


A BRIEF INTRODUCTION TO HEMP CULTIVATION, PROCESSING, TRADE, AND PUBLICATION IN THE OTTOMAN ERA

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ABSTRACT. *Cannabis* has a wide range of uses, from food to fiber and textiles, and from medicinal utilization to narcotics, and is one of the most controversial plants. The studies targeting the center of origin, history of domestication, and routes of cultivation have suggested Central Asia as one of the likely centers of origin. Historical evidence indicates that cultivation practices of *Cannabis* date back to the early Anatolian civilizations. The Ottoman Empire developed a well-documented legislative system along with a sophisticated taxation system as well as detailed records of cultivation and trade of industrial crops. The aim of the current review is to provide a brief introduction to the historical use of hemp in the Ottoman era, along with the cultivation, process, trade, tariffs, and legal restrictions with the hope that it would provide a base for further meticulous studies to unveil all the aspects of this important crop in the Ottoman era. An article published in the journal *Felahat*, a broad agricultural journal targeting all the aspects of agricultural production, that explains hemp cultivation and trade in the late Ottoman era is analyzed as an example of hemp publication of the era. The exemplary article provides invaluable information regarding the hemp value chain in the late Ottoman era. Similar retrospective studies could also be implemented for the medical and narcotic utilization of cannabis.

Keywords: *Hemp, Cannabis sativa, Marijuana, Ottoman Era, Ottoman Turkish, Fiber crops, Felahat Journal*

OSMANLI DÖNEMİNDE KENEVİR YETİŞTİRİCİLİĞİ, İŞLENMESİ, TİCARETİ VE YAYIMLANMASINA DAİR KISA BİR GİRİŞ

ÖZET. Gıdadan lif ve tekstile, tıptan uyuşturucuya kadar geniş bir kullanım alanına sahip olan kenevir, en tartışmalı bitkilerden biridir. Çeşitlilik merkezi, ıslah tarihini ve dünyaya yayılış rotalarını inceleyen çalışmalar, Orta Asya'yı muhtemel menşe merkezlerinden biri olarak önermiştir. Tarihsel kanıtlar, ülkemizde kenevir yetiştirme uygulamalarının erken Anadolu uygarlıklarına kadar uzandığını gösteriyor. Osmanlı İmparatorluğu, iyi belgelenmiş, kayıt altına alınmış bir yasama sisteminin yanı sıra, gelişmiş bir vergilendirme sistemine sahip olup, endüstriyel bitkilerin ekimi ve ticaretine ilişkin ayrıntılı kayıt sistemine sahipti. Bu derleme, daha sonraki derin çalışmalara bir temel oluşturması ve bu önemli mahsulün değer zincirini tüm yönleriyle açığa çıkarılma çabalarına katkı sunmak amacıyla Osmanlı döneminde kenevirin tarihsel kullanımı, ekimi, işlenmesi, ticareti ve yasal kısıtlamalarına kısa bir giriş yapmaktır. Tarımsal üretimin tüm bileşenlerini hedefleyen geniş bir tarım dergisi olan *Felahat* dergisinde Osmanlı'nın son dönemlerinde kenevir ekimi ve ticaretini anlatan bir makale, döneme ait kenevir yayınlarının bir örneği olarak incelenmiştir. Örnek makale, geç Osmanlı döneminde kenevir değer zincirine ilişkin değerli bilgiler

sunmaktadır. Kenevirin tıbbi ve uyuşturucu amaçlı kullanımını için de benzer retrospektif çalışmalar yapılabilir.

Anahtar Kelimeler: *Kendir, Kenevir, Osmanlı Dönemi, Lif bitkileri, Felahat Dergisi*

INTRODUCTION

Cannabis is unarguably one of the most controversial plants in its current state due to its narcotic use [1]. However, as one of the oldest cultivated crops, cannabis has had a wide range of uses, from food to fiber and from medicinal utilization to narcotics [2]. The wide range of use has led to relatively widespread cultivation along with a well-established value chain accompanied by a legislative and administrative system throughout history [3].

One of the major questions regarding its widespread use is the origin and domestication patterns of the crop [4]. In virtually all multipurpose crops, humans have benefited from a wide natural diversity within germplasm resources that is a direct outcome of natural selection-driven allelic richness. With the prolonged interaction, humans use the power of artificial selection to develop a wide range of cultivated materials based on their specific needs [5]. As a multi-purpose crop, a similar pattern is projected for taxonomic units classified under the genus *Cannabis* for ultimate development as hemp or marijuana [4].

The studies targeting the center of origin, history of domestication, and routes of cultivation have suggested Central Asia as one of the likely centers of origin [6,7]. Tracking distribution patterns is cited to be challenging due to frequent glacial interruptions and extensive human led re-introduction to all inhabited continents [7,8]. Introduction to China and the Indian subcontinent is the accepted as possibly the oldest large scale cultivation efforts after domestication [7]. The earlier archeological records from China indicated that the communities cultivated and used cannabis as hemp 5,000 to 6,000 years ago. The inherited practices from the earliest primitive Chinese societies regarding hemp sowing, cultivation, and processing (about 4,000 -5,000 years ago) have triggered more advanced techniques used by the Qin and Han dynasties (221 BC to 220 AD). Various early Chinese treaties, including *Xia Xiao Zheng* (16th century BC), the *Book of Songs* (a book of culture and social customs) and *The Annals* written by Bu-Wei Leu (476 to 221 BC), the *Book of Odes* or *Shih Ching* (includes information regarding cultural practices of Chinese in a time period between the 11th and the 6th century BC), mention the cultivation and use of cannabis for food, fiber, and medicinal purposes [9].

Cultivation of *Cannabis* in the western hemisphere was gradual and cultivated drug-type *Cannabis* was systematically introduced to the Arabic-speaking world with the raise of Islamic civilization. The Arabic books of the eighth century indicate a wide spread use of cannabis for medicinal practices [10]. The famous Arabic medical books written by Al-Razi (865–925) and Avicenna (980–1037) in the ninth and tenth centuries describe cannabis for its medical use [7,11]. It is reasonable to think that medicinal marijuana was introduced to Anatolia with the Islamic conquests. On the other hand, historical evidence from the early Anatolian civilizations indicates the possibility of an older introduction and more ancient of cultivation practices for cannabis [12].

There have been recorded cultivation practices and processing in western Anatolia as well as Black Sea region of the northern Anatolia for a long time, and farmers probably inherited germplasm as well as production practices from Central Asia [12,13].

The Ottoman Empire developed a well-documented legislative system along with a sophisticated taxation system and detailed records of the cultivation and trade of industrial crops. Despite the archiving advances, the less accessible script has limited the use of such invaluable archives for inferring agricultural practices, production patterns, processing, agricultural trade, legislative practice, research, and advances in the era. Thankfully, the current intellectual efforts for digitizing and deciphering the old scripts, recordings, governmental documents, and publications have opened new venues for exploiting historical documents to better understand the agricultural practices of the era.

The main aim of the current review is to provide a brief introduction to the historical use of hemp in the Ottoman era, along with the cultivation, process, trade, tariffs and legal restrictions, with a hope that it will provide a base for further meticulous studies to unveil all the aspects of this important crop in Ottoman Era. *Cannabis* also had produced for medical/narcotic uses in the Ottoman Empire as marijuana.

A SWIFT GLOSSARY OF *CANNABIS* IN OTTOMAN TURKISH

Several terms and words are associated with cannabis in Ottoman Turkish, and the most used ones are provided here along with their semantic uses. Both كندیر (kendir) and كنعیر (kenevir) are the words used for hemp in Ottoman Turkish, largely because of the connotation of the fiber-producing crop. The grain from the plant is denoted with the word چدنه (çedene). Similar to English, medical and narcotic uses of the plant are denoted with different words. The words used for medical and narcotic marijuana were بنگ (beng), اسرار (esrar), and حشیش (haşiş), although the word حشیش (haşiş) that derived from Arabic could also refer to opium. The common name of marijuana among users was مكيفيات (mükeyfiat).

HEMP AS AN IMPORTANT INDUSTRIAL CROP

Cannabis had mainly been used for six purposes in the Ottoman Empire. These are fiber for the textile industry, fiber for the navy, seed as a grain, seed as an oil source, medicinal purposes, and narcotics. Different landraces for cultivation as well as different production practices were employed for different uses of the crop. For instance, cultivars with long stems and little branching were densely cultivated for their fiber whereas cultivars with extensive branching were sparsely planted for medicinal purposes. There were also specific cultivars grown for grain or oilseed [14].

The most common cultivation of hemp in the Ottoman Empire targeted fiber production. Hemp fibers are coarser and more durable than cotton and linen fibers and are very resistant to salinity. Thus, hemp fiber was used in the manufacturing of rope and sails in maritime industries and became an indispensable plant for the Ottoman Empire navy. The earlier records indicate that the Ottoman navy was purchasing as much as five thousand metric tons of hemp yarn annually for the needs of the navy [13,15].

The hemp production in Anatolia was intensified in two regions: the Black Sea region, which encompasses Kastamonu, Ordu, Samsun, Sinop, Küre, Ayandon Amasya, and Gümüşhacıköy and Western Anatolia which include Aydın, Kütahya, İzmir [13,15,16]. The hemp yarn for the navy needs was procured from all the production centers, but largely from Kastamonu, Samsun, Sinop, Küre and Ayandon. It was brought from the designated locations to the Main Arsenal (تسارای حامرہ -Tersane-i Amire) and

subsequently processed into rope. Nonetheless, processing was sometimes completed by the industry and was sent directly as rope to the Main Arsenal [15,17].

According to the available statistics, a total of 442,202 bushels of hemp were planted on 87,920 decares of land in the Ottoman Empire in 1897, and the highest yielding provinces were Aleppo, Manastır, and Sivas, respectively [14]. A steady decline was evident in hemp cultivation area and production, largely due to popularity of cotton in the international market as the textile raw material in the late Ottoman era and the shrinkage of the Ottoman territories. In 1913, 4397 tons of hemp were produced on 6193 hectares, while in 1914, 3946 tons of hemp fiber [14].

Since hemp oil is in a semi-solid state, it is used in the production of linseed, varnish, and painting oils. In addition, hemp oil is used in the production of soap bars [13,16].

One other production purpose for hemp was seed trading. Hemp was also produced extensively in Europe, where there was a need for high quality seeds adapted to Europe. The import value and volume of hemp seeds from the Ottoman territories are difficult to estimate accurately. There are records indicating hemp seed production and export from the Ottoman territories [18].

Cannabis had also been used in the treatment of many ailments, including malaria, asthma, and dysentery in the 14th century onwards, and there was a complete value chain for medical marijuana from seeds to cultivation, processing and transportation to the dedicated pharmacies. In addition to its medical use, cannabis was used as a narcotic drug and legal precautions were implemented to prevent its abuse. The focus of the current review is not the medical or narcotic use of cannabis; however, a comprehensive review of medical and narcotic use in the Ottoman Empire along with the supply of cannabis is provided in Göktepe [19,20], albeit in Turkish.

It seems that the overall usage in the late Ottoman era has been completely inherited by the modern Turkish Republic. Hemp has been referred to as one of the most important textile and fiber crops in early Turkish yearbooks and is reported to have been widely planted in the Simav district of Kütahya Province [21]. However, with domination of cotton and extensive use of the plant as narcotics resulted serious restrictions on cultivation in the middle of the 20th century in the modern Turkish Republic [22] and remained low until very recently.

AGRICULTURAL POLICIES FOR HEMP CULTIVATION AND TRADE

One of the most dramatic events for hemp cultivation and trade policies was the defeat of the Ottoman Empire by the Holy League on October 7, 1571 in the battle of Lepanto (İnebahtı). The Ottoman Empire lost almost the entire imperial fleet in a single day, and the war was the biggest naval defeat in the rise of the Ottoman Empire [23]. The defeat has forced the Empire to rebuild a new fleet as quickly as possible, and the newly built fleet was ready in only 6 months [23–25]. The speed of recovery and rebuilding efforts has been extensively analyzed; however, the role of hemp cultivation, processing, and trading along with the royal measures and policies on hemp procurement is less clear. Nevertheless, there were orders for the obtaining and shipment of boat building materials, including hemp and hemp products from locals and strict measures and restrictions for the export of such materials [23]. This was probably the most evident production and trade policy for hemp in the early Ottoman Era.

Hemp continued to be one of the most required fiber materials for the Ottoman navy and the government authorities performed procurement of hemp and hemp products via the *ocaklık* system earlier in the Ottoman era (e.g., the first half of the sixteenth century). *Ocaklık* was defined as a system in which the tax-paying population can fulfill tax obligations by supplying resource materials to the Ottoman state. In the 18th and 19th centuries the trade of hemp products was performed largely by merchants and they became the intermediaries of the hemp and hemp products for the Main Arsenal (Tersane-i Amire) [15,17,23].

As hemp has been used both as an industrial crop for seed and fiber and for medicinal/narcotic purposes, precautions for abuse have been an issue throughout the Ottoman era. A number of orders for restriction of use have been placed. As the judicial and administrative branches were unified in the Ottoman Empire, the state's prohibitive attitude towards narcotic use of *Cannabis* implemented through fatwas from the sheikh al-Islam. The prohibitions and penalties were in effect for cannabis and deterrent punishment methods such as shoveling and exile were tried [19,20].

AGRICULTURAL PUBLICATIONS TARGETING HEMP: THE CASE OF FELAHAT

Felahat (فالحات) was a broad agricultural journal targeting all the aspects of agricultural production including plant production, agronomy, animal and veterinary sciences, agricultural economy, and agricultural policy. The journal was published every 15 days between 1913 (1329 Rumi calendar) – 1919 (1335). The first issue of the journal is dated March 28, 1913 (March 15, 1329), and the last issue is dated February 1919, for a total of 67 issues. On the front cover of the first issue of the periodical, the editors of the journal are classified according to their fields of expertise: A classification has been made for the field, such as Agriculture and its Subsections Editors, Trade and Industry Editors, Veterinary Editors, Forestry Editors and Legislative Structure Editors, along with the authors and the institutions presented in the first issue. The complete list of experts and editors contributing to the journal is provided in Yüksel [26]. The hemp article appeared in the merged issues of 61-62 (Fig. 1).



Fig. 1. The cover page of the journal Felahat issues 61-62.

The article is a relatively short 2-page article that starts with the comment that the cultivated hemp from the Ottoman geography has been analyzed and is of high quality (same as Italian hemp) for weaving. Based on the quality results, an Ottoman company has been established for the processing and marketing of hemp. The company referred to in the article is the one established on May 15, 1918 under the name "Kastamonu Kendir Istihsalat ve İhracat Şirketi" by Münir and Mehmed Beys and their friends with a capital of 75,000 liras. The company was established to process the hemp in Kastamonu [22].

The article also suggests that the newly established modern agricultural school in Kastamonu be converted to a regional center and the alumni be employed in the industry. More investments from local sources are advocated by listing a wide range of uses of hemp in the textile industry and paper production. The next superiority of the crop listed is the quality and usage of seed oil.

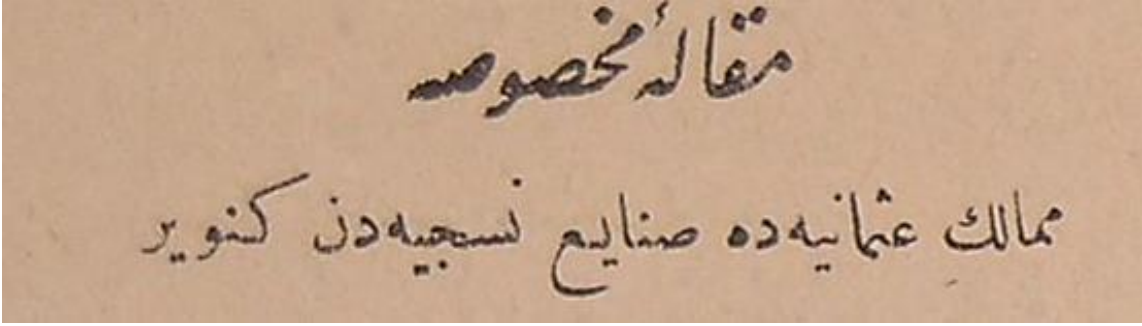


Fig. 2. The title of article published in Felahat with the Ottoman Script. Reads as Special Article: Cultivation of a Textile Industry Crop Hemp in Ottoman Territories (Makale-i Mahsûsa: Memâlik-i Osmâniyyede sanayi-i nesciyeden kenevir).

The article also provides a brief overview of the international hemp market and hemp suppliers, including rich western countries such as the USA, England, Germany, and France. Production statistics of one of the prominent hemp suppliers, the Russian Empire, have also been provided as the potential competitor in the market.

The cultivation statistics of the Kastamonu province, along with the production in different districts were also given. The same pattern is also given for Aydın province to convince people that the crop is already a major crop across the Ottoman territories.

The journal article is essentially a call for revitalizing Ottoman hemp production through elevating the production knowledge as well as modernizing of the components of the hemp value chain.

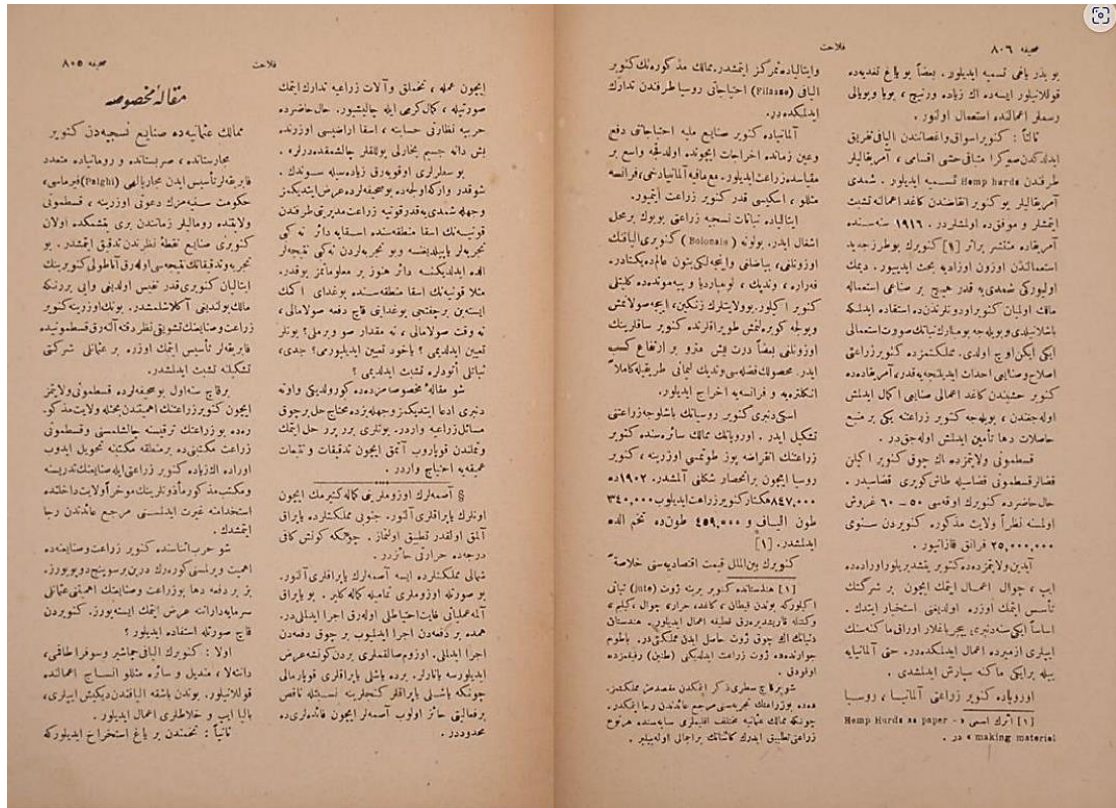


Fig. 3. The two-page article published in Felahat with the Ottoman Script.

CONCLUDING REMARKS

Global hemp production had declined significantly in the last century, but reviving efforts due to consumer demand and policy changes have increased production. Although the numerous uses of hemp in various sectors make the crop an attractive and profitable alternative, concerns regarding its narcotic use are still present. The widespread use of narcotic marijuana could be prevented via new hemp cultivars with the reduced cannabinoids, and breeding efforts for a new set of superior and low cannabinoids should be prioritized.

Here, a brief introduction to the late Ottoman era hemp cultivation and processing, along with an exemplary publication is provided. The experience in production and marketing in the Ottoman era could lead to a thorough analysis of hemp value chains from a historical perspective. The historical analyses of hemp cultivation could lead to the in-depth analyses of the decline of such a major crop along with the factors contributing to the decline. The lessons learned from the decline could be implemented to improve the farmer's resilience and sustainability of the current cropping systems, as well as provide an accurate forecast of the alternative crops and production practices of contemporary agriculture in Türkiye and elsewhere.

Similar retrospective analyses could also be taken for medical and narcotic utilization of *Cannabis*, and effective measures of substance abuse could be taken with the lessons from the earlier experiences.

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