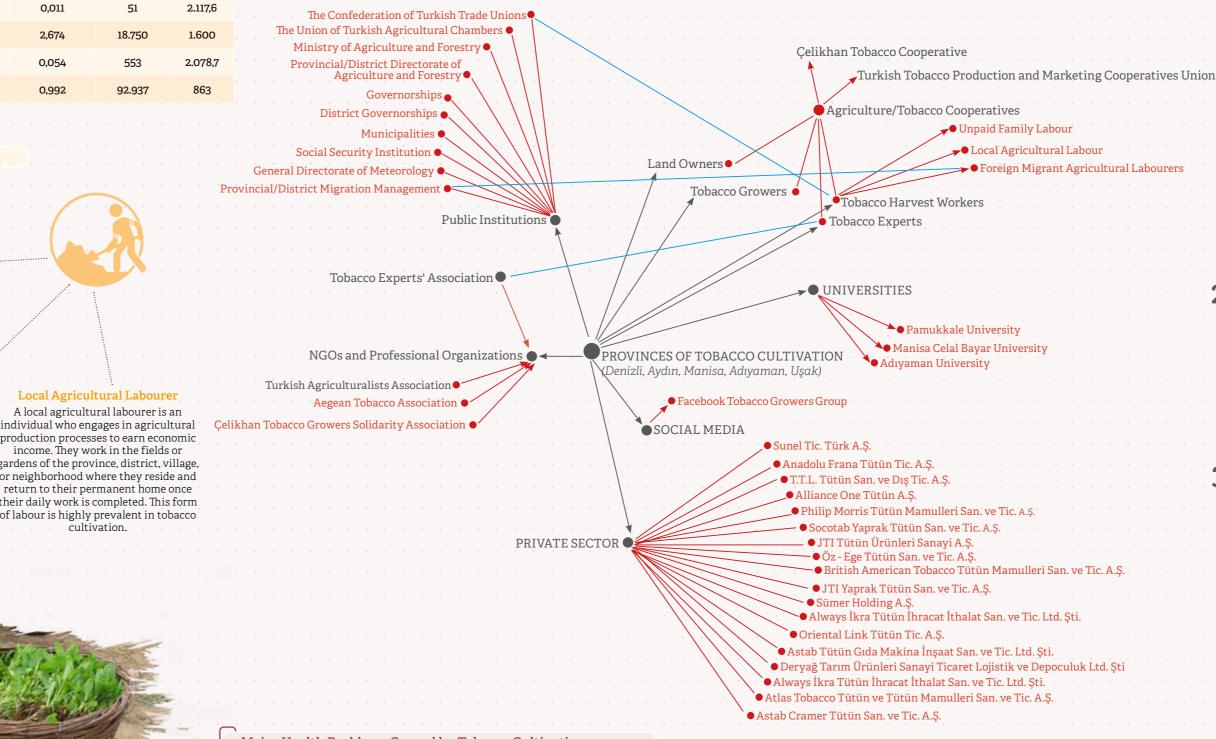
A seasonal migrant agricultural worker refers to an individual who temporarily leaves their permanent residence (province, district, village, neighborhood) to seek economic opportunities, engaging in agricultural production processes in another location for at least one day. These workers are not permanently original settlement after the season's work. Families of laborers may also temporarily relocate and reside in the area during this period. In tobacco cultivation, such workers often come from various regions like Aydın, Muğla, Şanlıurfa, and Hatay. This category may also encompass foreign migrant workers participating in agricultural activities.

Local Agricultural Labourer A local agricultural labourer is an

production processes to earn economic income. They work in the fields or or neighborhood where they reside and return to their permanent home once their daily work is completed. This form of labour is highly prevalent in tobacco cultivation.

The People's Republic of China is the world's largest tobacco producer with an annual production of 2 million 242 thousand 177 tonnes. Brazil ranks second with an annual production of 762 thousand 266 tonnes. India is the third largest tobacco producer with an annual production of 749 thousand 907 tonnes. With 80 thousand 200 tonnes of tobacco production. Türkiye is ranked 15th.

THE BUSINESS NETWORK OF ACTORS INVOLVED IN TOBACCO PRODUCTION



Major Health Problems Caused by Tobacco Cultivation

Lumbar Hernia

It is one of the most common health problems n tobacco growers due to constant bending during crushing.

Rheumatism

Health problems causing pain, swelling, deformity, and restricted movement in the oints, connective tissues, bones, or muscles are prevalent among middle-aged and older producers, often attributed to their posture during planting and harvesting periods.

The demanding workload during planting, irrigation, and harvesting seasons, coupled with the labor-intensive nature of the work dictated by natural conditions, can lead to significant levels of stress and depression among many producers.

are grouped under the human health factor, including variables such as the possibility of causing poisoning, various cancer diseases, and infertility in humans. The average score for the human health factor related to agricultural pesticides was 2.40, and it was determined that the awareness of tobacco growers regarding the impact of agricultural pesticides on human health is at a moderate level.

Considerations regarding the effects of

agricultural pesticides on human health

Exposure to nicotine

Pesticide Poisoning

Exposure to nicotine resulting from the processing of tobacco leaves leads to nicotine poisoning, also known as Green Tobacco Sickness (GTS), accompanied by symptoms such as nausea and vomiting

Kaynak: https://dergipark.org.tr/en/download/article-file/3106076

Tobacco products include all products produced by using tobacco as a raw material in whole or in part and intended for smoking, snuffing, sucking or chewing.

Main tobacco products;

Pipe Tobacco

Snuff Cigarettes

Cigar and Sigarillo Chewing Tobacco

▶ Rolled Shredded Tobacco Products ▶ Tobacco for Oral Use (Maraş Herb) Hookah Tobacco Products New tobacco product consumed by heating

How Tobacco is cultivated and its products manufactured

Tobacco field and harvest

Seedling Germination

To ensure successful germination, the tobacco seeds are mixed with fine sand or wood ash before being scattered evenly in seedbeds using a filtered bucket. After sowing, a cover of fertilizer is gently sprinkled over the seeds and pressed down. The seedlings are then carefully nurtured under a nylon-covered enclosure.

Transplanting Seedlings

The young seedlings are transplanted into the fields either by hand or using a planting machine. This process typically occurs in April-May for the Aegean, Marmara, and Mediterranean regions, and in May-June for the Black Sea, Eastern, and Southeastern regions. The planting density of tobacco varies based on the specific tobacco variety and the region.

Tobacco Growth

Around 10-15 days after planting, the fields are carefully hoed, ensuring optimal aeration of the soil. Hoeing is strategically timed after rainfall or irrigation. While oriental-type tobacco does not usually require irrigation, it may be irrigated 1-2 times during dry years to support healthy growth.

Harvesting

The tobacco plant's leaves mature from bottom to top, so the harvesting process follows this pattern as well. As a result, the harvesting of the product is not a onetime event; rather, it involves multiple harvests from the same plant at different stages. The ideal time for harvesting begins in the early morning hours before dawn and continues until the weather warms. Typically, this process occurs during the night. During the harvest, mature leaves are carefully removed, leaving the raw leaves untouched. This meticulous process extends over a long period, making it a laborious task for farmers.

Crushed tobacco leaves are removed by various methods (by hand to the needle, by sieves, by string and net vento) and the drying process, which is another labourious stage, begins. The drying method applied to tobacco varies according to the type of tobacco. The quality of drying also affects the quality of tobacco. In the Aegean Region, grill drying is used. Depending on the air temperature and hand condition, tobacco is left on the grill for 4-10 days. The completion of drying can be understood from the main vein and leaf colour. The main vein should be brown and the leaves should be yellowish.

Annealing

Following the drying phase, the dried tobacco leaves are removed from the drying area and stacked. To process tobacco, it needs to be moistened (annealed) between 18-20%. It's harder to moisten (anneal) oriental tobaccos due to their small leaves that don't absorb moisture well. Before delivering tobacco, water is sprayed on the additional strings directly using a pump. Sometimes, strings are covered with wet sacks to anneal.

2 Tobacco Delivery Process

The tobacco, carefully boxed and packaged by the growers, undergoes weighing and is then transported to the companies, ready to be dispatched to tobacco processing factories. Box packaging is essential to ensure safe transportation and facilitate sales. Prior to this, damaged and diseased leaves are meticulously removed. The tobacco is meticulously classified based on color, size, and overall quality. Tobacco production for the crop year commences in February and concludes after a 14-month cycle, culminating in delivery during the subsequent April.

Kaynak: https://www.tarimorman.gov.tr/PERGEM/Belgeler/M%C3%BChendis%20(T%-C3%BCt%C3%BCn%20Teknolojisi).pdf

Tobacco Products Manufacturing

Tobacco Preparation Department

In the tobacco preparation process, a specific combination of steam, water, and flavoring (casing) is applied to the tobacco leaves. This application occurs after the tobacco is weighed using a belt and automatically sent to the conditioning unit (DCC) following the provided instructions. The tobacco is then moved to the leaf tobacco resting silo, maintaining an average humidity of 20-21 percent. After resting in the leaf tobacco silo for approximately 3-4 hours, the blended leaf tobacco is transferred to the shredder machine. The tobacco fed into the shredder machine is finely shredded to achieve the desired size, typically ranging between 0.6 mm and 0.9 mm. Subsequently, the shredded tobacco is moved to the drying machine for further processing. The finely minced tobacco, having rested for an average of 10-20 hours, is then directed to the cigarette manufacturing machines for use in cigarette production.

Cigarette Manufacturing Department

- Cigarette Manufacturing Machine: Cigarette manufacturing begins with the transportation of essential components—cigarette paper, filter rods, glues, tipping paper, and cigarette boxes—from the non-tobacco raw material warehouse to the dedicated cigarette production area. Simultaneously, the previously rested and shredded tobacco is retrieved from the tobacco preparation unit and processed into cigarettes using the cigarette-making machine.
- Cigarette Packing Machine:In the cigarette packing process, the cigarettes from the cigarette production machine are conveyed to the packaging machine. Initially, they are individually placed into aluminum-coated paper, with each packet containing 20 cigarettes. Once wrapped in aluminum-coated paper, the cigarettes are then directed to the boxing machine for further packaging.
- Filter Rod Production Machine: In the Filter Rod Production Machine, filters for cigarettes are manufactured in various sizes and types to cater to different preferences. The primary raw material for filters is known as tow. In contemporary cigarette production, a wide array of filter types are crafted, including mono, dual, triple filters, charcoal filters, menthol capsule filters, and recessed filter types. Once the filters are fabricated in the filter production machine, they undergo various combinations based on specific requirements for their usage in cigarettes. These customized filter combinations are integrated into the cigarette manufacturing process to produce a diverse range of cigarette products.

Auxiliary Facilities

There are also auxiliary facilities in the production facility for cigarette production. Auxiliary facilities are technical units used for electricity, water, compressed air, vacuum, steam, heating, cooling, ventilation, quality control, load handling, fire detection and extinguishing and lightning protection systems of the plant, except for those used in the production line.

