

Role of Plants in Roman Economic System in Classical Antiquity¹

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1. INTRODUCTION

Historical adventure of mankind constitutes, in a sense, its efforts to make sense of the earth together with its contents, and finally to name and denote them. Naturally, this denotation becomes richer with regard to the objects people interact the most. In this regard, plants provide quite a good example to illustrate the previous sentence. Depending on numerous qualities such as their benefits for humanity, their economic value, the shape of their fruits, the type of their leaves, their tastes, their being edible or poisonous, their having a short or long life cycle, their habitats, plants were given different names by each nation and these names have survived until the present day without much change.

In the Assyrian and Sumerian languages	In Latin	In English
As	<i>assa-foetida</i>	Asafoetida
Azupiranu	<i>Crocus sativus</i>	Saffron
Anbar	<i>Liquidambar</i>	Sweetgum
Harubu	<i>Ceratonia</i>	Carob
Kudimeranu	<i>E. cardamomum</i>	Cardamom
Karsu	<i>P. cerasus</i>	Cherry
Murru	<i>C. myrrha</i>	Myrrh
Nushu	<i>P. dulcis</i>	Almond
Papa	<i>Papaver</i>	Poppy
Samassammu	<i>Sesamum</i>	Sesame

Table 1: Currently used equivalents of the names of the plants considered merchantable by the Assyrians and Sumerians and as they were used in the Roman civilization.³

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³ Howard S. Reed, **A Short History of the Plant Sciences**, Waltham, Chronica Botanica, 1942, p. 10.

Classification of an object in any way as beneficial or harmful since its existence makes this object compulsory to be identified. Identification is usually based either on inspiration drawn from an object already identified (for example, identification of the plant whose leaves resemble tooth as (*Leontodon* L.⁴)⁵ or on the most prominent characteristic of the object that needs to be identified. Indeed, this is simply the transfer of traditional knowledge and in time such identification turns into a cultural, or more specifically, professional code. For example, one of the ways *Helleborus orientalis*⁶ Lam. is extensively named in Turkish is “danabağırtan” (literally, what makes cattle bellow); this plant which grows in the open space on the edge of forests is harmful to herbivore animals; thus, this identification acted as a warning sign in the regions of antiquity such as Rome, economy of which largely depended on farming.

From this perspective, it is no coincidence that plants are given plural names (woods, bushes, the fruits, the weeds etc.) in the oldest language known and even in the dialects of that language.⁷ As early as the prehistoric period, people had named all the significant plants known in the modern world, even used them as healing herbs, and cultivated them for food.⁸ When the need for shelter arose, these people used the trees nearby to build or decorate their caves or houses. The same was also true when the need arose for nutrition and, over time, for health. In the first paragraph of the 12th volume, which is spared for trees, of his book entitled *Naturalis Historia* (Natural History), Roman natural historian Plinius (Pliny the Elder), explains the onset of the relationship between humans and plants and the use of plants for economic purposes as follows: “*The trees and forests being regarded as the most valuable benefits conferred by Nature upon mankind. It was from the forest that man drew his first aliment, by the leaves of the trees was his cave rendered more habitable, and by their bark was his clothing supplied. With the vessel built from the tree, man could discover faraway lands; he used the timber for building homes and even carved his gods from the trees.*”⁹

As a consequence of the expansionist policy during both periods, namely when it was a Republic and an Empire, the Roman civilization cultivated either friendly or hostile relations with cultures and nations first in the Balkans and Anatolia and later in the Middle East and North Africa, having been influenced by these cultures or influencing them to some extent. During this phase of interaction, the Roman civilization, not only transferred what he had to these geographies, it also helped values of the Hellenistic civilization, which also bred its own culture, to become more recognized. Moreover, the Roman and Hellenistic civilizations had also remarkably influenced the cultures of Europe and America, currently known as the western civilization.¹⁰ History of plants is one of the ways that leads to the understanding of the cultures, religions, and traditions Rome had

⁴ In writing the scientific denotation of a plant, the name of plant is followed by the standard abbreviation of the scientist who introduced the plant to the literature and this abbreviation is not italicized. As seen in this example, the genus *Leontodon* was described first by Carl Linnaeus; so its name is followed by the author's botanical pseudonym L. In the paper, the scientific names of the plants are followed by the pseudonyms of the respective scientists.

⁵ Carl von Linnaeus, **Species Plantarum Tomus II**, Stockholm, Impensis Laurentii Salvii, 1753, p. 798.

⁶ Jean Baptiste Antoine Pierre de Monnet de Lamarck, **Encyclopédie Méthodique**, Botanique, Paris, Panckoucke, 1789, p. 96.

⁷ Edward Lee Greene, **Landmark of Botanical History**, Washington, Smithsonian Institution, 1870, p. 21.

⁸ Reed, *ibid*, p. 7.

⁹ Plinius: XII.1.

¹⁰ Jessie M. Tatlock, **Greek and Roman Mythology**, New York, The Century Co., 1917, p. xxi.

interacted with, as well as the economic relations it had set up with them. For instance, when Gnaeus Pompeius Magnus defeated King Mithridates VI of Pontus in Anatolia, he celebrated his victory by exhibiting *Diospyros lotus* L.¹¹ (Caucasian persimmon), which grew in Anatolia.¹² Likewise, Lucius Licinius Lucullus exhibited *Prunus avium* L.¹³ (cherry) plant, which did not grow in Italy beforehand, after his victory against Mithridates VI.¹⁴ Both plants first came to Europe through these events mentioned. It was not at all unusual for the above named generals to consider the aforementioned plants as a symbol of victory since they could be regarded as exotic plants in Italian peninsula. Nevertheless, the fact that eleven of the top twenty countries that currently produce the most cherries are located in Europe is a significant example in explaining the economic influence of Rome, which brought this commercially valuable plant from Asia to Europe and helped it propagate around the continent during its long-lived reign over the greater part of Europe.

Rank	Country	Production (in metric tons)
1	Turkey	480,748
4	Italy	104,766
5	Spain	98,400
9	Ukraine	72,600
10	Russia	72
11	Romania	70,542
12	Greece	60,300
13	Poland	41,063
14	Austria	38,680
16	France	30,440
17	Germany	23,005
19	Serbia	22,213
20	Bulgaria	19,512

Table 2: The top 20 countries with the most shares in cherry production as of 2017.¹⁵

¹¹ Linnaeus, Tomus II, p. 1057.

¹² Plinius: XII.9.

¹³ Carl von Linnaeus, **Species Plantarum Tomus I**, Stockholm, Impensis Laurentii Salvii, 1753, p. 165.

¹⁴ Plinius: XV.30.

¹⁵ <https://www.worldatlas.com/articles/the-leading-producers-of-cherries-in-the-world.html>, Accessed on 19.10.2019.

In the world of antiquity, geographies were mainly known with their resources above the ground, a part of which was the commercially valuable plants. These plants were naturally named after the areas from where they spread. In a way similar to the examples in the modern world, the scientific name of the plant “pomegranate” is *Punica granatum* L.¹⁶ and the word “*Punica*” means “Carthaginian.” This fruit was sold in the markets of Rome with the label “Carthaginian pomegranate” that was the name of Rome’s fierce enemy; so, it also had a symbolic meaning. As seen in the example above, Pontus was an area where the cherry plant was grown and the fact that this plant was brought to Europe by Rome itself is a concrete indicator that Rome stretched as far as Pontus and economic values of that place was included under Rome’s economic system.

The Roman literature offers a rich variety of texts on plants; and, this might seem as a foregone conclusion when the conditions are considered. This is because each class had direct connection with plants. Various classes of society used plants to earn their living; soldiers learned about plants that could be eaten during military expeditions or used to heal various injuries; the Senate and the bureaucracy class, on the other hand, were interested in plants in a horticultural sense. Characteristically, Rome was a state that was based on agriculture. Therefore, they developed agriculture and increased production. Senior statesman like Cato the Censor wrote works completely devoted to agricultural development and production increase.¹⁷ This is the first Latin work written about agriculture. It was penned with a pragmatic point of view and aimed to guide Roman farmers about growing grain and legumes with commercial value, as well as growing and caring for fruit trees. In “*Histoire de l’antiquite*”, Diakov and Kovalev describe this situation with the following striking expressions: “*Romans managed to dry wetlands sparing a great deal of effort and the whole Latium kept looking like a flower garden until the early times of the Medieval Age. As conveyed by the tradition, even ‘senior senators’ did not despise cultivating their lands in person and making drainage canals.*”¹⁸

Gardening was regarded as an honorable occupation by the Roman aristocracy even to the extent that many Roman aristocrats preferred plant names as *cognomen*.¹⁹ The splendor of gardens was so important for the Roman aristocrats that it sometimes caused rivalry among them. As Plinius reports, as a consequence of the rivalry between Gnaeus Domitius Ahenobarbus and Lucius Licinius Crassus, the price of six trees rose to even 10 million *sestertii*.^{20,21}

2. ABOUT THE ROMAN CIVILIZATION

Tekin maintains that historians described “the process of Rome’s establishing sovereignty over the Mediterranean Sea as the Roman Miracle.”²² This concept signifies a civilization,

¹⁶ Linnaeus, *ibid*, p. 472.

¹⁷ Greene, *ibid*, p. 9.

¹⁸ V. Diakov and S. Kovalev, *İlkçağ Tarihi II Roma*, (Trans. Özdemir İnce), Istanbul, Yordam Kitap, 2008, p. 48.

¹⁹ Henry Phillips, *Flora Historica I*, London, E. Lloyd and Son, 1829, p. xxiii.

²⁰ For comparison purposes, the following information will be useful: The annual fee of an infantry soldier was 900 *sestertii* during the reign of Augustus (Gaius Julius Caesar Octavianus). See: Michael Speidel, “Roman Army Pay Scales”, *Sonderdruck aus: M. A. Speidel, Heer und Herrschaft im Römischen Reich der Hohen Kaiserzeit*, Stuttgart 2009, 349-380.

²¹ Plinius. XVII.1.

²² Oğuz Tekin, *Eski Yunan ve Roma Tarihine Giriş*, Istanbul, İletişim Yayınları, 2016, p. 189.

which had once been a minor city-state, having survived many traumatic difficulties and confronted many enemies, had established hegemony over a significant part of the world known on that date.²³ On the other hand, the Roman civilization did not influence the modern world not only with its military or political achievements. In the modern civilization, it is possible to see the traces of the Roman civilization in many areas from architecture to art, from literature to law, from culture to belief system and even to the cosmopolitan structure. Although it had experienced fundamental changes in its power device and evolved from being a kingdom to a republic and from a republic to an empire, these regime-related changes did not lead to any interruptions specific to the civilization. Accordingly, the phase of the Roman civilization, which encompasses the period between the arrival of Aenas in Italy and the start of Christianity's spread, could not be evaluated in a way that is independent of each other.

3. ROLE OF PLANTS IN ROMAN ECONOMIC SYSTEM

Ancient people, no matter what their occupation or rank, were very involved with plants. They were also keen on animals, which they were not familiar with, as well as plants. Either due to religious or economic reasons, it is an obvious fact that plants occupied more place in the lives of ancient people in comparison with the lives of modern people. Plants were first used as nutrient and merchandise, then their healing features were discovered and these discoveries in time culminated in a culture of using medicinal plants.

First, the knowledge of medicinal plants was transferred from generation to generation within families; later, experts on these plants emerged within tribes. Unlike shepherds and farmers, these people not only identified the plants, they also had an insight about their benefits and harms.²⁴ Herbalists used to pick up the plant parts necessary to make a certain medicine and sell these in places called *pharmacopolai* and *rhizotomoi*. In this respect, it is really important that Hercules call god of medicine Aesculapius “*an insane person looking for plant roots.*”²⁵

When the phase of ethnobotany was replaced by natural sciences, which were rising in the Hellenistic and Roman civilizations, the ancient travel writers, who were keen on natural sciences, compiled this information into written documents. This information compiled in written documents spread to the whole world known as a consequence of the cultural interaction of nations.

Numerous works were written on plants due to the fact that plants were regarded as an economic power resource because of their benefits, and that much attention had been attributed to them because of their symbology in the polytheistic ancient world. That the works in question were translated into significant languages of the period such as Latin or Greek ensured the transfer of every new finding regarding botany to the geography of antiquity; by this means, the economic value of certain plants increased, and also the religious or medical significance attributed to them were transferred from one culture to another. These plants will be exemplified in the following sections of our study.

²³ Ernst Breisach, **Tarihyazımı**, (Trans. Hülya Kocaoluk), Istanbul, Yapı Kredi Yayınları, 2018, p. 62.

²⁴ Reed, *ibid*, p. 8.

²⁵ R. J. Harvey Gibson, **Outlines of the History of Botany**, London, A & C Black, 1919, p. 4.

Although there are many factors that define the market value of a certain plant, this value always peaked depending on the interest of the noble class in the plant. Emperor Vespasianus Augustus initiated the tradition of dedicating cinnamon (*Cinnamomum verum*) inserted in embossed gold in the Temple of Capitol and Pax the Goddess of Peace. In addition, this plant was specifically produced for use during cremation of the dead; thus, it was believed to have been bestowed to humans by gods for this purpose. Emperor Nero had a huge amount of cinnamon burned at his wife Poppaea Sabina's funeral.²⁶ Cinnamon was, on the other hand, used for the purpose of relieving the bad odor caused by the burning of dead bodies. Pliny thinks that cinnamon was indebted its claim to fame to the gods below far more than the gods above, as an allusion to the deification of the Roman emperors by the Senate. Definitely, it was not possible for the public to be able to use as much cinnamon as Nero; yet, they did not from making use of cinnamon for this purpose. Furthermore, in order to increase the price of cinnamon, stories had been made up that this tree was protected by formidable bats and serpents with wings, and this being the case, the price of this plant rose and became astronomically high.²⁷

For personal care, the Roman people would use herbal oil instead of being washed using water. The origins of this goes back to the texts written by the historians around Alexander the Great after the defeat (331 BC) of Darius III by him on the perfumes and herbal oils found in Darius' tent.²⁸ Herbal oil and perfume were considered luxury goods in Rome. Nevertheless, it is not certain when Rome had first encountered herbal oil and perfume. Yet, the use of herbal oil and perfume was prohibited under the frame of measures of public savings in 189 BC during the censorship of Lucius Iulius Caesar and Publius Licinius Crassus since their use was considered squander. As a result, these goods started to be smuggled and led to the enrichment of a group, which involved some state officials as well.²⁹

Papyrus (*Cyperus papyrus*), grown in Egypt, was used to make paper and thus, it was possible to record events. Marcus Terentius Varro notes that papyrus began to be used for the first time when Alexander the Great founded Alexandria. During the rivalry between Egyptian Pharaoh Ptolemaios and Pergamon King Eumenes II about the size of their libraries, Ptolemaios banned the export of papyrus; and, this led to the discovery of parchment.³⁰

The books were covered with the leaves of *Citrus*, (a species of which orange, whose symbolic equivalence in Roman literature is "generosity" is also a member) species; therefore, it was ensured that the books were protected from worms.³¹

Silphium, which is believed to be extinct today, was highly valuable in antiquity and it was worth its weight in silver *denarius*.³² Theophrastus reports that it was impossible to cultivate the *silphium* plant,³³ which was quite popular in antiquity due to its the aphrodisiac and narcotic potential of its seeds; and, the plant was never seen again after the

²⁶ Plinius: XII.41.

²⁷ Plinius: XII.42.

²⁸ Plinius: XIII.1.

²⁹ Plinius: XIII.5.

³⁰ Plinius: XIII.21.

³¹ Plinius: XIII.37.

³² Plinius: XIX.15.

³³ Theophrastus: VI. III.3-5.

period of Emperor Nero (68 AD).³⁴ The economy of the Cyrenaica region, which is located in modern Libya, depended on this plant to a great extent. On one side of a Cyrenaican coin, believed to date back to 3 BC, is depicted the portrait of Cyrenaican King Magas whereas an embossed image of *silphium* plant is shown on the other side. Gaius Iulius Caesar, who was a *dictator* during the civil war (*bellum civile*), spent not only the gold and silver in the state treasury, but used the *silphium* seeds as well.³⁵ It was also used to feed sheep and goat because the meat of animals fed on it was very delicious.³⁶

The red paint, which was thought to be herbal during the Roman period, but in reality produced from an insect called Kermes (*Kermes Latreille*) living on Kermes oak (*Quercus coccifera*), was used to dye the military uniforms of the Roman *legatus*.³⁷

As it was also touched upon in the introduction part, the plants with a characteristic feature (related to its fruit, smell, or nutrition value, etc.), which do not belong to Italy or Hellas, were naturally named after the areas from where they spread. For instance, *Medicago sativa* L.,³⁸ an important forage legume for herbivorous animals was first introduced in Europe during the invasion of Hellas by Achaemenid Emperor Darius I (492-490 BC). It was coined this name since the native land of the plant was known as Media. The scientific name of the plant used today refers to this connection, as well. This plant helped reduce the cost of long and exhaustive military expeditions certainly with its nutrients, as well as its features such as being produced easily, kept and carried easily and being able to tolerate many habitat values.³⁹

4. PLANTS WITH ECONOMIC VALUE IN ROMAN CIVILIZATION

The Roman Civilization was basically an agricultural civilization, backbone of whose economy was based on revenues obtained in return for agricultural products, with the fertile Po Plain involving numerous vast *latifundias*. This system based on agriculture resulted in a great need for labor force; thus, the need to employ slaves led the Roman state to turn into an imperial state, having assumed an increasingly more militarist structure. Therefore, numerous works have been written regarding the selection of commercially valuable plants, location of the land to be cultivated, and the conditions necessary for cultivation, several of which include Marcus Porcius Cato's *De agri cultura*, Marcus Terentius Varro's *De re rustica* and Gaius Plinius Secundus' *Naturalis Historia*. All of these works propose plants of economic and cultural value for the Roman peasants to cultivate; in addition, a number of methods are shown including the conditions of an ideal land of agriculture and the selection of workers. Moreover, how to produce important items of export such as honey, wine, and olive oil was demonstrated in detail, while recommending the cultivation of plants used in chaplets or perfume production.⁴⁰

In the early periods of Roman Civilization, gardens with various plants were a characteristic part of Roman houses. These gardens had a large number of plants both for

³⁴ Jeanne D'Andrea, **Ancient Herbs**, California, J. Paul Getty Museum, 1989, p. 30.

³⁵ Plinius: XIX.15.

³⁶ Theophrastus: VI. III.1-3.

³⁷ Plinius: XXII.3.

³⁸ Linnaeus, *ibid*, p. 778.

³⁹ Plinius: XVIII.43.

⁴⁰ Virginia Farmer, **Roman Farm Management (The Treatises of Cato and Varro)**, London, Hodder and Stoughton, 1913, p. 31.

use in the kitchen and, to be dedicated to various gods, as a way of worship. However, due to the enlargement of the civilization's borders, the population increased and these gardens gradually turned into agricultural lands, being cultivated to grow plants directly appealing to the market. In these gardens, many plants such as basil (*Ocimum*), dill (*Anethum*), lovage (*Ligusticum*), mint (*Mentha*), thyme (*Tyhmus*), marjoram (*Origanum*), parsley (*Petroselinum*), rue (*Ruta*), savory (*Satureja*), aniseed (*Pimpinella*), laurel (*Laurus*), fennel (*Foeniculum*), coriander (*Coriandrum*), cumin (*Carum*), leek and onion (*Allium*), opium poppy (*Papaver*), sesame (*Sesamum*) and many other plants were grown. These plants were both sold and used in the house for the needs of the household. Varro states that all Italy looked like a huge garden in 1st century BC. The data obtained from the Pompeii excavations clearly show the importance of gardens within the Roman economic system. Accordingly, 9.7% of the total lands were farms growing plants, 5.4% were gardens and 2.6% were public green spaces.⁴¹

In addition to the plants grown as food, various plants that appealed to daily life were grown based on their monetary value. A rich symbology is manifest in the literature of Roman civilization, especially in the early periods since its foundations were laid on myths and legends. This is the natural consequence of the interactions the civilization formed with symbology-intensive cultures. In this respect, the Roman civilization could be likened to the neat and tidy version of the Hellenistic, Mesopotamian and Egyptian civilizations. Naturally, the use of plants both for religious and daily purposes was the result of this transfer. More precisely, 134analyse, which was considered to be highly sacred in the Roman civilization, had also been regarded as sacred in the previous Greek, Etruscan, and Celtic civilizations as well.

The first examples of using plants to obtain fragrance or oil and then turning these into commercial goods were seen in Eastern societies. As a result of the raids organized by first Alexander the Great and then the Roman civilization into the East, many things in these regions that could be considered foreign to Europe were taken back to Europe, including perfumery. In time, the consumption of fragrances and herbal oils became popular as a determinant of social class in Roman civilization; thus, their prices increased quite drastically. At the same time, it is observed that the number of works written in this field naturally increased as well.⁴²

In the Roman Empire, plants were used as a means of celebrating victories, congratulating, showing respect or appreciation and worshiping.⁴³ A victory celebration parade was held along the main roads of Rome for the senior commanders of the army, which came back with a victory from the military expedition. The roads were decked with flowers and Roman people would strew flowers over the procession.⁴⁴ The triumphant soldiers would wear crowns made up of various plants in line with the degree of importance of their victory. These crowns of victory were regarded quite important and worn with pride by their owners.⁴⁵ The crowns earned at the end of competitions were so important that this issue was regulated by a specific article in the Law of the Twelve Tables (*Leges Duodecim*

⁴¹ D'Andrea, *ibid*, p. 25.

⁴² Phillips, *ibid*, p. xiii.

⁴³ Cato 134.

⁴⁴ Richard Folkard, **Plant Lore, Legends, and Lyrics Embracing the Myths, Traditions, Superstitions, and Folk-Lore of the Plant Kingdom**, London, Sampson Company, 1892, p. 28.

⁴⁵ Suetonius: Augustus.22.

Tabularum). Hence, the law: “When man wins crown himself or through chattel (refers to the slave who participates in the race in his owner’s name; this is similar to hiring a jockey today) or by dint of valor crown is bestowed on him that it was a crown earned by the slaves or the horses which is said by the law to be won through his chattel has been doubted by no one.”⁴⁶

The increased importance given to plants in everyday life led to the development of the flower industry in Roman Civilization; the flowers which were customarily used for religious or cultural purposes were grown and sold at the markets before the victory parades or festivals.⁴⁷

Sage (*Salvia officinalis* L.⁴⁸): Sage is one of the plants attributed to God Jupiter and its medicinal value is rather high. In addition to being used for dying hair black, it was also referred to in ulcer treatment. Its use for miscarriage led its economic value to rise substantially.⁴⁹

Rosemary (*Rosmarinus officinalis* L.⁵⁰) was known as a symbol of both life and death. It was used in funeral because of its strong scent and in cooking because of its seasoning value. Rosemary was one of the traditional horticultural plants in the Roman civilization. It was used to make chaplets.⁵¹

Walnut (*Juglans regia* L.⁵²): There were many varieties of walnut that were believed to represent marriage in terms of its fruit structure and it was a popular plant.⁵³

Laurel (*Laurus nobilis* L.⁵⁴): Laurel, which was accepted as the plant of Apollo, was considered very important in both Greek and Roman belief systems. A chaplet made of laurel leaves was given as an award to those who gets a place in the traditional games in Greece whereas it was given to the *legatus* who exhibit success in the battlefield. Traditionally planted in gardens and public areas in Rome, laurel was also used for cooking and perfume production and because of its medical value, it was considered to be a profitable plant to be grown. Cato also referred to the economic value of laurel and recommended that it be planted in the gardens together with myrtle.⁵⁵ Laurel was regarded as so important in the Roman Civilization that it was strictly forbidden to cause any damage to this plant; so much so that it was even forbidden to be burned at the altar or for dedication to the Gods.⁵⁶

⁴⁶ Plinius: XXI.3-5.

⁴⁷ Wilhelmina F. Jashemski, "The Garden of Hercules at Pompeii" (II.viii.6): The Discovery of a Commercial Flower Garden, *American Journal of Archaeology* Vol. 83, No. 4 (Oct., 1979), p. 408.

⁴⁸ Linnaeus, *ibid*, p. 23.

⁴⁹ Dioscorides. III-40.

⁵⁰ Linnaeus, *ibid*, p. 23.

⁵¹ Dioscorides. III-89.

⁵² Linnaeus, *Tomus II*, p. 997.

⁵³ Plinius. XV.24.

⁵⁴ Linnaeus, *ibid*, p. 369.

⁵⁵ Cato 31.

⁵⁶ Plinius: XV.40.

Dill (*Anethum graveolens* L.⁵⁷): Used as food, medicine and for making chaplets in festivals. It was also a part of gladiators' diet.⁵⁸

Basil (*Ocimum basilicum* L.⁵⁹): Basil was a love symbol in Rome while it referred to the concepts of hate, misfortune and lament in Ancient Greece. This plant was used as an aphrodisiac in addition to its culinary use and medical values.⁶⁰

Rose (*Rosa* L.⁶¹): Rose was very popular to grow due to its aesthetic value. Although it was initially used in funerals, it was also used in wedding ceremonies, festivals, and victory parades in time. Roses were scattered over the way or the vessel while the army goes on an expedition or a cruise.⁶²

Esparto (*Stipa tenacissima* L.⁶³): Esparto was used to make clothes, shoes, rope, and forage. The Romans gained knowledge about the uses of esparto during the Punic Wars (264-146 BC) fought with Carthage.⁶⁴

Mustard (*Sinapis* L.⁶⁵): Mustard was regarded as an extremely important medical plant. It was used to prevent hair loss and to treat bruises as well.⁶⁶

Borage (*Borago officinalis* L.⁶⁷): Borage has both culinary uses and medical value.⁶⁸

Oregano (*Origanum vulgare* L.⁶⁹): Traditionally, oregano was planted on graves. Its medical value is extremely high.

Thyme (*Thymus vulgaris* L.⁷⁰): Thyme was believed to inspire courage so it was used by athletes and soldiers. It is favored for honey production. Its culinary uses are mainly as a seasoning and a herb. In addition, it was referred to due to its numerous medical benefits.⁷¹

Chestnut (*Castanea sativa* Mill.⁷²): There were eighteen varieties of chestnut, which was one of the popular trees of Roman civilization, during the time of Plinius.

Flax (*Linum usitatissimum* L.⁷³): It was used while sacrifices were offered to gods. Battle of Actium (31 BC), the final war of the Roman Republic, took place among Cleopatra, Augustus, and Marcus Antonius. Cleopatra participated in the Battle of Actium with a

⁵⁷ Linnaeus, *ibid*, p. 263.

⁵⁸ Dioscorides. III-67.

⁵⁹ Linnaeus, *ibid*, p. 597.

⁶⁰ Dioscorides. I-59.

⁶¹ Linnaeus, *ibid*, p. 491.

⁶² Folkard, *ibid*, p. 28.

⁶³ Carl von Linnaeus, **Centuria I. Plantarum**, Uppsala, Amoenitates Academicae, 1755, p. 6.

⁶⁴ Plinius. XIX.7-9.

⁶⁵ Linnaeus, Tomus II, p. 668.

⁶⁶ Dioscorides. II-184.

⁶⁷ Linnaeus, *ibid*, p. 137.

⁶⁸ Dioscorides. IV-128.

⁶⁹ Linnaeus, Tomus II, p. 590.

⁷⁰ Linnaeus, *ibid*, p. 591.

⁷¹ Dioscorides. III-46.

⁷² Philip Miller, **The Gardeners Dictionary**, London, 1768, eighth edition no. 1.

⁷³ Linnaeus, Tomus II, p. 277.

treasure ship with sails dyed in purple with flax. Afterwards, this color was used only in the emperor's ship and became the official color of emperor's ship.⁷⁴

Coriander (*Coriandrum sativum* L.⁷⁵): In addition to its uses as a spice, herb, and medicine, it was also used as a food preservative.⁷⁶

Parsley (*Petroselinum crispum* Mill. (Fuss)⁷⁷): Parsley was planted on graves and also it was given as an award to the winners of the Nemean Games.⁷⁸

Myrtle (*Myrtus communis* L.⁷⁹): Myrtle was regarded as a plant sacred to goddess Venus. It was burnt during funerals due to its intense scent. Myrtle shrub the first to be planted in public places in Rome by the government itself was considered to be extremely important in all phases of civilization.⁸⁰

Mint (*Mentha* L.⁸¹): Mint was used during funerals because of its strong scent. Mint, used extensively during feasts, was also used as a spice and herb for culinary purposes.⁸²

Leek (*Allium ampeloprasum* L.⁸³): Leek owes its fame to Emperor Nero to a great extent since he followed a strict leek diet to protect his voice.⁸⁴

Fennel (*Foeniculum vulgare* Mill.⁸⁵): Fennel was highly significant for all the Mediterranean civilizations. It was cultivated and used as a part of various religious rites and consumed by athletes in Ancient Greece and soldiers in Rome due to its physical effects.

Saffron (*Crocus sativus* L.⁸⁶): Saffron, the most important item of export in the Ancient Crete Civilization, maintained its importance in the Roman Civilization as well.

Garlic (*Allium sativum* L.⁸⁷): Garlic was quite popular although those who it would be prohibited from entering the temples. Being a plant that belonged to Mars, the god of war, garlic would be consumed in high amounts both by the public and the army. In addition to its aphrodisiac effects, garlic was thought to boost one's courage. Garlic would also be hanged at the entrances of houses with the belief that it would drive away evil spirits.⁸⁸

Rue (*Ruta graveolens* L.⁸⁹): Rue had a high medicinal value, but it was use also for biologic warfare due to its poisonous effects.⁹⁰

⁷⁴ Plinius: XIX.5.

⁷⁵ Linnaeus, *ibid*, p. 256.

⁷⁶ Dioscorides. III-71.

⁷⁷ Johann Mihály Fuss, **Flora Transsilvaniae Excursoria**, Cibinii, 1866, p. 254.

⁷⁸ Plinius: XVIII.46.

⁷⁹ Linnaeus, *ibid*, p. 471.

⁸⁰ Plinius: XV.38.

⁸¹ Linnaeus, *ibid*, p. 576.

⁸² Plinius. XX.52.

⁸³ Linnaeus, *ibid*, p. 294.

⁸⁴ Plinius. XIX.33.

⁸⁵ Miller, *ibid*, *Foeniculum* no. 1.

⁸⁶ Linnaeus, *ibid*, p. 36.

⁸⁷ *Ibid*, pp. 296-297.

⁸⁸ Plinius. XIX.34.

⁸⁹ Linnaeus, *ibid*, p. 383.

Onion (*Allium cepa* L.⁹¹): Onion was one of the primary foods and medicines for the poor people in the Roman civilization.⁹²

Iris (*Iris* L.⁹³): Iris was goddess Juno's plant and it was one of the important items of floriculture in the Roman civilization. It was used intensively in the perfume production.⁹⁴

Vine (*Vitis vinifera* L.⁹⁵): It was a common religious rite to consecrate wine to gods in the antiquity. However, Romulus poured milk instead of wine to consecrate it to gods. With his Posthumian law, Numa Pompilius prohibited the pouring of wine on the ground in order to honor the dead in the funeral ceremonies. The main reason for passing this law was to prevent the scarcity of wine. The same law also banned the pouring of the wine produced from the uncut grapevines to consecrate it to gods. In this way, people were encouraged to prune the grapevines in order to increase the productivity.⁹⁶ To demonstrate the economic importance of wine, it can be said that the legendary Etruscan king Mezentius agreed to help the Rutulians against the Latin attacks if they gave all wine produced in Latium to him.⁹⁷

Olive (*Olea europaea* L.⁹⁸): Olives and olive oil were important products for the Roman economy. Associated with goddess Minerva, olive was discussed extensively in the works of Fenestella, Columella, Varro, Caro and Plinius. The country lacked the olive trees during the early years of the Roman empire, but thanks to its economic value, it was introduced first to Italy, and then, by the hands of Romans, to Gaul and Spain. In the Roman Empire, the price of olive oil would be announced annually and it was traded with the announced prices. During the consulship of Pompeius, the Roman Empire was exporting olive oil.⁹⁹

5. CONCLUSION

The political and cultural transformation the Roman Civilization, one of the two greatest civilizations of the Classical Antiquity, went through between the dates from its first appearance in 753 BC until its transformation into being the most dominant empire in the Ancient Mediterranean world at the end of the Punic (264-146 BC) and Macedonian (III-II centuries BC) Wars, is quite interesting. The Roman Civilization, which influenced many different geographies and cultures from the British Island, isolated from the outer world to Hellas, the center of natural sciences; from the cold northern Europe covered with forests to hot Africa and Arabia covered with deserts in all areas, has been the subject of a myriad of research with its features such as policy, diplomacy, architecture, economy, military activities, belief system, etc.

To a certain extent, these works have preserved their importance for plant history researchers in that they present the accumulation of both the previous and contemporary

⁹⁰ Plinius. XX.51.

⁹¹ Linnaeus, *ibid*, pp. 300-301.

⁹² Plinius. XX.20.

⁹³ Linnaeus, *ibid*, p. 38.

⁹⁴ Dioscorides. I-1.

⁹⁵ Linnaeus, *ibid*, p. 202.

⁹⁶ Plinius: XIV.13.

⁹⁷ Plinius: XIV.13.

⁹⁸ Linnaeus, *ibid*, p. 8.

⁹⁹ Plinius: XV.1.

civilizations. Today, most of the plants seen especially in Europe, Western Asia, and Northern Africa are known by the names used by Roman writers for these plants.

In parallel with both its political and cultural expansion, the Roman culture pioneered the transfer of many new plant species to the European continent and many commercially valuable species of trees and herbs were first introduced to European continent and cultivated there by the Roman Civilization. Likewise, many of the agriculture, horticultural, and farming related practices systematized by the Romans, although modernized today, continue to be used.

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